



Upazila Disaster Management Plan

Upazila: Dhamoirhat, District: Naogaon

Plan Developed by

Upazila Disaster Management Committee, Dhamoirhat, Naogaon

Coordinated by



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Ministry of Disaster Management & Relief



Preface

Bangladesh is a disaster prone country in the world. Due to Geographical disadvantage, the environment, losing balance of power, are facing various catastrophe like inundation, Tornados, drought, Erosion of river, earthquake, various cyclone, fogginess, white squall and so on. Bangladesh is river mothered country. The erosion of river for over flow of water, destroy the location of river side and all the inhabitants lose their all sort of livelihood and livestock and took shelter being pauper in the hovel on the high land or roads. Not only that, but also, men and industries' created catastrophe become the bane for calamity and people use to live in alarming plight. And also, by the horrific effect, all sort of assets, lives, livelihood, livestock and other resources of the locality may fall in danger. It does not destroy only the located people, also create obstacle for National and economical resources of the country. Though it is a disaster prone country but long term 'Disaster Management plan' has not been prepared for saving the human being, their all sort of resources, livelihood, animals and other asset, rather have been given importance to rehabilitation and on relief. Recently Government of Bangladesh has taken an initiative on the subject 'Disaster Management Planning' through CDMP 2. To implement the plan in action, primarily has taken an initiative for indication 'Disaster Risk' through conversation with all sorts of local people, Union and Upazila Management Committee. For Preparedness and reducing risk 'Disaster Management Plan' has provided to **Dhamoirhat** Upazilla by indicating 'local disaster risks' through 'Disaster Management Plan' which will be efficacy for the forthcoming days.

At the time to providing the Plan all classes of people like male, female, cultivator, landless people, aged person, local elite persons, Union and Upazila Disaster Management Committee Members (UzDMC) were congregated. Locally this conspicuous doings have been done by the hard toiling of Shushilan Staffs and related analysis individuals. Disaster Management Committee of **Dhamoirhat** Upazilla under **Naogaon** District have provided this plan by efficacy toiling and restless endeavor. All kinds of important heart rending calamities as, awareness creation among family members and locality, to take preparation for facing risk would have to use local recourses, replacement of living assets and people to a safety place, rescue impediment people, necessary goods indication, and relief distribution have been included in the Upazila 'Disaster Management Plan'. If that plan come into being all kinds of calamities would be reduce and all sorts of materials of the people would be safe. Not only that, but also have included preparation before and after disaster, mitigation disaster by using Local resources, social assets, safety places, indication the causes of disaster, disaster warning sign, mostly disaster prone location, climate changes and its horrific effect, development sectors and name of the local volunteers as well as organization.

I am giving thanks from my core of heart to those very persons who have taken part and have given advice, like all Government and Non-Government Organizations and local persons to perform the conspicuous act in good manner. I am confident; this Disaster Management Plan which has prepared by the coherent cooperation of local people, Local Governances and other local organizations should help to Disaster Management Committee and other sectors (Government, International and National NGO, as well as Donor) to perform all acts as a overall plan.

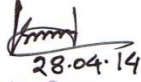
মুখবন্ধ

বাংলাদেশ একটি দুর্যোগ প্রবণ দেশ। ভৌগোলিক অবস্থান, জলবায়ু ও আবহাওয়ার তারতম্যের কারণে স্থান ভেদে এদেশে প্রতি বছর বন্যা (নদীবাহিত/ বৃষ্টিপাতজনিত), টর্নেডো (ঘূর্ণিঝড়), খরা/ অনাবৃষ্টি, ভূমিকম্প, ঘনকুয়াশার মত বিভিন্ন ধরনের আপদ আঘাত হানে। বাংলাদেশ একটি নদী মাতৃকদেশ হওয়ায় প্রায় প্রতিবছর এলাকা ভিত্তিক নদীভাঙ্গনের শিকার বহুলোক ডিটে মাটি ছাড়া হয়ে নিঃস্ব হয়ে পড়ে এবং নদী-খাল ভরাট জনিত কারণে এলাকা ভিত্তিক অধিবাসীদের সংশ্লিষ্ট নানা ধরনের আপদের সম্মুখীন হতে হয়। এছাড়াও মানবসৃষ্ট ও শিল্প কারখানা জনিত বিভিন্ন ধরনের আপদ প্রতিনিয়ত মানুষকে আতংকগ্রস্থ করে রাখে। এসমস্ত আপদের প্রভাবে সহায় সম্পদসহ জান-মাল, প্রাণীসম্পদ ও ফসলের ব্যাপক ক্ষতি সাধিত হয়। এর ফলে শুলু আক্রান্ত জনগোষ্ঠী-ই ক্ষতিগ্রস্ত হয় তা নয়, জাতীয় সম্পদ এবং অর্থনীতিতেও ব্যাপকভাবে এর প্রভাব পরিলক্ষিত হয়। দুর্যোগ প্রবণ দেশ হলেও পূর্বে দুর্যোগ ব্যবস্থাপনা পরিকল্পনার মাধ্যমে মানুষের সহায় সম্পদসহ জান-মাল, প্রাণীসম্পদ ও ফসলের ক্ষয়ক্ষতি হ্রাস করার সুদূর প্রসারী কোন পরিকল্পনা গ্রহণ করা হয়নি। সুষ্ঠু পরিকল্পনা ব্যতিরেকে শুধুমাত্র ত্রাণ ও পুনর্বাসনকেই বেশী প্রাধান্য দেয়া হয়েছে। সম্প্রতি বাংলাদেশ সরকার সমন্বিত দুর্যোগ ব্যবস্থাপনা কর্মসূচীর (CDMP-II) মাধ্যমে দুর্যোগ ব্যবস্থাপনা পরিকল্পনা বিষয়ক এক কর্মসূচী হাতে নিয়েছে। এই কর্মসূচীর আওতায় প্রাথমিকভাবে সমাজের বিভিন্ন স্তরের জনসাধারণ, ইউনিয়ন ও উপজেলা দুর্যোগ ব্যবস্থাপনা কমিটির সমন্বয়ে স্থানীয় ঝুঁকি চিহ্নিত করে তা পর্যালোচনার মাধ্যমে দুর্যোগ ব্যবস্থাপনা পরিকল্পনা প্রণয়নের উদ্যোগ নেয়া হয়েছে। দুর্যোগ ব্যবস্থাপনা পরিকল্পনায় স্থানীয় আপদ সমূহ চিহ্নিত করে দুর্যোগ পূর্বপ্রস্তুতি গ্রহণ ও ঝুঁকি নিরসনের জন্য ধামইরহাট উপজেলায় কার্যকরী একটি দুর্যোগ ব্যবস্থা পরিকল্পনা প্রণয়ন করা হয়েছে যা স্থানীয় পর্যায়ে দুর্যোগ ঝুঁকি মোকাবেলায় সুদূর প্রসারী অবদান রাখতে পারবে বলে উপজেলা দুর্যোগ ব্যবস্থাপনা কমিটি মনে করে।

কর্ম পরিকল্পনাটি প্রনয়ণে এলাকার নারী-পুরুষ, কৃষক-ভূমিহীন, প্রবীণ ও তথ্য প্রদানে সক্ষম অন্যান্য স্থানীয় জনগোষ্ঠীর প্রতিনিধি, ইউনিয়ন এবং উপজেলা দুর্যোগ ব্যবস্থাপনা কমিটির (UzDMC) সদস্যবৃন্দ সরাসরি সম্পৃক্ত ছিলেন। বিশেষ করে অত্র এলাকায় কর্মরত 'সুশীলন' এর কর্মকর্তা ও গবেষকদের নিষ্ঠা ও অক্লান্ত পরিশ্রম স্থানীয় পর্যায়ে পরিকল্পনা প্রণয়নে যথাযথ অবদান রেখেছে। এ কর্ম প্রচেষ্টা ও অক্লান্ত পরিশ্রমের ফলে নওগাঁ জেলার ধামইরহাট উপজেলা দুর্যোগ ব্যবস্থাপনা কমিটি একটি বাস্তব সম্মত দুর্যোগ ব্যবস্থাপনা কর্ম পরিকল্পনা প্রণয়ন করতে সক্ষম হয়েছে। অত্র উপজেলায় প্রণীত দুর্যোগ ব্যবস্থাপনা পরিকল্পনায় দুর্যোগ মোকাবেলায় গুরুত্বপূর্ণ বিষয় সমূহ প্রাধান্য লাভ করেছে। তন্মধ্যে উল্লেখ যোগ্য হচ্ছে পরিবার ও সমাজ পর্যায়ে দুর্যোগ ঝুঁকি সম্পর্কে গন সচেতনতা সৃষ্টি, স্থানীয় সম্পদ ব্যবহারের মাধ্যমে দুর্যোগ পূর্বপ্রস্তুতি গ্রহণ এবং দুর্যোগ কালীন সময়ে অপসারণ, উদ্ধার, চাহিদা নিরূপণ, ত্রাণ ও তাৎক্ষনিক পুনর্বাসন ব্যবস্থার জন্য স্থানীয়ভাবে প্রণীত পরিকল্পনার অনুশীলন ও প্রয়োগ, দুর্যোগ পরিকল্পনায় অংশগ্রহণ এবং কার্যকর অংশীদারীত্ব যা বাস্তবায়িত হলে আপদ সংশ্লিষ্ট স্থানীয় ঝুঁকি সমূহ অনেকাংশে হ্রাস পাবে এবং জনগণের সহায় সম্পত্তি, জান মাল এবং ফসলের ক্ষয় ক্ষতির পরিমাণ কমিয়ে আনা সম্ভব হবে। পাশা পাশি দুর্যোগ পূর্ব, দুর্যোগ কালীন ও দুর্যোগ পরবর্তী প্রস্তুতি গ্রহণ, দুর্যোগ ঝুঁকি হ্রাসে স্থানীয় অবকাঠামো ও অ-অবকাঠামো, সামাজিক সম্পদ ও নিরাপদ স্থান সমূহের তালিকা প্রণয়ন, ঝুঁকির কারণ সমূহ চিহ্নিত করণ, সর্বাধিক বিপদাপন্ন এলাকা চিহ্নিত করণ, ঝুঁকি নিরসনের উপায় চিহ্নিত করণ, জলবায়ু পরিবর্তন এবং তার সম্ভাব্য প্রভাব নিরূপণ, উন্নয়ন পরিকল্পনার প্রধান খাত সমূহ চিহ্নিত করণ এবং বিভিন্ন সামাজিক সংগঠন সমূহের স্বেচ্ছাসেবক তালিকা প্রণয়ন করা হয়েছে।

২০১৪ সালে সিডিএমপি'র সহায়তায় প্রণীত দুর্যোগ ব্যবস্থাপনা পরিকল্পনাটি প্রনয়ণে যে সকল সরকারী এবং বেসরকারী সংস্থা ও ব্যক্তিবর্গ সক্রিয় অংশগ্রহণ ও পরামর্শ প্রদান করেছেন তাদেরকে আমি আন্তরিক ভাবে ধন্যবাদ জ্ঞাপন করছি। আমি আশাবাদী, স্থানীয় জনগন, স্থানীয় প্রশাসন ও বিভিন্ন সরকারী বেসরকারী প্রতিষ্ঠানের সমন্বয়ে ধামইরহাট উপজেলায় প্রণীত দুর্যোগ ব্যবস্থাপনা পরিকল্পনাটি দুর্যোগ ব্যবস্থাপনা কমিটি ও সংশ্লিষ্ট সেক্টরের (সরকারী, আন্তর্জাতিক ও জাতীয় এনজিও, দাতা সংস্থা ইত্যাদি) জন্য একটি সার্বিক পরিকল্পনা হিসেবে কাজ করবে।

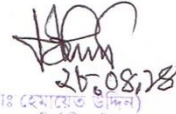
সদস্যসচিব


28.04.14

(মোঃ ইস্রাফিল হোসেন)
উপজেলা প্রকল্প ব্যবস্থাপন কর্মকর্তা
ধামইরহাট নওগাঁ

উপজেলা দুর্যোগ ব্যবস্থাপনা কমিটি এবং
প্রকল্প বাস্তবায়ন কর্মকর্তা
ধামইরহাট উপজেলা
নওগাঁ জেলা

সভাপতি


26.08.18

মোঃ হেলায়েত উদ্দিন
উপজেলা নির্বাহী অফিসার
ধামইরহাট, নওগাঁ

উপজেলা দুর্যোগ ব্যবস্থাপনা কমিটি এবং
উপজেলা নির্বাহী অফিসার
ধামইরহাট উপজেলা
নওগাঁ জেলা

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Chapter one

Introduction to Local Area

1.1 Background

Dhamoirhat is a peripheral Upazilla of Naogaon district. It is located 56 Km away from Naogaon district Sadar and 21 km away from Joypurhat district Sadar. The river “Atrai” flowing down from India has divided the Upazilla into two parts. There are 8 Unions and one municipality in this upazilla. Most people live by agriculture. The presence of the ethnic group of Saontals are noticeable almost everywhere. The classification of soil of this upazilla is a lot alike to the mixed soil of Madhupur Garh. Dhamoirhat is under the 47-Naogaon 2 as an electoral area. In the world map, Bangladesh is a disaster prone country. Each and every district of this country gets more or less affected by disasters. Dhamoirhat upazilla under Naogaon district is one of these disaster prone zones. Low rainfall is the main problem for the *Barindra* (dry and high) zones and flood for the low areas. Every year Dhamoirhat upazilla becomes a victim to disasters that badly affect life and livelihood of common people. Yet no effective planning is found at upazilla level. As a part of Comprehensive Disaster Management, this disaster management plan is equipped for Dhamoirhat upazilla. Drought is one of the prime disasters of Dhamoirhat, Naogaon. Atrai and Jamuna particularly influence the climate of this upazilla. These rivers carry a little water in dry season. The rate of rainfall also remains very low in this region during that time. Besides, the annual average rainfall is also awfully less that is almost 72 cm where the total average rainfall of the country is almost 235 cm. Moreover, the nature of land is plain and high. As a result, the water level is very low here. In the dry season, therefore, scarcity of river water and low rainfall together cause dreadful moisture pressure that has made this region one of the drought prone areas. Due to downward water level of rivers and canals as the effect of climate change and environmental imbalance, the water is drying up untimely. As a result, the natural resources dependent native fisheries resource, aquatic plants and environment is jeopardized. Farmers are cultivating in rivers and canals. The big rivers, canals, coves flowing over Dhamoirhat upazilla were used to be the reproduction centre of native species of fishes previously as there was deep water there around the year. Besides, the only way to living of many fisherman and their families was fishing in these natural water bodies. Moreover aquatic plants of various species such as Kalmi, Water Lily, Blue Water Lily, Padmagokhra, Water Hyacinth, Pani Fol, Nol Khagra, and Styrofoam grew abundantly which were used by the rural people as food, necessary items and animal foods. Besides, rivers and canals provided the irrigation water for wither crops in the dry season. Due to evolution and natural imbalance, those rivers and canals are now filled up and remain dry for 8 months in a year. Even rain water does not stay. As a consequence, currently farmers cultivate various crops including Boro in deep riverbed and canals of once. Peanut, watermelon, cucumber are grown in the riverbed and various crops including sweet potatoes, white potatoes, garlic, onion, gourd, pumpkin are grown on the banks of rivers. The places seem to be farmlands now. Many villages of Dhamoirhat, Naogaon are still deprived of electricity. Dhamoirhat

upazilla consists of almost 245 villages. Almost 2 lakhs citizen of this upazilla are deprived of paved roads and electricity. Although during the previous government, road development and electricity were done in some villages, the peripheral regions are sunk into darkness. The two sincere demands of the general people of this upazilla is road construction and electricity expansion. People of half of the villages of this upazilla are now deprived of modernization. Lives become imprisoned during rainy season due to lack of paved roads and irrigation, industrial factories, socio-economic life is affected due to lack of electricity. East –westerly long upazilla Dhamoirhat is 55 km away from district headquarter and is adjacent to the south Dinajpur Balurghat Thana of India. Therefore naturally the development and progress is seen unfavorable in comparison with the other upazillas of this district. The prime objective behind forming Barindra Multipurpose Development Authority was to develop socio-economic condition of the local people, road construction, irrigation facility and electricity to the nearby villages of deep tube wells, pond reformation, maintain environmental balance through tree plantation. Barindra Multipurpose Development Authority has much contribution in producing food crops. Though road construction has experienced little advancements but extension of electricity in establishing factories have not seen much progress. The unprivileged people of Dhamoirhat upazilla will experience modernization and social development if the project is given a pioneer role. Dhamoirhat abounds with food crops, bamboo and raw materials of ceramic industry. The society as well as country will lead towards development if the entrepreneurs of electricity and road construction come forward to action management leaving negligence, mismanagement and apathy.

In the discussion of the history of Dhamoirhat, it is much relevant to discuss the place namely Dhamoirhat and the derivation of the name. According to the description of a historian of Rajshahi district namely Kazi Mohammad Miche- Dhamoirhat derivated from the word “Dhama” (rattan basket). The historical source behind this is that Saotala Mutiny occurred in 1855 against the extortion of East India Company. At the failure of this mutiny, the people of this Saotala tribe divided into small groups and escaped from the Royal Palace to hills, jungles to protect themselves. One affiliate of them began to live in the southern jungles of the present Dhamoirhat upazilla. In course of time, they overcame the fright of death and started to concentrate on making essential household items of bamboo and cane to earn livelihood. The mahalis used to sell these items on hat (Market) each Sunday. “Dhama” was the main product among those items as then there was trend to use “dhama” instead of balances and weights. Beside “dhama”, Don, Dol, Dali, rattan trays, basket, broom, mathol and stock also gained popularity gradually. Many people from far away used to crowd there. Thus, the “Dkama” selling markets gained fame. There raised Markets, police station, Thana development centre and the present Dhamoirhat upazilla parishad. The contemporary history-tradition of Dhamoirhat is known to all. Contrariwise, history is unknown to many. Perhaps, for this reason, either we are so indifferent to history-tradition, life and absorbed in depression or mentally stuck with colonial attitude. Nonetheless, a glimpse of the past will awaken our sense, show the way to prosperity. Sandhya Kar nandi, a poet of the last prominent King of Pal dynasty, Ram Pal’s court mentioned the Barindra regions as “the apex of the earth”. We live at the centre of Barindra region. Again, the middle of the two capitals of ancient Bengal- Pundravardhana (Mahasthangarh) and Gauda (Maldah and its nearby areas) and later capitals Karnasubarna, Lakshanabarti, Lakhnouti, Pandua and Murshidabad

revolved through this region. Mahisantosh got precedence over politics in the country because of from the ancient age because of the geographic and socio-economic importance of this region. The pargana “Santosh” took the first part of king Mahipala’s name and became renowned as Mahisantosh. In fifteenth century, Sultan Rukunuddin Barbak Shah established the provincial capital namely Barbakabad. Mint, fort, mosque, madrasa and other important monuments were established. But during the Mughal era, Mahiganj of Sultani era turned into wasteland. The only remaining structure was of revenue collection’s ‘Government barabakabada’. There has been some research about the history of Sultanate period of Mahisantosh. Recently, the shrine of Taqiuddin Al Arabi, the founder of the first Muslim madrasa of Bengal is built. Currently, the time demands for further exploration, archeological Research, the preservation of religious values through development and reforms, as well as public history and heritage. At one time, the river Atrai flowed under Agra Digun. Numerous memorial of the old town can be noticed from the frontier of the northern edge of this upazilla to both banks of the southward river Atrai. Ruins of Buddhist temple of Agra Digun established in the tenth century remind that tradition. Jagaddala Mahavihara was founded in the middle of the river Ghukshi and Shri. There are many signs of city-settlement on both banks of the river Trimohani extending from the northern edge of the river Ghukshi. The ruins of concrete houses and mansions around Bhanga Dighi, Alta dighi astound us. The little Jamuna flowing over the eastern boundary joins Trimohani situated at the southern border of the district. The scenic view of the Trimohani on the rainy season still fascinates everyone. The Zogee Ghop of alleged Ramaboti and adamite followers of Jainist Nath is nearby Trimohani. A bit far, there is Buddhist temple of Chandira on the eastern bank of Ghukshi and contemporary developed towns of Aranagar Ramaboti is on the western bank.

In order to protect the poor and vulnerable people from the adverse effects of climate change as well as sustain the economic growth of the country, the Ministry of Disaster Management and Relief under Comprehensive Disaster Management Programme (CDMP) has decided to implement a multipurpose preparatory plan as a part of removing local people’s disaster risk. As preferences on socio-economic development of people, education, housing and other infrastructure development and implementation of the strategy has been set to fight the future vulnerability of climate change, under the upazilla level disaster management, so it is extremely important for everyone to be concerned about this.

1.2 Objectives of the Plan

The type of natural disaster can be change because of Climate change. In order to deal with the disasters related to climate change, any most effective field level initiative need to be presented nationally at the policy making levels. At present, the Ministry of Disaster Management and Relief under Comprehensive Disaster Management Programme (CDMP) has decided to implement a multipurpose preparatory plan as a part of removing local people’s disaster risk. Under this program, Bangladesh government has changed relief and rehabilitation based disaster risk management strategy and taken long-term risk fighting program. The main objectives of this program are-

- To create mass-awareness of the risk of disaster at family and community level, the pragmatic ways of risk reduction at the level of family, community, union administration, upazilla and district commission
- To promote risk reduction and development of process implementation system ensuring the most possible utilization of local assets, practice and implementation of locally prepared plan for exclusion, rescue, need analysis, immediate relief and rehabilitation
- To construct a methodological document for a particular time and place
- To prepare an integrated plan for Disaster Management Committee and all other related sectors (national, international, NGO, donors etc.)
- To provide the participants involved in Disaster Management necessary directions for preparing and implementing plans
- To ensure and persuade the sincere participation, effective cooperation, responsibility and sense of possession in the disaster plan of related community

1.3 Introduction to Dhamoirhat Upazilla

Dhamoirhat is a peripheral Upazilla of Naogaon district. It is located 56 Km away from Naogaon district Sadar and 21 km away from Joypurhat district Sadar. The river “Atrai” flowing down from India has divided the Upazilla into two parts. there is 8 Unions and one municipality in this upazilla. Most people live by agriculture. The presence of the ethnic group of Saontals are noticeable almost everywhere. The classification of soil of this upazilla is a lot alike to the mixed soil of Madhupur Garh. Dhamoirhat is under the 47-Naogaon 2 as an electoral area.

1.3.1 Geographic Location

Dhamoirhat upazilla is one of the 11 upazillas of Naogaon district which is situated in the north-western part of the country. Its area is 300.80 square kilometres. The nature of land is plain and high and the annual average rainfall is almost 72 cm. It is bounded by West Bengal state of India on the north, Badalgachi and Patnitala upazilas on the south, Joypurhat sadar upazila on the east, Potnitala upazila on the west. The rivers Atrai and Little Jamuna flow through this upazilla.

1.3.2 Area

There are 8 unions in Dhamoirhat upazilla which covers total 300.80 sq km. There are total 49046 households, 285 moujas and 245 villages in Dhamoirhat upazilla. It is under the election area 47, Naogaon-02.

Table1.1: Upazilla, Unions and Union-wise Mouza Names

Upazilla & GO Code	Unions & GO Code	Union wise Mouja and Ward
Dhamoirhat (28)	Agradigun (10)	Agra, Aldeeghi, Badalpur, Bakharpara, Vatgram,Chalk Ramchandrapur,Dakkhinkanda, Dhononjoy Nagar, Indowa, Hajratpur, Kamarkanda, Kashipur, Kauti,Khanpur, Karnail, Maheshpur, Mamudpur, Monihori, Manoharpur, Pushtolpara,Talandar.
	Alampur (21)	Alampur, Bolrampur, Boro Mollapara, Bastobor, Veram, Shonadeeghi, Birgram, Silimpur, Noyapara,Talbona, Nagardeeghi, Choughat, Chalk Veikan, Chalk Harihorpur,Chalk Helal, Chalk Indai, Kalu, Chalk Sharifm, Chalk shubol, Chalk Tayeb, Chalk Tilam, Deulbari,Goshaipur, Jagnathpur, Jatoshman, kajolgaon, Kashibari, Mongolia, Sarker para, Mirjapur, Pashchim Chandpur, Puba Nandanpur, Poshurampur, Roghunathpur,Rosulbil, Dandupara, Ranamati, Saligram, Shalukkuri, ShibBati,Taherpur
	Aranagar (31)	Abadpur,Araji, Aranagar, Aranagar, Uttorpara, Dokkhinpara, Shonarpara, Arjunpur, Badkarnai, Bolla, BansibatI,Varta, Boro Zaban, Chaitanyapara, Chalk Badan, Chalk Vabani, Chalk Gouria, Chalk Newai, Chalk Prasad, Chalk Rahmat, Dokkhin Vogobanpur, Dokkhin Shampur,Fotepur, Gokul, Jot Vabani, Korn Kashi mobi, Kornail, Kajipur, Jamail, Khiya Saguna, Lokkhonpara, Lokkhitar, Moslondopur, Moddhochadpur, Polashbari, Folbon, Ramnarayanpur, Sennagar,Singarul
	Dhamoirhat (42)	Angrat, Boro Chalk Gopal, Benidoar, Choto Shibpur, Chalk Moyram,Hatnagar,Jagatnagar, Jagdal, Jatmamudpur, Joyjoypur, Kalupara, Mohabbatpur, Moishor, Niota, Purbo Roghunathpur, Ramrampur, Rupnarayanpur, Shibrampur, Ustamabad, Uttar Chalk Rahamat
	Isabpur (52)	Ajompur, Bodmohishgari, Badal, Boiddobati, Chalk Chaitanya,Chalk Chandira, Chalk Mahadeb, Chalk Raghav, Chandira, Chandrakula, Dhorail,Dhononjoypur, Ganeshpur, Insira, Insabpur, Jamalpur, Jotram,Monpura, Mararo, Ponchoborga,Poranpur,Poranogor,Pubochadpur,PurboTeherpur, Radha Mohon,Rongolghat
	Jahanpur (63)	Boro Shibpur,Kaji Para,Dhon Gola,Katapara, Vatkundu,Bikanda Khas,Jahanpur,Dokkhin Jahanpur, Kokil, sulopi Kolni, Mukundapur,Nanaich, Begun Bari, Uttor Nauch, Purbo Chalk Prashad, Shahpur, Sheikhpara

Upazilla & GO Code	Unions & GO Code	Union wise Mouja and Ward
	(77) Khelna	Vogobanpur, Mahat Para, kolani Para, Chalk Benny , Chalk Hara, Chalk Hari, Chalk Majlish, Khapura, Batali, Borotai, Chalk Pali, Chalk simulatali, Dokkhin Gangra, Debipur, Gopirampur, Ghab Boropura, Shimulata, Dokkhin Gopirampur, Bakuri, Haripara , Ruimari, Gun, Deshpara, Baranta, Choto Pukuria, kaikur, Kamalpura, Noyapara, Khatopukur, Talapara, Khirira, Ladipur, Malancha, Marlai, West Chalk Bhabani, Schoolpara, Lamatiya, Ragdapara, Poshchim Nandanpur, Patkula, Raspur, Kursamari, Naradighi , Shonadighipara, Tetulpukur , Shabek Hajrapur, Sarail, Shishu, Udayasri, Bajari para, Naogaon Para, Narapukur, Naglupara, Thanthanpara, Dighipara
	(84) Omar	Amaitara, Amarpur, Bakharpur, Balupara, Baniapara, Basudebpur, Belghoria, Biharinogor, PurboPara, Poshchim Para, Choto Chalk Gopar, Choto Molla Para, Chalk Chandi, Chaitikuri, Nalpukur, Noyapara, Chalk islam, Chalk Jodu Dhamnirohor, Chalk Mahesh, Chalk Sadol, Chalk Subid, Chalk Omor, Chandipur, Dadonpur, Dhantara, Durgapur, Durgapur Refugee Para, Farsipara, Goteki, Gangar, Jotsreeram, Kadipur, Koigram, Katna, Chankuri, Kharampur, Khiyar Bari, Kulfatpur, Malahar, Mongolkota, Sundara, Tutikata, Choto Pushtail, Boro PushTail

Source: BBS 2011

1.3.3 Demography

The total number of population of Dharmoirhat upazilla is 169772 in which male is 85814 and female is 83958 and male-female ratio is 95.5:100. There are 160262 Muslims, 11630 Hindus, 6691 Christians, 8 Buddhists and 6387 from different types of tribal communities like Santals, Banua, Koch and Rajbangsi. The density of population in this upazilla is 0.177 (per square kilometer) and annual population increase rate is 4.76%.

Table 1.2: Union-wise number of Male, Female, Children, Old, Disabled, Households and Voters

Number of Union	Male	Female	-Child (0-15)	Old (60+)	Autistic	Total Population	House hold	Voter
10	93666	9127	27.8	7.6	2.5	18493	4694	13250
21	12092	11881	27.2	7.9	1.7	23973	6525	16865
31	12532	12279	27.4	8.5	1.9	24811	6556	18085
42	10326	10211	29.2	8.5	1.4	20537	5550	14141

Number of Union	Male	Female	-Child (0-15)	Old (60+)	Autistic	Total Population	House hold	Voter
52	11426	11070	29.8	8.3	1.9	22496	6059	15891
63	12979	12792	29.2	8.6	1.6	25771	6827	17895
77	8282	8057	28.2	8.0	1.6	16339	4335	11177
84	8811	8541	27.6	8.8	2.0	17352	4648	12214
Total	85814	83956	28.3	8.27	1.82	169772	45194	119518

Source: BBS, 2011

1.4 Structural and Non-structural Information

Dhamoirhat is basically an agriculture base upazilla. The source of income of the majority of people here is agriculture. Therefore, quite a lot agro-based Industries have arisen here. All the wards and Unions are under the coverage of rural electrification. There are some small and cottage industry and large industries. Among these poultry farms, livestock farms, auto rice mill, printing house, Welding Factory, cold storage, brick-kilns and various types of cottage industries are prominent. There are industries, ice mill, flour mill, saw mill too. Trade and commerce have expanded largely because of developed communication systems, including bus terminals and petrol pump.

1.4.1. Infrastructure

Embankment

There are ten embankments (158 hectors) constructed by BWDB starting from Maiganj bazaar to Saligram of Dhamoirhat upazilla. Among these embankments, one is along Telipukur canal of Agrakhari, four are along Saranjabari canal, one in Dhananjay Nagar and four are along Fulbankhari.

Sluice Gate

There is a seven-vent sluice gate alongside Dhamoirhat Bridge upon canal Tutikata. Besides, there are three more two-vent sluice gates here.

Bridge & Culvert

There are 459 bridges and culverts in Dhamoirhat upazilla. Moreover there are some under construction. Among those, 400.25 meter bridge on Agradigun road upon river Atrai, 99.10 meter bridge on Goborchapa road upon river Chhota Jamuna, 45 meter bridge on Ramrampur Primary School road upon River Shreenadi, 20 meter bridge on Rasulbil Potnitala road upon canal Rasulbil and 76 meter bridge on Jahanpur Aranagar road upon canal Ghupshi are most noteworthy.

Road

In Dhamoirhat pazilla, there are 6 Upazilla roads. The aggrieved People take shelters on these roads during disasters and move goods fast from one place to another through these roads. The location and kength of the roads are discussed below:

- A total of 15.32 km of roads is from Amaitara to Agra Digun Market. Among these .17 km is earthen road, 13.96 km is paved road and .4 km is brick built road. But 33 culverts are here.
- From Sapahar Bazar to Agra Digun the road is total 2.64 km long. The entire road is paved. 5 culverts are here.
- From Modhuil to Agra Digun the road is total 6.9 km long. The entire road is paved. 9 culverts are here.
- From Foteipur to Matajee bazaar the road is total 5.94 km long. The entire road is paved. 8 culverts are here.
- From Amaitara to Rangamati bazar the road is total 7.03 km long. The entire road is paved. 9 culverts are here.
- From Rangamati bazar to Potnitala H/Q the road is total 3.23 km long. The entire road is paved.
- From Agra Digun bazaar to Modhuil bazaar and then to Talandar BOP (Dhamoirhat part) the road is total 5.65km long. Among these 3.99km is earthen road, 1.53km is paved road and .13 km os brick built road. But 12 culverts are here.
- From Piroidanga road to Mongolbari and then to Isabpur Union Parishad the road is 16.78 km long. The entire road is paved. 43 culverts are here.

There are total 23 Union roads in Dhamoirhat upazilla. The aggrieved People, livestock, poultry take shelters on these roads during disasters and move goods fast from one place to another through these roads. The location and kength of the roads are discussed below:

- From Debipur Hat to Khelna UP and to Alompur UP the road is total 8.22 km long. Among these 2.59 km is earthen road, 5.42 km is paved road and .21 km is brick built road. 10 culverts are here and also 1 more culvert is needed.
- From Foteipur Hat to Aranagor UP the road is total 4.63km long. Among these 1.3km is earthen road and 3.33 km is paved road. 7 culverts are here.
- From Kutoil Hat to Khelna UP the road is total 2km long. Among these 2 km is earthen road. 3 culverts are here.
- From Roshpur Hat to Khelna U.P. the road is total 6.96 km long. Among these 5.7 km is earthen road and 1.26km is paved road. 12 culverts are here.
- From Aranagor UP to Kashipur Hat via Bortha Bazar (Dhamoirhat Part) the road is total 6.14 km long. Among these .77km is earthen road and 5.37km is paved road. 14 culverts are here.
- From Khelna UP to Agradigun GC the road is total 5.9 km long. Among these 1.9km is earthen road and 3.9 km is paved road and .06 is brick built road 15 culverts are here.
- From Kazipur bazar-Patichora UP (Dhamoirhat Part) the road is total 2.5 km long. Among these .07km is earthen road and 2.43 km is paved road. 8 culverts are here.
- From Shiyara UP to Lodipur Hat the road is total 1.2 km long. Among these 1.2km is earthen road. 2 culverts are here.

- From Jahanpur UP to Isubpur UP the road is total 6.52 km long. Among these 4.78 km is earthen road and 1.74 km is paved road. 9 culverts are here.
- From Sholpi Bazar to Chalkbarkot UP (Joypurhat) (Dhamoirhat Part) the road is total 5.44 km long. Among these 4.48 km is earthen road and .95 km is paved road. 4 culverts are here.
- From Isubpur UP to Mothurapur UP (Dhamoirhat Part) the road is total 1.9 km long. Among these 1.9 km is earthen road. 2 culverts are here.
- From Isubpur UP to Gobarchapa GC the road is total 4.67 km long. Among these 4.67km is earthen road. 6 culverts are here.
- From Rangamati GC to Patnitola GC via Kutoil Hat (Dhamoirhat Part) the road is total 4.98 km long. Among these 4.98 km is earthen road. 5 culverts are here.
- From Dhamoirat UP to Bharum Bazar via Bihariagor the road is total 9.73 km long. Among these 1.37 km is earthen road and 8.37 is paved road. 26 culverts are here.
- From Jahanpur UP to Aranagor UP the road is total 13.27km long. Among these 5.46km is earthen road and 7.81km is paved road. 22 culverts are here.
- From Agradigun GC to Shitolhat via Badalpur the road is total 4.22 km long. Among these 3.22 km is earthen road and 1 km is paved road. 4 culverts are here.
- From Dhamoirhat UP to Chandipur Hat the road is total 10.89 km long. Among these 5.79 km is earthen road and 5.1 km is paved road. 15 culverts are here.
- From Dhamoirhat GC to Biharinagor Bazar the road is total 2.71 km long. Among these 2.71 km is paved road. 9 culverts are here.
- From Debipur Hat to Dibor UP Road (Dhamoirhat Part) the road is total 0.77km long. Among these 0.77 km is paved road.
- From Biharinagor Hat to Aranagor UP the road is total 6.1 km long. Among these 5.1 km is earthen road and 1 km is paved road. 19 culverts are here.
- From Umar UP to Belghoria Hat the road is total 10.66 km long. Among these 3.14 km is earthen road and 7.52 km is paved road. 16 culverts are here.
- From Farshiparahat hat to Alompur UP the road is total 16.81 km long. Among these .14 km is earthen road and 16.67 km is paved road. 17 culverts are here.
- From Agradigun UP to Roshpur Hat the road is total 6.76 km long. Among these 4.21 km is earthen road and 2.55 km is paved road. 6 culverts are here.

There is total 37 Village roads A in Dhamoirhat upazilla. The aggrieved People, livestock, poultry take shelters on these roads during disasters and move goods fast from one place to another through these roads. The location and kength of the roads are discussed below:

- From Palashbari toBonshibati Via Folbon the road is total 3.9 km long. Among these 2.9 km is earthen road and 1 km is paved road. 1 culvert is here.
- From Isubpur to Chalk Raghav the road is total 3.12 km long. Among these 3.12 km is earthen road.
- From Nanaich to Jahanpur Rd.the road is total 3.03 km long. Among these 1.74 km is earthen road and 1.29 km is paved road.
- From Chalk Ramchondrapur to Endowa the road is total 1.2 km long. Among these .63 km is earthen road and 57 km is paved road.
- From Kashipur to Chalk Ramchondrapur the road is total 2.61 km long. Among these 2.16 km is earthen road. 4 culverts are here.
- From Chalkhari to Kalkurthe road is total 1.05 km long. Among these 1.05 km is earthen road. 1 culvert is here.

- From Chalkpali to Chalkbeni Rd. the road is total 3.1 km long. Among these 3.1 km is earthen road.
- From Paschim Chalk Bhubani to Udaysree road the road is total 1.2 km long. Among these 1.2 km is earthen road.
- From Bhogobanpur to Komolpur road the road is total 3.65 km long. Among these 3.65 km is earthen road. 5 culverts are here.
- From Shilimpur-Chowghat Rd.the road is total 2.78 km long. Among these 2.25 km is earthen road and .05 km is brick- built road. 4 culverts are here.
- From Amaitara to Jotsreeram road the road is total 1.05 km long. Among these 1.05 km is earthen road.
- From Fotepur Primary School to Chalk Bodon R&H road the road is total 5.29 km long. Among these 5.29 km is earthen road. 7 culverts are here.
- From Ramrampur to Nanaich Primary School the road is total 3.7 km long. Among these 3.7 km is earthen road. 4 culverts are here.
- From Chalk Chandira to Dhuroil (Sundorir More) the road is total 5.9 km long. Among these 5.9 km is earthen road. 1 culvert is here.
- From Dhuroil to Rampura Hat the road is total 1.3 km long. Among these 1.3 km is earthen road. 6 culverts are here.
- From Dhuroil to Baiddabati (Ghagra Khal) via Jotgobordhon the road is total 3.63 km long. Among these 3.63 km is earthen road. 4 culverts are here.
- From Kadipur to Chalkjadu Road the road is total 5.29 km long. Among these 4.29 km is earthen road and 1 km is paved road. 9 culverts are here.
- From Shibrampur to Kalupara Road.the road is total 3.66 km long. Among these 3.66 km is earthen road. 2 culverts are here.
- FromBoro Shibpur to Joypurhat Thana Boundary Rd. the road is total 2.6 km long. Among these 1.03 km is earthen road and 1.57 km is paved road. 5 culverts are here.
- From Jogdol to Rupnarayonpur (Pagladewan hat) Via Ghagra Khal road the road is total 6.9 km long. Among these 6.9 km is earthen road.
- From Boro Shibpur to Dhuroil Road the road is total 5 km long. Among these 5 km is earthen road.
- From Brigram Bazar to Brigram Mardasha Rd the road is total 0.75 km long. Among these 0.75 km is paved road. 1 culvert is here.
- From Dhamoirhat Joypurhat R&H Rd to Pagladewan hat the road is total 3.2 km long. Among these 1.38 km is earthen road and 1.82 km is paved road. 5 culverts are here.
- From Chalksubal to Amaitara-Rangamati upazila road the road is total 2.28 km long. Among these 2.28 km is earthen road. 4 culverts are here.
- From Fatepur Matajee UZR to Aranagar UP the road is total 2.15 km long. Among these 2.15 km is paved road. 1 culvert is here.
- From Birgram Bazar-Bostabor the road is total 0.83 km long. Among these 0.83 km is paved road. 1 culvert is here.
- From Boro chakgopal to Altadighithe road is total 5.24 km long. Among these 1.22 km is earthen road and 4.02 km is paved road. 8 culverts are here.
- From Fatepur Matajee FRB to Polash Bari UP via Lokhonpara School the road is total 2.23 km long. Among these 1.92 km is earthen road and .31 km is paved road. 1 culvert is here.
- From Sundori more to Jamalpur the road is total 2.29 km long. Among these 1.79 km is earthen road and 5 km is paved road. 1 culvert is here.

- From Shapahar to Agradigun Upazila Road to Postiolpara the road is total 3.33 km long. Among these 1.02 km is earthen road and 2.3 km is paved road. 7 culverts are here.
- From Farshipara Hat to Belghoria Hat the road is total 3.08 km long. Among these 2.42 km is earthen road and .66 km is brick built road. 6 culverts are here.
- From Bharum Bazar-Birgram Bazar the road is total 3.34 km long. Among these 3.34 km is paved road. 7 culverts are here.
- From Amaitara to Talghari Road the road is total 1.3 km long. Among these .7 km is earthen road and .6 km is paved road. 1 culvert is here.
- From Mukundapur R&H to Nanaich Road the road is total 2.95 km long. Among these 1.72 km is earthen road and 1.23 km is paved road. 4 culverts are here.
- From Dewelbari-Mobarakpur R&H Road the road is total 3.44 km long. Among these 1.94 km is earthen road and 1.5 km is paved road. 10 culverts are here.
- From Chalkmoiram RHD to Chalkmoiram RHD via Chalkmoiram village the road is total 1 km long. Among these .78 km is earthen road and .23 km is brock built road.
- From Bortha Bazar to Dhamoirhat Potnitola R&H Road (Dhamoirhat Part) the road is total 2.48 km long. Among these 2.48 km is paved road.

There is total 111 Village roads B in Dhamoirhat upazilla. The aggrieved People, livestock, poultry take shelters on these roads during disasters and move goods fast from one place to another through these roads.

Irrigation System

There are 2467 tubewells (supplied by DPHE) in Dhamoirhat upazilla. There are 358 deep tubewells here. Besides there are 11630 shallow tubewells in this upazilla. Moreover, there are 28 water tanks for pure drinking water supply. Except that, for irrigation purpose, canals have been dug with a total length of 20 km. wherein Telipukur canal of Agrakhari is 5 km., Saranjabari canal is 5.7 km., Dhananjoy Nagar canal is 1.38 km. and Fulbankhari canal is 4.62 km.

Hat-bazaars/ Markets

In Dhamoirhat upazilla, there are 24 bazaars and 6 hats among which Agradigun, Isabpur, Dhamoirhat, Mongolbari, Rangamati, Haritakidanga, Fatehpur, Khelna hat, Alampur Birgram hat, Palashbari, Debipur, Rashpur, Chandipur, Pagol Dewan, Sahapur are noteworthy. these markets have developed to export agricultural products to different parts of the country. moreover, it is able to fulfill the daily needs of people.

1.4.2. Social Assets

Households

being under the Barindra tracts, the soil of this upazilla is sticky, hard and red coloured for which dihedral earthen houses have been made from ancient tomes. the structure of houses of this upazilla is different from that of other upazillas due to the different vision and strategic framework of indigenous people. Structure of houses was made such to protect grown crops and to get relief from extreme weather. The houses of Badalgachi upazilla are usually made of straw, bamboo, tiles, tin, bricks, soil and other materials. Households of Dhamoirhat upazilla covers a total area of 1904 hectares. In Dhamoirhat upazilla, 2.6% of these houses are

made of concrete, 14.9% are half-concrete, 79.9% earthen and 2.6% are *jhupries* (thatched houses).

Water Sources

There are 2467 tubewells (supplied by DPHE) in Dhamoirhat upazilla. According to Census, 2011 in this upazilla, 1.9% water is collected from supplies, 93.3% from tubewells and 4.8% from other sources.

Sanitation System

18.9% people of Dhamoirhat upazilla use water-sealed sanitary latrine, 30.4% non-water-sealed latrine, and the rest of 37.9% people do not have any kind of sanitation system.

Academic Institution and Library

There are 108 govt. primary schools, 44 reg. primary schools, and 3 community primary schools, 23 high schools including 3 girls' high school, 26 secondary school, 16 dakhil, 3 alim and 4 fazil madrasas Dhamoirhat upazilla. And there are 5 colleges among which there are 4 combined colleges and a women's college in Dhamoirhat upazilla. In addition, there are 8 private orphanages here. In this upazilla, literacy rate is 64% for male and 61% for female.

Religious Institutions

Jagaddala Mahavihara was once known to people as the house of Bato King. One after another vestige of ancient civilization has come out after the excavation of Jagaddal under the supervision of archaeological department. Jagaddala Mahavihara is located at eight kilometers north-east from Dhampoirthat upazilla sadar covering a huge area of Baridra tracts. From December 1, 30-35 local workers began excavation under the supervision of six-trained workers and officials of archaeological department. Meditating Buddha Statue, various ancient statues, gigantic black ancient stone, 16 feet long pillars made of granite, Buddha statue fitted on large stone pillar, ruins of various ceramic pots have already been found. Officials are working to preserve these. Here are 8 small rooms in the Jagaddala Mahavihara. 12 rooms are already fully unveiled. It is considered that these rooms were used as religious educational institutions. the alter to perform worshipping has also been discovered. The officer in charge of the Department of Archaeology and custodian of Paharpur Vihar, Mahabub- Ul- Alam has informed that how the Buddhists lived, what was the system of drinking water might be discovered. He also informed that the excavation is going on between the western sides of Jagaddala Mahavihara. The main temple, the enormous frontal part of auditorium, rooms of Buddhist Monks are coming out at the excavation here. The eastward temple is almost square. There are wide surrounding ways on its three sides. These ways join the Hall room. There are three massive Granite stone at the entrance of the temple. Threshold of large-sized black stones has been used at the entrance. He also said that, the vestiges found in the country until now, most of the black and granite stones have been used in Jagaddala Mahavihara. The Buddhists used this vihar as their religious educational institution. The religious books written then in their language were translated into Tibetan language and preached. Mahabub- Ul- Alam said, there are many large hillocks in the area covering 1 sq km around the place of excavation and around Jagaddala Mahavihara. He hopes that the continuation of excavation of these hillocks can discover many more Buddhist ruins.

Manik, an aged person Moslem Uddin of Jagaddala village said that they have known this hillock as the house of King Bato from the time of their father and grandfather. They have come to know that it was Buddhist religious institution after the excavation. Besides, there are 293 mosques, 24 temples and 8 Churches in Dhamoirhat Upazilla.

Religious Place (*Eidgah*)

There are 103 holy Eidgahs in Dhamoirhat Upazilla. Besides the day of occasions, these palces are also used for emergency services at times of disaster. Usually, the higher eidgahs can be used as shelters in case of sudden floods.

Health Service

In Dhamoirhat Upazilla, there is an Upazilla Health Complex, 5 upazilla health and family welfare centers and 20 community clinics. Moreover, the quality of the service is not very good. Also in collaboration with the health department vaccines of B.C.G, D.P.T, polio, measles, titenus, tuberculosis, etc. are given.

Banks

In Dhamoirhat Upazilla, there are 11 banks among which Sonali Bank, Janata Bank, Rajshahi Krishi Unnayan Bank are mentionable. However, most of the masses have selected mobile banking in case of smaller transactions due to its popularity. There are approximately 52 dealers of bKash, DBBL and other mobile banking in this upazilla.

Post & Tele Communication

There is a head post office including 11 branch offices and a telephone exchange in Dhamoirhat Upazilla. There are 6 towers for mobile phone as the most popular medium of communication.

Club/ Cultural Center

There are 45 clubs in Dhamoirhat Upazilla. They

NGOs/ Voluntary Organizations

There are some local NGOs working in Dhamoirhat upazilla. Brac, ASHA, CCDB, TMMS, Proshika, Care, Ujjeebon, World Vision, Grameen Bank, Asroy etc are noteworthy among the organizations. Besides, there are 2 central co-operative associations, 1 freedom fighters' co-operative associations, 6 Union multipurpose co-operative associations, 103 farmers' co-operative associations, 10 deprived men's co-operative associations, 110 female co-operative associations, 102 fisheries co-operative associations, 1 drivers' co-operative associations, 5 multi-purpose co-operative associations, 56 youth co-operative associations, 2 shelter co-operative associations, 1 small traders' co-operative associations and 39 other co-operative associations in Dhamoirhatpur upazilla.

Play Grounds

There are 30 play grounds in Dhamoirhat upazilla for these play grounds are generally use . games, fairs or gathering. But, at the time of disasters these playgrounds are used for shelters

Graveyard/ Crematorium

.There are 96 graveyards and crematorium in Dhamoirhat Upazilla

Communication and transportation

Dhamoirhat upazilla lies 56 km. away from district sadar. Here prevails communication system with capital city Dhaka through Bus. Akkelpur rail station can be reached through trains from different cities of the country including Dhaka. Here prevails communication system with Divisional city Rajshahi. There are 140.42 k.m. pavements, 15.69k.m. HBB road are 328.17 k.m. earthen roads in Dhamoirhat upazilla. Moreover, there are 459 bridges and culverts in this upazilla. Besides, there are some traditional vehicles like cow cart, palki, duli, horse cart etc.

Forest and Plantation

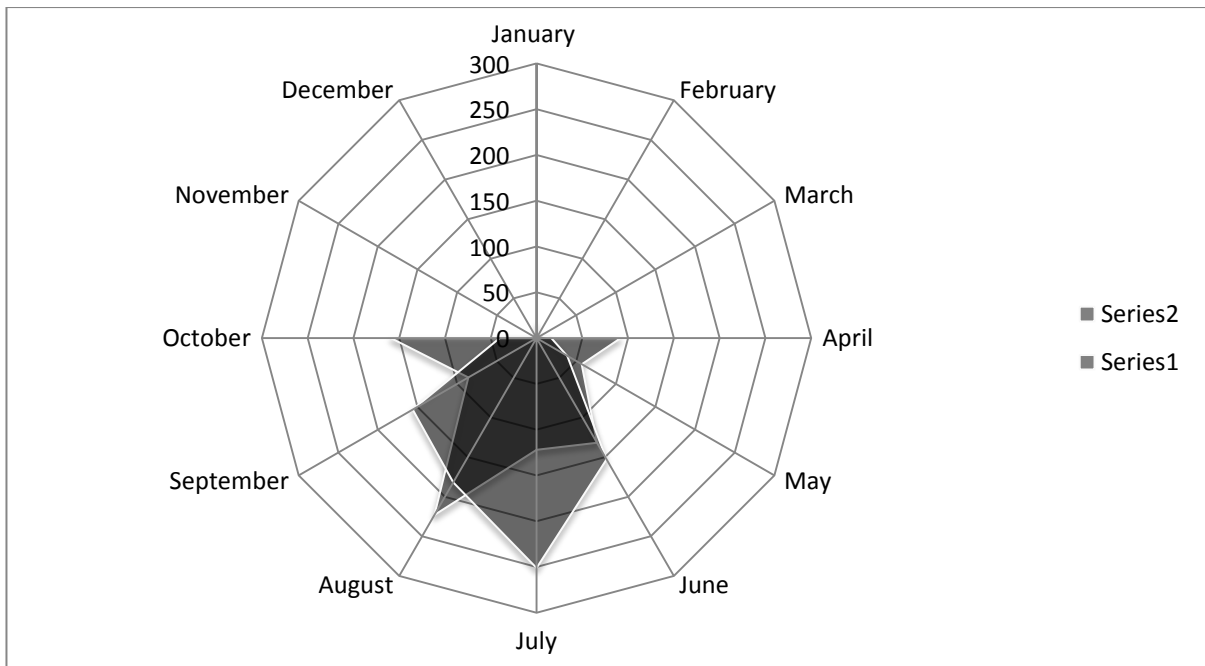
The nature of soil of this upazilla is hybrid and more like that of Modhupur Garh. The amount of natural forest is 700 acres here. Akashmoni, Eucalyptus, Jarul, Arjun, Kadam, Blackberry etc. are main trees of this place. Besides, there are adequate mango and lichee orchards in this area. And there is some plantation surrounding Alta Dighi at the northern part of the upazilla.

1.4.3 Weather and Climate

The annual average rainfall of this upazilla is below 45inches. Nevertheless, this rate is changeable. It will not be overstated if this area is called the ideal tropical monsoon area because of extreme warm weather, excess humidity, medium rainfall and seasonal variation. Summer starts from April and May. Then the maximum temperature remains 90 degree Fahrenheit and the minimum temperature remains 65 degree Fahrenheit. The highest temperature remains within April, May and the first half of June and the lowest temperature remains within January. The average maximum temperature is 76 degrees Fahrenheit and the minimum average temperature is 30 degrees Fahrenheit.

Rainfall

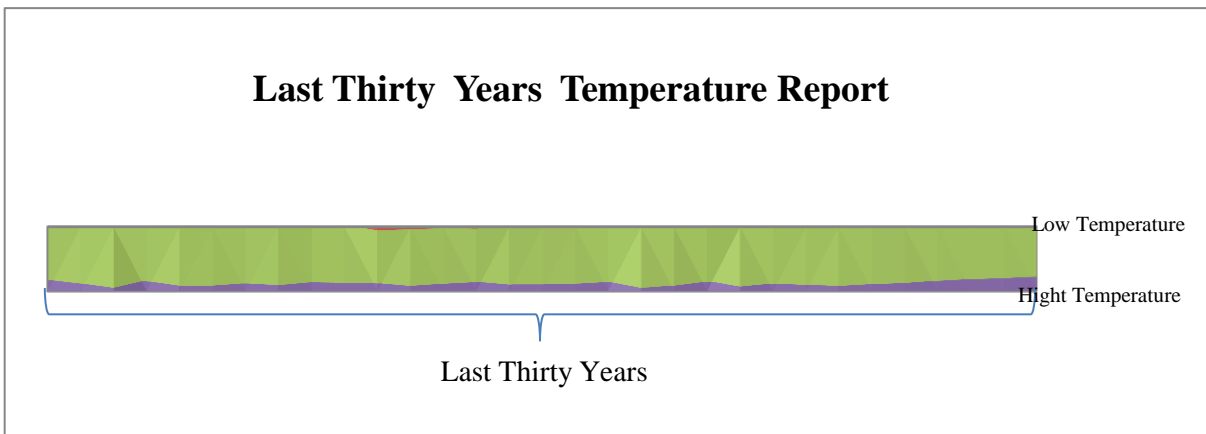
The average rate of rainfall is 72 cm Dhamoirhat upazilla, while the average annual rainfall is above 135 inches in places like Sylhet, Chittagong, and Noakhali. According to spider analysis of last two years' graph of BMDA, no rainfall occurs from October to April of next year. There is excess rainfall from June to September, but it is limited to 250 cm.



Graph 1.1: Spider Diagram of Rainfall

Temperature

The average temperature is 8-10° Celsius in December and January, and the highest temperature prevails in April-May when the average temperature keeps above 41° Celsius. According to Bangladesh Meteorological department, Rajshahi, the analysis of surface Contour in Graph 1.2 shows that the highest temperature of last 30 years remains in between 30-40 degrees. But, in the last few years, temperature has become highest or lowest each 2-3 years later. The analysis also shows that in the last 6 years average temperature has risen by 2 degrees due to climate change. The bio-diversity of this upazilla will be affected if average temperature continues to rise.

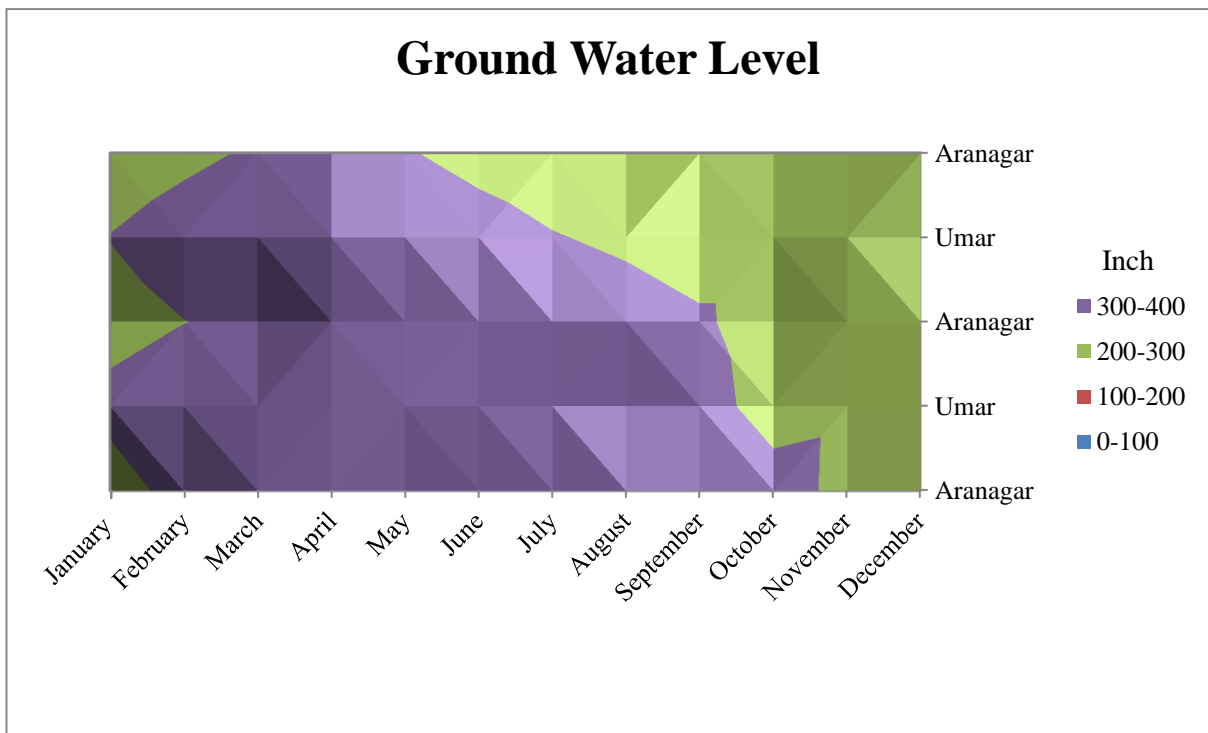


Graph 1.2: The surface contour analysis of last 30 years' temperature *Source: Metereological Department, Rajshahi*

Ground water level

In Dhamoirhat upazilla, ground water level is seen to be in between 24''7' and 25''6' in January, 2012. It kept between 22''3' and 23''1' in January, 2013. It is clearly visible from

the BMD’s Graph 1.3 of ground water level of Aranagar and Omar in last two years that the water level is falling down. The condition of Aranagar is fatal where water level is in 300-400 inches 10 months of a year.



Graph 1.3: Analysis of surface contour of last two years’ ground water level

1.4.4 Others

Land use pattern

There are 215 moujas, 1 upazilla land office, 4 union land offices and no municipality land office in Dhamoirhat upazilla. Total public area, in Dhamoirhat upazilla, is 6887.19 acres wherein agricultural land is 3873.53 acres and non-agricultural land is 3013.66 acres. Among these lands, leasable land is almost 10.985 acres. In 2011-12 fiscal year, the yearly land development tax (proclaimed) was 15,28,009 BDT and yearly land development tax (collected) was 15,73,245 BDT.

Agriculture and Food

In Dhamoirhat upazilla, the total amount of land is 50598 hectares wherein total cultivable land is 30082 hectares and net cultivable land is 23856 hectares. Here, 1155 hectares covers single-crop lands, 18660 hectares double crop, 4041 hectares triple-crop lands and the crop intensity is 212%. Among the main crops of this upazilla, there are paddy, mustard seed, peas, potato, sugarcane, brinjal, banana, onion, garlic, oil seed, turmeric etc. Main fruits of this upazilla are mango, lichee, jackfruit, papaya, guava etc. The annual food demand in Dhamoirhat upazilla is 29862 metric tons, production is 150614 metric tons and surplus is 103311 metric tons per year.

River

There are two rivers in Dhamoirhat upazilla- Atrai and Chhota Jamuna. The river Atrai entered the upazilla from Balirghat of India situated in the northern side of Dhamoirhat and flows ahead towards potnitala upazilla through Alampur union. On the other hand, the south-eastern corner of the upazilla, Chhota Jamuna flows from Joypurhat Sadar upazilla of jayourhat district through Isabpur union of Dhamoirhat upazilla towards Badalgachhi upazilla.

Wet lands

There is 225.27 acres of wet lands in this upazilla.

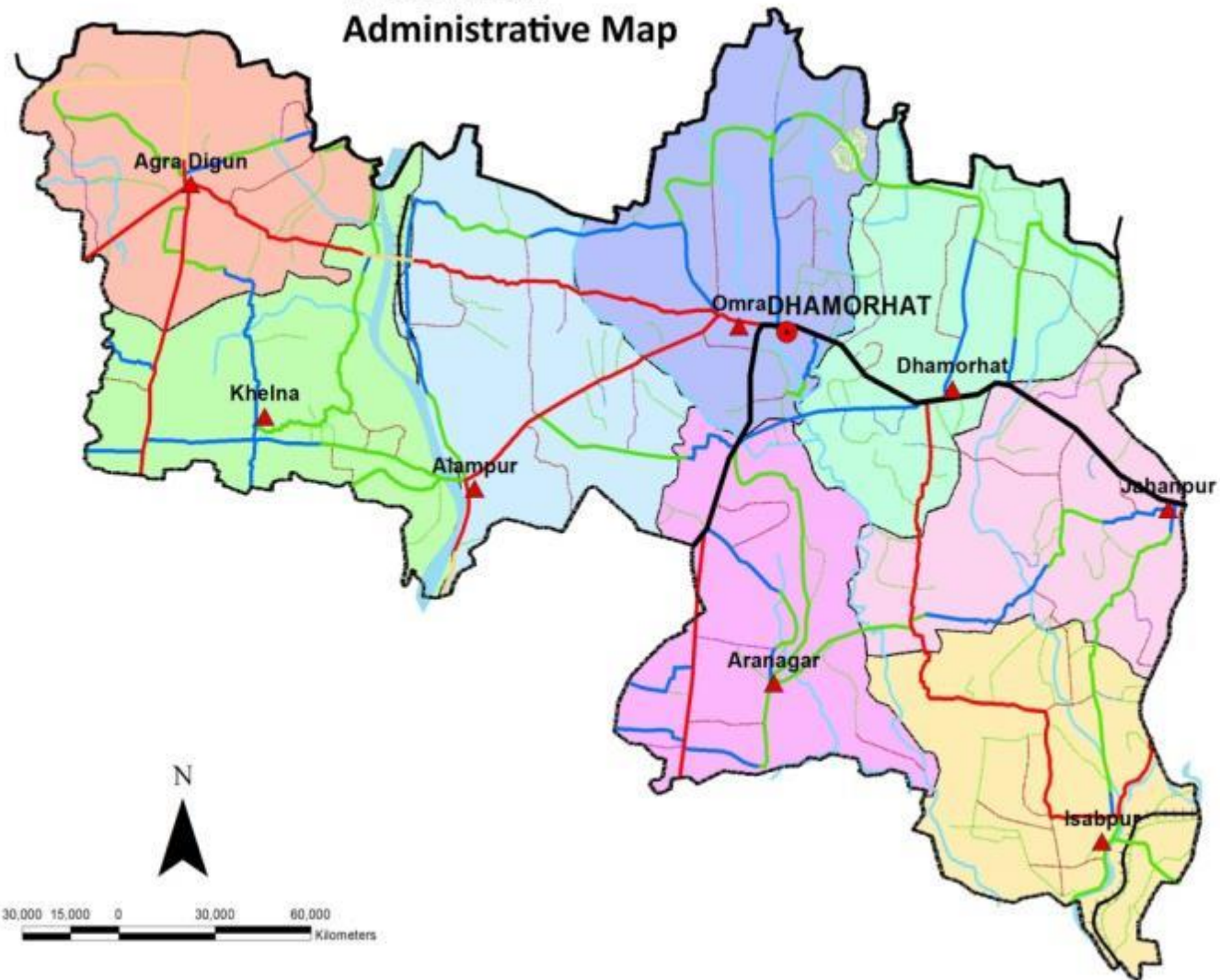
Pond

There are 3443 ponds (public 590) covering 600.53 acres of land in Mohadevpur upazilla. There are 1808 private ponds (2575.78 acres).

Arsenic Contamination

Arsenic level in this upazilla is 0-20%. Different tests of tubewell water like arsenic level, cloraid, iron, manganese, PH level, electric conductivity and other biological tests can be served in return of certain fees in the local laboratories. Besides, some free basic tests of water sources are executed with field kits

Dhamoirhat Administrative Map



- ### Legend
- International Boundary
 - District Boundary
 - Upazila Boundary
 - Union Boundry**
 - Agra Digun
 - Alampur
 - Aranagar
 - Dhamorhat
 - Isabpur
 - Jahanpur
 - Kheina
 - Omra
 - District
 - Upazilla
 - ▲ Union
 - Zilla Road
 - Upazilla Road(Pucca)
 - Upazilla Road(Katcha)
 - Union Road (Pucca)
 - Union Road (Katcha)
 - Village Road A (Pucca)
 - Village Road A (Katcha)
 - Village Road B (Pucca)
 - Village Road B (Katcha)
 - Railway Network
 - Embankment
 - Small River or Khal
 - Forest
 - Water Bodies
 - Wide River with Sandy Area

Chapter Two

Disaster, Hazard and Vulnerability

2.1 History of Disaster

Not much severe effect of disasters is seen in Dhamoirhat upazilla. Every year; this area gets affected by either one or another disaster. Different types of hazards including Drought, low Water Level, Seasonal Storm, River Erosion, Flood, Cold Wave Heavy Mist Pest Attack Rainfall hamper normal way of life and cause huge damage of assets. The pressure and Low of water descending from Indian hills flows away the banks of river Jamuna through canals cut in the and other inland waterways and causes flood. As the river is shallow, it causes drought dry season. Owing to Seasonal Storm, both agricultural products and settlement get heavily damaged and a lot of people lose shelter too. River Erosion also spoils human lives damaging Wave and Heavy Mist cause a agricultural products, accommodation and infrastructure. Cold wave massive destruction for winter crops But, the hazard which affects most to lead this upazilla to fatal crisis is too low water level. It is the most affecting hazard for the people of Dhamoirhat upazilla. This upazilla may be affected by any disaster because of deforestation, rapid growth of population and environmental imbalance. The level of damage, year of disasters and affected sectors are shown in a table below

Table 2.1: Name of Disaster, Year, Damage and Sector

Disaster	Years	Damage	Affected Sectors/ Elements
Flood	1981, 1988, 1998	Maximum	Agriculture, Fisheries, Livestock, Human Resource, Infrastructure, Plantation
	1986, 1991, 1995,	Moderate	Agriculture, Fisheries, Livestock,
River Erosion	,1981 1986, ,1987 ,1988 ,1998 ,2005 2006	Maximum	Agriculture, Fisheries, Livestock, Human Resource, Plantation
	,2000,2004 ,1999 ,1995	Moderate	Structure, Human Resource,
Draught	1976, 1979, 1992, 1996,	Maximum	Agriculture, Fisheries, Livestock, Human Resource, Plantation
	1989, 1999, 2004	Moderate	Livestock, Human Resource, Plantation
Hail Rain	1988, 1997,	Maximum	Agriculture, Fisheries, Livestock, Human Resource, Plantation
	1992, 1995, 2005	Moderate	Livestock, Human Resource, Plantation
Heavy Mist	1976, 1996, 1999, 2004	Maximum	Agriculture, Fisheries,

Disaster	Years	Damage	Affected Sectors/ Elements
			Livestock, Human Resource, Plantation, Livestock
	1979, 1989, 1992,	Moderate	Agriculture,
Cold Wave	2009, 2012, 2013	Maximum	Agriculture, Fisheries, Livestock, Human Resource, Plantation
	2010, 2011	Moderate	Livestock, Plantation

Source: field Visit, Dhamoirhat, 2014

2.2 Hazards of the Upazilla

Hazard is an unusual event, which can occur naturally or from man-made technical faults and can damage the lives and livelihoods of human beings. Despite of being under Barindra tracts, Dhamoirhat upazilla has some small and big swamps and Atrai and Lottle Jamuna River flows through it. The area was rough already due to geographical reasons but it is gradually losing sustainability because of climate change. People are suffering because of irregular water flow, downward water level and climate change. The hazards responsible for the suffering are given below following the priority of damages of people:

Table2.2: Hazards and Priority of Hazards

Hazards of the unions of this upazilla	Identifies hazards and priority of hazards
<p style="text-align: center;">Nature caused hazards</p> <p>1. Flood 11. Thunder 2. Drought 12. Rat Attack 3. River Erosion 13. Insect attacks at crops 4. Hail Rain 5. Heavy Mist 6. Cold Wave 7.Excessive rain 8. flatulency 9.Arsenic 10. Earthquake</p> <p style="text-align: center;">Man-made hazards</p> <p>14. Fire 16.Land Possession 15.Unplanned 17. Paddy wastes Infrastructure emitted from rice mills Establishment</p>	<p>1. Flood 2. Drought 3. River Erosion 4. Cold Wave 5. Heavy Mist 6. Hail Rain</p>

Source: field Visit, Dhamoirhat, 2014

2.3 Different types of Hazards and its present, future illustration

1. Flood

Dhamoirhat upazilla is an extremely flood prone area. Flood prevails here from June to October. Consequently, agriculture, fisheries, infrastructure, households, education, communication and other sectors get heavily affected by flood. Though it happens each year, the floods in 1986, 1987, 1988, 1990, 1992, 1995, 1998, 2002, 2003, 2007 were the most terrific ones.

2. Drought

Drought commonly occurs in February, March, April and May. The acuteness and duration of drought are gradually increasing. It has not been raining even in June and July for last several years. As a result, damages are increasing because of drought. If this situation continues, severe environmental disaster would appear in near future. In context of Dhamoirhat upazilla, low water level is the most severe hazard which affects each sector of life and accelerate drought. people of this area have to fight continuously for the most basic need of life, water. This hazard affects every development sector of Dhamoirhat upazilla every year. Native people of here think that immediate government interference and private aid is necessary to remove this hazard.

3. River Erosion

River erosion is a part and parcel in the lives of people of Dhamoirhat upazilla. It is increasing day by day. The citizens believe that low navigability causing a raise of water and a fall of current speed and water capacity consequently leads to river erosion. They stated that it would further make people suffer devouring a lot more areas if this situation goes on.

4. Cold Wave

Cold Wave occurs every year in Dhamoirhat upazilla. It appears here so much because of close proximity to the river Chhota Jamuna. As a result, it affects common lives and ruins the production of mango, lichee, pees and other winter crops.

5. Heavy Mist

As a result of a variety of human-made reasons and climate change, heavy mist has been observed as a frequent occurrence in Dhamoirhat upazilla as well as nearby areas. Usually, heavy mist happens in November, December, January and February. As a result, it affects every sphere of life causing damage in agriculture and health sector and increasing street accidents.

6. Hail Rain

According to the denizens of Dhamoirhat upazilla, a drastic change in rainfall is observed in this area. Hail rain occurs quite frequently. It seems like a negative effect in the weather pattern. It makes a huge damage in agriculture.

2.4 Vulnerability and Capability

Vulnerability is the possibility of a population or parts of it to be affected by hazards and the level of possible damage to common lives and society due to the hazard. It has come into light through field meeting and analysis of various information and data that two-third of the population of Dhamoirhat upazilla are vulnerable to hazards like flood, river erosion, drought and cold wave. Moreover, animals, fisheries and infrastructures are not out of vulnerability. The objectives of removing hazards are to identify the possibility of a hazard, when a hazard will occur, how much area will be affected. Therefore by measuring the severity of a hazard and vulnerability, they are trying to achieve capability by adopting their own ways.

In which area is vulnerable for which reasons are shown below:

Table 2.3: Hazard based vulnerabilities

Hazards	Vulnerabilities	Capabilities
Flood	<ul style="list-style-type: none"> • It ruins agricultural products. • Graveyards go under water. • It harms human resource. • It damages infrastructure. • It washes away fisheries. • It causes lack of safe drinking water. • It destroys livestock. • It extremely endangers children, the pregnant, the disable and the old. 	<ul style="list-style-type: none"> • There are 96 high graveyards. • There are 28 tanks of pure drinking water. • There are 10 (158 hectors) effective embankments and cross dams. • There are 4 sluice gates. • There are 980 high based tubewells.
Drought	<ul style="list-style-type: none"> • It ruins agricultural products. • It harms human resource. • It washes away fisheries. • It causes lack of safe drinking water. • It destroys livestock. 	<ul style="list-style-type: none"> • There are 358 deep tubewells. • There are 1 health complex and 5 upazilla health and family welfare centers. • There is a 20 k.m. canal for irrigation purpose. • There is a veterinary hospital.
River Erosion	<ul style="list-style-type: none"> • It ruins agricultural products. • It hampers communication. • It harms human resource. • It damages infrastructure. • It ruins fisheries. • It destroys livestock. 	<ul style="list-style-type: none"> • There are 10 (158 hectors) effective embankments and cross dams.
Cold wave	<ul style="list-style-type: none"> • It ruins agricultural products. • It destroys livestock. • It harms human resource. • It extremely endangers children, the pregnant, the disable and the 	<ul style="list-style-type: none"> • There are 1 health complexe, 20 community clinics and 5 upazilla health and family welfare centers. • NGO responses

Hazards	Vulnerabilities	Capabilities
	old.	<ul style="list-style-type: none"> • There is a veterinary hospital.
Heavy Mist	<ul style="list-style-type: none"> • It ruins agricultural products. • It destroys livestock. • It harms human resource. • It extremely endangers children, the pregnant, the disable and the old. 	<ul style="list-style-type: none"> • There are 1 health complexe, 20 community clinics and 5 upazilla health and family welfare centers.
Hail Rain	<ul style="list-style-type: none"> • It ruins agricultural products. • It destroys livestock. • It harms human resource. • It destroys forest resources. 	<ul style="list-style-type: none"> • There are 1 health complexe, 20 community clinics and 5 upazilla health and family welfare centers. • NGO responses

Source: field Visit, Dhamoirhat, 2014

2.5 Most Vulnerable Areas

Due to geographical location, lack of water is seen in Dhamoirhat upazilla in dry seasons. So, all the fields and lands dry up and all the people, fisheries, animals and infrastructure become vulnerable. Again, farmlands and infrastructures submerge into water while water flowing down from hills causes sudden flood. Sometimes, people living nearby riverbanks become homeless because of river erosion. Vulnerability and causes of vulnerability are not the same for everywhere of the upazilla. So, most vulnerable areas and vulnerable population based on hazard are shown by the following table:

Table 2.4: most vulnerable areas, Reasons of Vulnerability and vulnerable population:

Hazards	Most Vulnerable Areas	Reasons of Vulnerability	Vulnerable Population
Flood	Khelna, Agradigun, Alampur, Dhamoirhat, Jahanpur, Isabpur and areas adjacent to rivers	Many a piece of agricultural land are being swallowed by flood in these areas.	127600 (Tentative)
Drought	Entire upazilla	Drought may cause a huge damage in the agriculture of these areas.	169772 (Tentative)
River Erosion	Khelna, Agradigun, Alampur, Dhamoirhat, Jahanpur, Isabpur and areas adjacent to rivers	For long 10 years, a lot of cultivated lands have been consumed by river erusion that makes many people helpless. Besides, it also ruins agriculture, fisheries and human resource.	127600 (Tentative)
Cold wave	Entire upazilla	Cold wave may harm to agricultural	169772

Hazards	Most Vulnerable Areas	Reasons of Vulnerability	Vulnerable Population
		products, livestock and human resource. It is also endangering for children, the pregnant, the disable and the old.	(Tentative)
Heavy Mist	Entire upazilla	This areas of Dhamoirhat grows the maximum amount of mangoes that may get spoiled by the Heavy Mist. It is also a threat for human resource.	169772 (Tentative)
Hail Rain	Entire upazilla	Hail Rain may cause a great harm to agriculture and human resource.	169772 (Tentative)

Source: field Visit, Dhamoirhat, 2014

2.6 Main Development Sectors

Dhamoirhat upazilla depends in agricultural production. Economy of this area depends on agriculture. So, although importance is given on agriculture in development planning, importance should be given on fisheries, livestock, health, livelihood and infrastructure to reduce hazard and risk.

It is discussed by the following table:

Table 2.5: Combination with Development Sector and Disaster Risk Reduction

Main Sectors	Detail Description	Adjustment with Disaster Risk Reduction
Agriculture	In Dhamoirhat upazilla, 150614 metric tons of crops are produced in total 23856 hectares of land. Meeting the local demand, Dhamoirhat has a surplus of 103311 metric tons which brought great success for the economy of this area. As a result of new initiatives in agriculture, farmers will come forward in cultivation. So in Dhamoirhat upazilla, agriculture is considered as one of the main sectors of development plan.	In Dhamoirhat upazilla, 90% of people are depended on agriculture (50% day-laborers, 25% petite farmers, 10% middle class farmers and 5% are affluent farmers). 78.66% income comes from agriculture. A change in climate causing drought, heavy rainfall, hail storm, cold wave, heavy mist and flood may cause severe financial loss damaging agricultural products. So, more modification and advancement is needed in agricultural sector to cope up with DRR.
Fisheries	There are total 3443 ponds wherein 590 are public ponds. In this upazilla, annual fish production is 1267.24 metric tons and demand 1949.74	A change in climate causing heavy rainfall and flood may harm agriculture severely. In that case, fisheries can serve with instant

Main Sectors	Detail Description	Adjustment with Disaster Risk Reduction
	metric tons. There are four public wet lands covering 225.27 acres of area that is capable of fish production and helps people achieve financial success as well as livelihood. As a result, many people will be interested in fish cultivation that can bring huge progress in this upazilla. So in Dhamoirhat Upazila, fisheries can be considered as one of the main sectors of development plans.	financial safety and solvency. So, fish cultivation is effective in DRR.
Livestock	20-25 years ago, almost every family used to have cattle in Dhamoirhat upazilla. Currently, because of lack of cow-food and pasture lands, livestock has decreased considerably. At present, there are 60 cattle farms, 30 broiler chicken farms and 30 hybrid chicken farms, which make people self-reliant and contribute to the economy of this area.	A change in climate causing heavy rainfall and flood may harm fisheries and agriculture severely. In that case, livestock can serve with instant financial safety and solvency. So, rearing livestock is effective DRR.
Health	There are an upazilla health complex, 5 upazilla health and family welfare center and 20 community clinics. These institutions help continue the usual activities of people of Dhamoirhat upazilla ensuring health services.	In Dhamoirhat upazilla, many diseases bring out in disaster period. Therefore, more advancement in health service is needed to be connected with disaster risk reduction.
Livelihood	In Dhamoirhat upazilla, 90 % of people are involved in agriculture (50% day-laborers, 25 % petite farmers, 10% middle class farmers and 5% are affluent farmers). Among the people involved in other sectors, there are 2.52% in non-agricultural labor, 0.86% industry, 8.01% trade, 2.91% transport and communication, 0.09% religious service, 0.07% remittance and 3.25% others. There are also 10% jobholders. In Dhamoirhat upazilla, financial system	When disasters like flood, drought, river erosion, heavy rainfall, low rainfall etc. occur in Dhamoirhat Upazila, livelihood of common people gets affected by seriously damaged agriculture, fisheries and livestock. But, if people manage to alternative occupations, immediate recovery from disasters can be possible. It also help keep solvency in disaster period. So, alternative livelihood is effective in disaster risk reduction.

Main Sectors	Detail Description	Adjustment with Disaster Risk Reduction
	<p>is quite prosperous because of varied livelihoods. Most of the people are reliable because they are mostly engaged in any kind of dependable profession. Thereby lives of the people of Dhamoirhat go on improving.</p>	
Plantation	<p>Dhamoirhat upazilla has considerable reputation for mango cultivation. In this Upazilla, there are many mango farms that keep this region filled with greenery. There are plenty of akashmoni, mango, rain-tree, water apple, eucalyptus, arjun, akasiya, babla and plum trees. According to official record, in Dhamoirhat, there are 10 hectares of plantation that plays a special role in the economy of this area.</p>	<p>Agriculture, fisheries, livestock are seriously damaged when disasters like flood, drought, river erosion, heavy rainfall, low rainfall etc. occur in Dhamoirhat Upazila. Apart from this, many houses, roads and other structures are smashed in storms, which affect lives and livelihoods of people as well as environment. Plantation has no alternative to prevent this. So a movement with a slogan like “Plant trees, save environment” can play role in disaster risk reduction.</p>
Infrastructure	<p>In Dhamoirhat upazilla, there are plenty of structural assets including 10 (158 hectars) embankments, 459 bridges and culverts, an overall total of 932.17 km. of upazilla, union and village roads and currently 358 deep tubewells and 11630 tubewells for irrigation purpose. There are also 24 hats/ bazaars meeting the needs of people by providing the basic necessities of goods. These assets of this area play leading role in economics as well as development activities in Dhamoirhat.</p>	<p>When disasters like floods, droughts, river erosion and heavy rainfall happen in Dhamoirhat upazilla, a variety of structural assets helps in many ways. The dams located on the banks of the river Jamuna protect the upazilla from river erosion. During floods and heavy rainfall, the culverts are used for communication and water supply. It also would benefit a lot in agriculture. The tubewells are used for water supply in irrigation during drought and thus help produce agricultural products. Roads connect different areas and develop communication. Bazaars are also essential for the people during disasters providing their necessary elements. Infrastructural resources</p>

Main Sectors	Detail Description	Adjustment with Disaster Risk Reduction
		play important role in coping with the disasters. So there is no alternative but strengthening infrastructural resource to reduce risks of disasters.

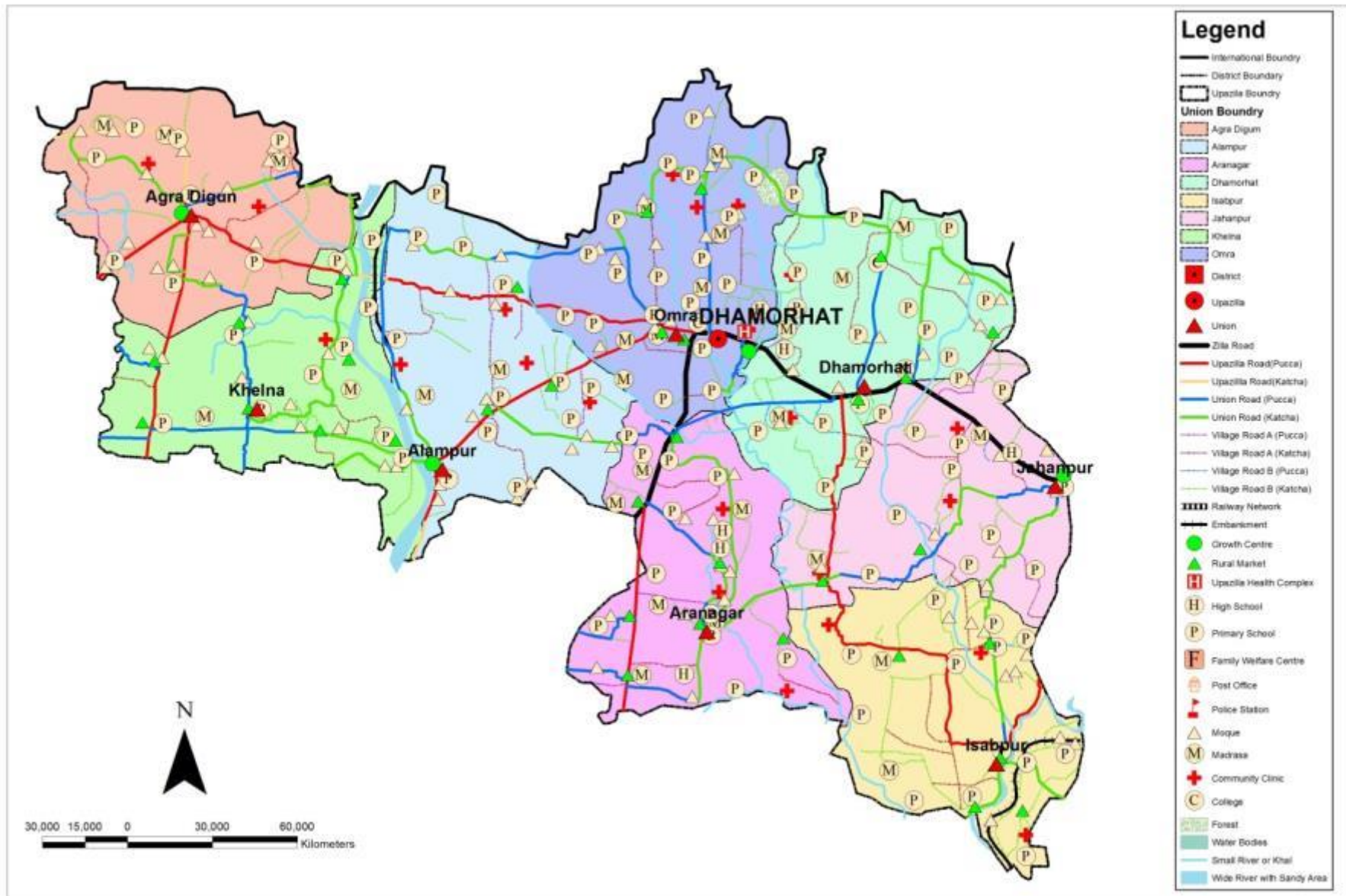
Source: field Visit, Dhamoirhat, 2014

2.7 Social Map

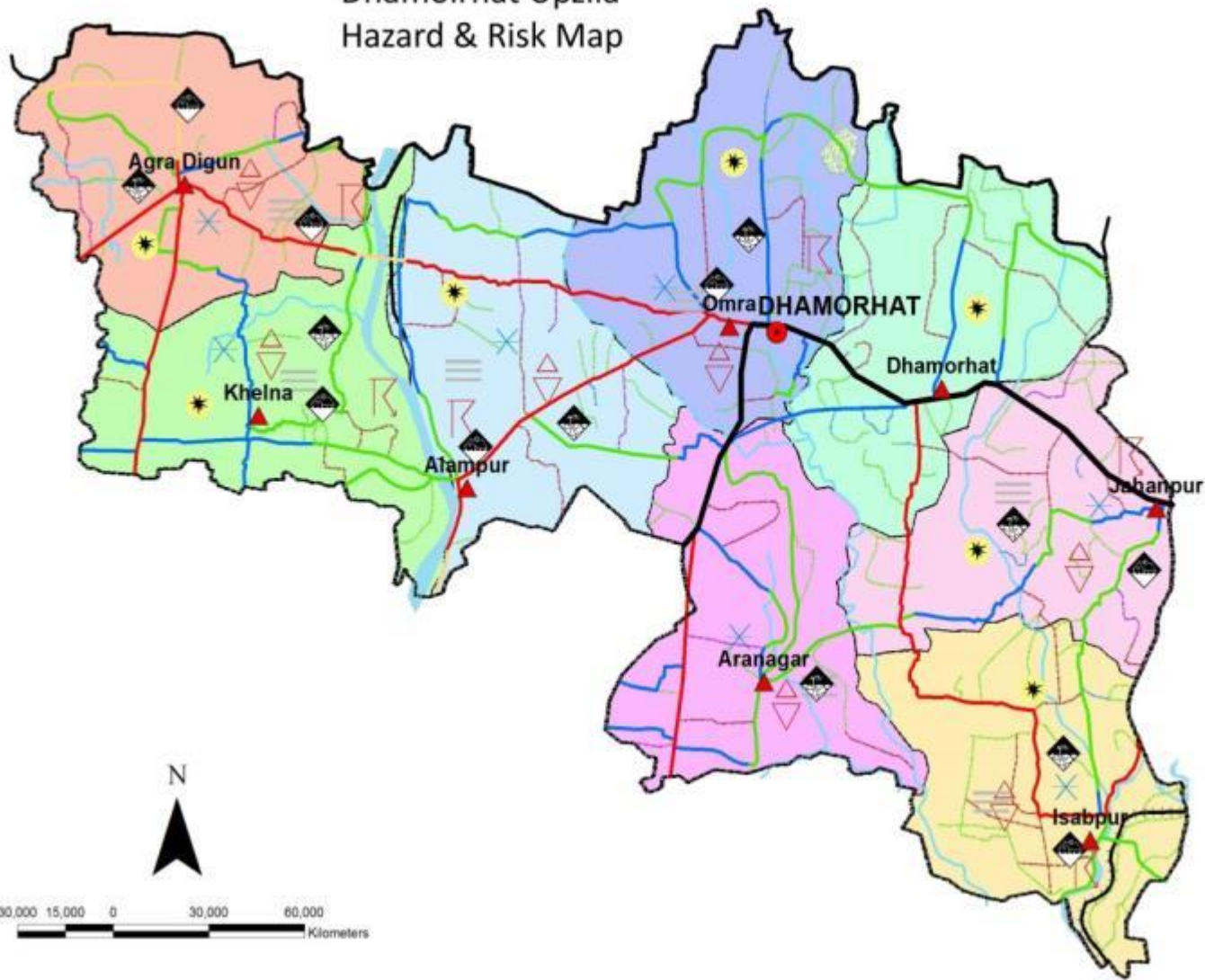
In context of the discussion of the Dhamoirhat upazilla disaster management committee members' with the common people of various occupations of different villages describing the objectives and importance of making a social map, The social map of Dhamoirhat upazilla has been prepared with their help. The location of unions, villages, infrastructures, different institutions, land use, roads, rivers, canals, wet lands, buildings, hospitals, embankments and other important matters are included in the social map. The entire condition of this upazilla is shown in the social map.

2.8 Hazard and Risk Map

In context of the discussion of the Dhamoirhat upazilla disaster management committee members' with the common people of various occupations of different villages showing the map of Dhamoirhat upazilla and describing the objectives and importance of making a Hazard and Risk Map, Hazard and Risk Map of Dhamoirhat upazilla has been prepared with their help to identify the hazards. Which hazard affects which union is shown in the map by the participants. Moreover, land infertility, land utilization, movement of river such matters is considered here through geographical information management. The entire condition of this upazilla is also shown in the hazard and risk map.



Dhamoirhat Upzila Hazard & Risk Map



Legend

- International Boundry
- District Boundry
- Upzila Boundry
- Union Boundry
- Agra Digun
- Atampur
- Aranagar
- Dhamorhat
- Isabpu
- Jahanpur
- Khelna
- Omra
- District
- Upzila
- Union
- Cold Wave
- Drought
- Flood
- Crop Insect-pest Infestation
- Dense Fog
- Hail Storm
- River Erosion
- Zila Road
- Upazila Road (Pucca)
- Upazila Road (Katcha)
- Union Road (Pucca)
- Union Road (Katcha)
- Village Road A (Pucca)
- Village Road A (Katcha)
- Village Road B (Pucca)
- Village Road B (Katcha)
- Railway Network
- Embankment
- Small River or Khal
- Forest
- Water Bodies
- Wide River with Sandy Area

2.9 Seasonal Calendar of Hazards

Although Dhamoirhat upazilla is a drought prone area, different hazards are seen throughout the year. Drought continues to grow in the month of March, but it takes the extreme form in April. Field and lands dry up, no water remains in most of the tube well. At this tie, ground water level is low; therefore water can be lifted only through deep tubewell. Besides, one river runs through Dhamoirhat upazilla. Areas and public adjacent to the river face a huge amount of losses at any time between the months June to October in case of sudden floods. Moreover, outbreak of cold wave and heavy mist prevails from November to February which hampers winter crops production.

Seasonal Calendar of Hazards is presented through the following table:

Table 2.6: Calendar of Hazards based on months

No	Hazards	April	May	June	July	August	September	October	November	December	January	February	March
1	Flood												
2	Draugh												
3	River Erosion												
4	Cold Wave												
5	Heavy Mist												
6	Hail Rain												

Source: field Visit, Dhamoirhat, 2014

Seasonal calendar of Hazards analysis:

In which months of a year hazards occur in this area and in which months the effects are more or less are shown in the graph of the seasonal calendar. It is known through discussions with the participants as part of the Pre-C.R:

Flood: flood generally occurs due to river filling and the lack of drainage. Rivers fill up due to sediment accumulation in the riverbed and rising of chars which causes excess water pressure to overflow and cause flood. Dhamoirhat upazilla is flood prone from mid-July to the end of September.

Drought: Drought is the main hazard of this area. The presence of drought is seen from mid-March to mid-June. Excessive drought causes extensive damage to agriculture here. Though the effects of drought are moderate in early March and late June, but effects are somewhat lower during the rest of the year. Many of the crops are lost due to lack of irrigation as the effect of drought. Again, the production of crops which are getting irrigation is reduced due

to lack of sufficient water. Again, water of stored pond dries up due to drought which leads to extreme shortages of drinking water.

River Erosion: homes, roads, crops, livestock and a osial and educational institution of Dhamoirhat upazilla are disappearing every year because of river erosion. River erosion is not manifest From April to July here, but River erosion takes extreme form during early August to mid-September.

Cold Wave: Cold Wave occurs every year in Dhamoirhat upazilla. It appears here so much because of close proximity to the river Chhota Jamuna. As a result, it affects common lives and ruins the production of mango, lichee, pees and other winter crops.

Hill Rain: According to the denizens of Dhamoirhat upazilla, a drastic change in rainfall is observed in this area. Hail rain occurs quite frequently. It seems like a negative effect in the weather pattern. It makes a huge damage in agriculture.

2.10 Seasonal Calendar of Livelihood

Although this upazilla is dominated by agriculture, but fishing is also an income source here as some big and small canals are here. Besides, there are landless workers who earn their living as day laborers. As there are quite a few hats and bazars, the trader professions have arisen for exporting huge amount of agricultural products.

Seasonal Calendar of livelihood is presented through the following table:

Table 2.7: Seasonal Calendar of Livelihood

No	Source of Livelihood	April	May	June	July	August	September	October	November	December	January	February	March
1	Agriculture												
2	Fisheries												
3	Daily Labor												
4	Businessman												

Source: field Visit, Dhamoirhat, 2014

2.11 Vulnerability on Life and Livelihood

Pre-discussed hazards and disasters hamper the normal lifestyle. Farmers, fishermen, day laborers, businessmen all become vulnerable.

Vulnerability on Life and livelihood is presented through the following table:

Table 2.8: Vulnerability on Life and Livelihood

Sl no:	Livelihood	Hazards/ Disasters						
		Low water level	Flood	River Erosion	Drought	Seasonal Storm	Lack of rain	Cold Wave

01	Agriculture	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
02	Fisheries	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
03	Daily Labor	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
04	Businessman	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

Source: Field Visit, 2014

2.12 Sector-wise Risks and Hazards

The vulnerable sectors of Dhamoirhat upazilla are crops, plants, livestock, fisheries, homes, roads, bridges, culverts, educational institutions, health care and shelter. The sectors are endangered because of the pre-discussed hazards. After performing hazard identification of each union and its corresponding vulnerable sector, elements and area selection, the list of risks have been prepared and written. Two representatives from each of the groups (farmers, landless, women and fishing) has been selected and divided into four groups. Risks have been given priority by voting on unacceptable risks (voting through Zipstick) after evaluating the risks described separately by each groups consisting of 6 members with a total of 24 representatives. The possible ways of reducing the risk to the local level including risk analysis has been set from the list of risks obtained by incorporating the highest risks voted by four groups. Following are the preferred risks. These risks have been validated later by the indirect stakeholders at the presence of the representatives of the group. The following table identifies vulnerable sectors of Dhamoirhat upazilla:

Table 2.9: Sector-wise Risks and Hazards

Hazard	Vulnerable Social Elements									
	Crops	Trees	Livestock	Fisheries	Homes	Roads	Bridges and Culverts	Educational institution	Health	Shelter
Flood	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Drought	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	
River Erosion	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Cold Wave	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	
Heavy Mist	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	
Hail rain	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	

Source: Field Visit, 2014

2.13 Climate Change and Its Possible Effect

Assessing the daily weather, the result of general condition of physical factors of wind sphere (air heat, air pressure, wind direction and speed, air humidity, amount and type of clouds and rainfall) of a place or region (30 years or more) is the climate of that place or region. Every day the sun reaches the earth, the earth absorbs it. Absorbed sunlight emits or reflects back to space again. Therefore, any type of exploitation of natural laws creating obstacles or barriers to this radiation process leads to climate change.

Some sectors which are affected by climate change are described in detail below:

Table 2.10: Sector Related Climate Change and Impact

Sectors	Description
Agriculture	Owing to climate change, a flood like 1988's may ruin the agricultural products of 22561 hectares of cultivable land. River erosion may cause financial loss for numerous families destroying sugarcane and paddy lands of 6 unions. Drought, as occurred in 2001, may ruin the agricultural products of approximately 16600 hectares and cause severe financial damage for 43996 families. As a result of climate change, a sudden raise of hailrain may destroy the agricultural products of 18230 hectares that consequently may create financial loss for many households. Cold wave may destroy agricultural products of 12680 hectares that may create a scarcity of food in Dhamoirhat upazilla. Heavy mist is also a threat that may ruin the production of a lot of mango trees (for dropping out buds) and 11925 hectares of cultivable lands.
Fisheries	Severe drought may ruin the fish cultivation in 2750 ponds that leads to financial loss and lack of protein supply in Dhamoirhat upazilla. 2582 cultivable ponds may get washed away by a flood as occurred in 1988. As a result, it is obvious to bring about a scarcity of food, nutrition and protein.
Plantation	As a result of climate change, a flood like 1988's may smash down many a tree in Dhamoirhat upazilla. It is a great hamper for environmental balance. River erosion also may hamper environmental balance grasping many trees into the river in 6 unions.
Health	A flood like 1988's may create lack of safe place for 60% pregnant women during the flood in Dhamoirhat upazilla. It may even cause death because of vulnerable communication. Besides, different epidemic may bring out. Drought like 2001's may cause different kinds of skin diseases and other problems among 65% of the population of Dhamoirhat upazilla.
Livelihood	Flood, drought, river erosion, heavy mist, low rainfall etc. seriously affect agriculture, fisheries, livestock and most importantly human resource. 48% people of Dhamoirhat upazilla may become workless because of these hazards. As a result, it throws a terrible challenge towards the economic condition of Dhamoirhat upazilla.
Water	Heavy drought and low level of water in Aranagar and Umar unions may cause a horrible scarcity of water in several unions of Dhamoirhat upazilla. As a result, damage of 20862 hectares of cultivable land may cause financial loss of numerous families. Besides, different diseases like skin disease can spread all

Sectors	Description
	over and agriculture, fisheries and livestock can be severely spoiled.
Infrastruc ture	A sudden storm like 2003's may smash down 42% of stuctures including academic and religious institutions, which may result in unexpected disruption of education. 80% of earthen houses can be devastated by the storm that leads to suffering and economic loss for many people. A flood like 1988's may damage almost 349.05 km. roads which may impede communication. In six unions, approximately 89 kilometers road and some schools, colleges and other structures also may be devoured by the river. 32% of earthen houses may get submerged in water leading many families to be homeless and economically fallen.

Source: Field Visit, 2014

Chapter Three

Disaster Risk Reduction

3.1 Identification of Risk Factors

The possibility of the adverse effect of 3 elements - any hazard or hazards, resources and environment, vulnerable population of Dhamoirhat upazilla and their income that is to say the interaction of the possibility of a hazard and its degree is risk. Identified risks and risk factors of Dhamoirhat upazilla is in the table below:

Table 3.1: Risk Factors

Risk Description of	Causes		
	Immediate	Moderate	Ultimate
A sudden flood like 1988's may ruin the agricultural products of 22561 hectors of cultivable lands causing great loss for 33895 families.	<ol style="list-style-type: none"> 1. Extreme water pressure destroying the dams 2. Heavy ascending wave 	<ol style="list-style-type: none"> 1. Decreased navigability because of river erosion 2. Lack of sufficient dams in required places 	<ol style="list-style-type: none"> 1. Lack of government policies of dredging system
Drought, as occurred in 2001, may ruin the agricultural products of approximately 22561 hectors and cause severe financial damage for 146429 people of 33895 families.	<ol style="list-style-type: none"> 1. Lack of irrigation system 	<ol style="list-style-type: none"> 1. Lack of deep tubewell 2. Deforestation and short of plantation 3. Low ground-water level 	<ol style="list-style-type: none"> 1. Lack of necessary repair of canals 2. Shallowness of river Chhota Jamuna
River erosion may cause financial loss for many families destroying 28 square km. hectors of sugarcane and paddy lands.	<ol style="list-style-type: none"> 1. Extreme water pressure 2. Heavy rainfall in the month of <i>Sraban</i> 	<ol style="list-style-type: none"> 1. Shallowness of rivers 	<ol style="list-style-type: none"> 1. Lack of depth of river and proper management 2. Lack of river dam monitoring and implementation committee

Risk Description of	Causes		
	Immediate	Moderate	Ultimate
Cold wave is also a threat that may create loss for 12447 families ruining crops of 12680 hectors of cultivable lands.	1. Monsoon wind from the north-west corner	1. Climate change 2. Cold drizzling	1. Deforestation 2. Environment pollution
Heavy mist is also a threat that may ruin the production of countless mango trees (dropping out buds) and agricultural products of 11925 hectors of cultivable lands.	1. Interruption in weather reports 2. Lack of mass awareness	1. lack of agricultural training 2. Lack of awareness in using pesticides	1. Inadequate govt. supply of pesticides 2. lack of awareness measures from national level
A sudden attack of seasonal storm may destroy the agricultural products of 18230 hectors that consequently may create financial loss for many farmer families.			
Approximately many roads and 83 academic structures may be devoured by the river. 32% of earthen houses can be devastated by the rivers leading to suffering and economic loss for many families.	1. Extreme water pressure 1. Heavy rainfall in the month of <i>Sraban</i>	1. Shallowness of river	1. Lack of depth of river and proper management 2. Lack of river dam monitoring and implementation committee
Severe drought may ruin the fish cultivation in 2750 ponds that may lead to financial loss and spoil 148 metric tons of fish production in Dhamoirhat upazilla.	1. Lack of irrigation system	1. Shallowness of ponds	1. Lack of govt. steps in necessary repairing of ponds
80% of earthen houses can be devastated by the flood that leads to suffering and economic loss for 28924 families.	1. Extra upstream water pressure	1. Housing in low lands 2. Unplanned housing	1. Lack of govt. policies in building infrastructure

Risk Description of	Causes		
	Immediate	Moderate	Ultimate
Approximately many roads and 42% academic structures may be devoured by the river, which may result in unexpected disruption in education of 15300 students.	1. Soft river banks because of heavy rainfall	1. Shallowness of river	1. Not strengthening the river banks
.Cold wave seriously affects livestock Numerous cattle may die of cold wave that may cause severe financial damage for 3530 families.	1. Weather change 2. Cold drizzling	1. Cutting down big trees/ deforestation	1. Deficiency in management of forest department
Drought may cause different kinds of skin diseases and other problems among 65% of the population and financial loss for 56540 families of Dhamoirhat upazilla.	1. Lack of mass-awareness	1. lack of hospitals/ health centers	1. Lack of govt. measures in health sector 2. Lack of rules and planning

3.2 Ways of Risk Reduction Identification

The possible risks and ways to mitigate the risks from the discussion of Dhamoirhat upazilla union wise field meetings and important persons are discussed in the table below:

Table 3.2: Possible ways of the risk reduction

Description of risk	Possible ways of the risk reduction		
	Short-term	Medium	Long-term
A sudden flood like 1988's may ruin the agricultural products of 22561 hectares of cultivable lands causing great loss for 33895 families.	1. Dam management	1. Dredging the rivers 2. Strengthening the river banks with closely set stones	1. Blocking the river edges imposing government policy
Drought, as occurred in 2001, may ruin the agricultural products of approximately 22561 hectares and cause	1. Proper irrigation system	1. Sufficient deep tubewells 2. Avoiding deforestation	1. Canal repairing 2. Dredging the rivers

Description of risk	Possible ways of the risk reduction		
	Short-term	Medium	Long-term
severe financial damage for 146429 people of 33895 families.		and promoting plantation	
River erosion may cause financial loss for many families destroying 28 square km. hecters of sugarcane and paddy lands.	1. Measures to prevent water pressure with tin, bamboo and sand piles	1. Raising navigability of rivers 2. Setting dams	1. River dredging and forming and managing of implementation committee 2. Constructing dams on rivers 3. Allotting budgets
Cold wave is also a threat that may create loss for 12447 families ruining crops of 12680 hecters of cultivable lands.	1. Measures for protecting crops from cold wave	1. Creating mass awareness	1. Sufficient plantation by forest department
Heavy mist is also a threat that may ruin the production of countless mango trees (dropping out buds) and agricultural products of 11925 hecters of cultivable lands.	1. Maintaining continuity in early weather reports 2. Creating mass awareness	1. Timely use of pesticides 2. Arranging training on agriculture	1. adequate govt. supply of pesticides 2. awareness measures from national level
A sudden attack of hail rain may destroy the agricultural products of 18230 hecters that consequently may create financial loss for many farmer families.	1. Maintaining continuity in early weather reports 2. Creating mass awareness	1. Timely use of pesticides 2. Arranging training on agriculture	1. adequate govt. supply of pesticides 2. awareness measures from national level
Approximately many roads and 83 academic structures may be devoured by the river. 32% of earthen houses can be devastated by the rivers leading to suffering and economic loss for many families.	1. Protecting river banks with sand piles	1. Raising navigability of rivers through dredging	1. Setting govt. rules and planning and ensuring proper implementation
Severe drought may ruin the fish cultivation in 2750	1. Proper irrigation	1. Allowing lone to fish	1. Govt. steps in necessary

Description of risk	Possible ways of the risk reduction		
	Short-term	Medium	Long-term
ponds that may lead to financial loss and spoil 148 metric tons of fish production in Dhamoirhat upazilla.	system	cultivators for increasing depth of pond	repairing of ponds
80% of earthen houses can be devastated by the flood that leads to suffering and economic loss for 28924 families.	1. Prevent water pressure with sand piles	1. Building houses on high lands	1. Forming govt. policies in building infrastructure
Approximately many roads and 42% academic structures may be devoured by the river, which may result in unexpected disruption in education of 15300 students.	1. Protecting river banks with sand piles	1. Raising navigability of rivers through dredging	1. Setting govt. rules and planning and ensuring proper implementation
Cold wave may affect livestocks. 3530 families can be affected financially at the death of livestocks from various diseases.	1. Talking care of cattle	1. Raising awareness among livestock cultivators	1. Constructing govt. policies in building veterinary hospitals
Drought may cause different kinds of skin diseases and other problems among 65% of the population and financial loss for 56540 families of Dhamoirhat upazilla.	1. Creating mass awareness	1. Arranging clinics/ health centers	1. Taking govt. measures in health sector And fixing rules and planning

3.3 NGO's Development Plan

Because of slow paced disaster in Dhamoirhat upazilla, mitigation by identifying hazard is seemed to be neglected. Recently, however, due to climate change tend to disasters has increased. So, few NGOs have started to work on disaster which is quite scarce than necessity.

Table 3.3: NGOs' Development Plan

Sl. No	NGO	Disaster Related Activity	Beneficiaries	Amount / number	Project Duration
1	CCDB	Works on Providing scholarship, plantation, health service, testing arsenic, raising public awareness and providing development training	3300-3500	4000-5000BDT	Running

Sl. No	NGO	Disaster Related Activity	Beneficiaries	Amount number /	Project Duration
2	Care	Works on Health service of mother and children and birth control through “ Shurjer Hashi Clinic” all over Dhamoirhat upazilla	3200-4000	-----	Running
3	Proshika	Provides loan to poor farmers and fishermen	1700-1900	4500-5000BDT	Running
4.	ASA	Works on Providing loan, plantation, health service, education loan,testing arsenic,raising public awareness of about sanitary latrines	2800-3000	3500-4500BDT	Running
5	Thyangamara Mohila Sobuj Sangha (TMSS)	Employment training and micro-finance activities	2500-2700	4500-5000BDT	Running
6	Ujjebon	Works on micro-finance activities	1700-1900	4500-5000BDT	Running
7	Grameen Bank	Micro-finance, sanitation, goat rearing, sewing training and motivation activities	2400-2600	4500-5000BDT	Running
8	Ashroy	Sanitation, preventing early marriage and stopping dowry	1600-1800	5000-6000BDT	Running
9	BRAC	Microfinance activities, social, developmental activities, non-formal education activities	3000-3200	4500-5000BDT	Running
10	World vision	Social development activities, informal educational activities	1800-2000	4500-5000BDT	Running
11	PolliSree	Microfinance activities	2600-2800	3000-	Running

Sl. No	NGO	Disaster Related Activity	Beneficiaries	Amount number /	Project Duration
				4000BDT	

Source: Upazilla Parishad, Dhamoirhat, 2014

3.4. Disaster Management Action Plan

3.4.1. Pre-disaster Preparation

Table 3.4: Pre-disaster preparation activities, target level, budget, Implementation and coordination

SL	Activities	Target Level	Possible Budget	Location	Possible Date	Who & How Far				Adjustment with Development Plan
						% Upazilla	% Community	UP%	NGO%	
1	River Dredging	12 km.	10-12 crores	Alampur and Raspur	January-April	100				The operations will make the people in the area aware and enthusiastic to take pre-disaster preparation immediately In order to reduce the risk of disaster. As a result, damage to people's lives and property will be reduced. If the operations are properly implemented, it will contribute to the overall socio-economic and national development.
2	River Dams	12 km.	10-12 crores	Khelna, Alampur and Raspur	February-April	35	1	25	25	
3	Deep Tubewells	30 deep tubewells (220-250 feet deep)	5-6 crores lakhs	8 unions	Anytime of the year	60	2	10	28	
4	Agricultural	Total 65 training	2-3	Upazilla	November-	40	5	15	40	

SL	Activities	Target Level	Possible Budget	Location	Possible Date	Who & How Far				Adjustment with Development Plan
						% Upazilla	% Community	UP%	NGO%	
	Training	ward wise	lakhs	Agriculture Office	January					
5	Proper Continuity of Weather Report	Public awareness through UP members	5-6 lakhs	Different wards of each union	April- May	20	1	60	20	
6	Public Involvement in Disaster report explanation	3 day training for ward wise groups each containing 20 members	30-35 lakhs	Different wards of each union	August-September	15	05	20	60	
7	Preserving Water by Digging ponds	20 feet deep (presently 10 feet)	50-60 lakhs	Different wards of each union	March-May	19	01	70	10	
8	Employment for the Disabled	Raising self-reliance of the disabled	15-20 lakhs	Different unions of Dhamoirhat upazilla	Anytime of the year	35	5	25	35	
9	Mass	3 day training for	20-25	All wards of	January-	35	5	25	35	

SL	Activities	Target Level	Possible Budget	Location	Possible Date	Who & How Far				Adjustment with Development Plan
						% Upazilla	% Community	UP%	NGO%	
	Awareness through Govt. Policy	ward wise groups each containing 30 members	lakhs	each union	February					

Source: Upazilla disaster management committee, Dhamoirhat, 2014

3.4.2 During disaster

Table 3.5: During disaster preparation activities, target level, budget, Implementation and coordination

SL	Activities	Target Level	Possible Budget	Location	Possible Date	Who & How Far				Adjustment with Development Plan
						Upazilla %	Community %	% UP	% NGO	
1	Safe transfer of assets	Safety from damages	7-8 lakhs	Affected area	During disaster	10	20	40	30	The operations will make the people in the area aware and enthusiastic to take pre-disaster preparation immediately In order to reduce the risk of disaster. As a result, damage to people's lives and property will be reduced. If the operations are properly implemented, it will contribute to the
2	Immediate and safe evacuation of pregnant women, children, the disabled and the old people	Safety from damages	7-8 lakhs	Affected area	During disaster	10	20	40	30	
3	Immediate treatment	Instant life	7-8	Affected	During	39	1	20	40	

SL	Activities	Target Level	Possible Budget	Location	Possible Date	Who & How Far				Adjustment with Development Plan
						Upazilla %	Community %	%UP	%NGO	
	facility	support	lakhs	area	disaster					overall socio-economic and national development.
4	Distributing dry food and safe water	Instant life support and keep away from diseases	10-12 lakhs	Affected area	During disaster	30	1	29	30	
5	Helping the affected	Safety for lives and assets	8-10 lakhs	Affected area	During disaster	20	1	19	60	
6	Safe sanitation system	Alleviation of health problems	3-4 lakhs	Affected area	During disaster	25	5	30	40	

Source: Upazilla disaster management committee, Dhamoirhat, 2014

3.4.3 Post Disaster

Table 3.6: Post Disaster preparation activities, target level, budget, Implementation and coordination

SL	Activities	Target Level	Possible Budget	Location	Possible Date	Who & How Far				Adjustment with Development Plan
						Upazilla %	Community %	%UP	NGO %	
1	Debris Cleaning	Enabling debris management and	60-70 lakhs	Affected areas	Post-disaster	15	15	50	20	The operations will make the people in the area aware and

SL	Activities	Target Level	Possible Budget	Location	Possible Date	Who & How Far				Adjustment with Development Plan
						Upazilla %	Community %	%UP	NGO %	
		preventing diseases and suffering in post disaster period			period					enthusiastic to take pre-disaster preparation immediately In order to reduce the risk of disaster. As a result, damage to people's lives and property will be reduced. If the operations are properly implemented, it will contribute to the overall socio-economic and national development.
2	Road construction and repairing	Enabling communication system in emergency rescue, damaged crop management and relief activities in post disaster period	25-30 crores	Affected areas	Post-disaster period	40		5	55	
3	Re-construction of academic institutions	Protection of educational institution in case of floods, storms and continuation of academic progress	60-70 lakhs	Affected areas	Post-disaster period	19	01	70	10	
4	Irrigation system	Protecting crops from water logging and food crisis alleviation	6-7 lakhs	Affected areas	Post-disaster period	35	5	25	35	
5	Housing management	Assuring the shelter for affected people	70-80 lakhs	Affected areas	Post-disaster period	55	5	20	20	

SL	Activities	Target Level	Possible Budget	Location	Possible Date	Who & How Far				Adjustment with Development Plan
						Upazilla %	Community %	%UP	NGO %	
6	Relief activity	re-establishing regular life	8-10 crores	Affected areas	Post-disaster period	35	1	9	55	

Source: Upazilla disaster management committee, Dhamoirhat, 2014

3.4.4 Normal time / risk reduction time

Table 3.7: Normal time preparation activities, target level, budget, Implementation and coordination

SL	Activities	Target Level	le Possib Budget	Location	Possible Date	Who & How Far				Adjustment with Development Plan
						Upazilla %	Community %	%UP	NGO %	
1	Setting dams	Protection of crops from flood, removing financial crisis	5-6 Crores	From Alampur to Raspur Hat	January - April	35	15	25	25	The operations will make the people in the area aware and enthusiastic to take pre-disaster preparation immediately In order to reduce the risk of disaster. As a result, damage to
2	Establishing shelter house	Safety of lives from disasters	9-10 Crores	Khelna, Jahanpur, Agradigun and Alampur	September- April	45	10	10	35	
3	Deep tubewells	Water supply in dry seasons	3-4 Crores	8 unions and 1 municipality	September- April	40	10	10	40	

SL	Activities	Target Level	le Possib Budget	Location	Possible Date	Who & How Far				Adjustment with Development Plan
						Upazilla %	Community %	%UP	NGO %	
4	Plantation	Maintaining Environmental Balance	3 Crores 50 lakhs	8 unions and 1 municipality	July-September	20	10	50	20	people's lives and property will be reduced. If the operations are properly implemented, it will contribute to the overall socio-economic and national development.
5	Repairing houses	Safety of lives and assets from disasters	1 Crore 40 lakhs	Khelna, Jahanpur, Agradigun and Alampur	September-April	15	30	10	45	
6	Raising awareness	Environmental Balance	25-30 lakhs	8 unions and 1 municipality	Entire year	19	20	20	40	

Source: Upazilla disaster management committee, Dhamoirhat, 2014

Chapter Four

Emergency Response

(Emergency Operation Center (EOC) .4.1

In any kind of hazard, Emergency Operation Centre serves effective integration in giving 24 hours and manages data and response. During disaster period it keeps active for information collection, assessment, demonstration and asset management. There are an operation, a control room and a communication room in emergency operation center

Table 4.1: Persons in charge of emergency operation center

SL No	Name	Designation	Mobile No:
1	Md. Deldar Hossain	Upazilla Chairman	01916446401
2	Md. Hemayet Uddin	UNO	01827111888
3	Md. Israfil Hossain	PIO	01725085295
4	Md. Faruk Ahmed	Women Affairs Officer	01712959582
5	Sri Tapash Ray	Social Welfare Officer	01731521437
6	Dr. Md. Jamal Uddin	Agriculture Officer	01712272859

Source: Upazilla Parishad, Dhamoirhat, Naogaon

.4.1.1 Emergency Control Room Management

- Emergency control room has to be established by Upazilla/ Union Parishad Office immediately after disaster. It has to be ensured that there are at least 3/ 4 volunteers and village policemen always in emergency control room.
- Responsible persons of zilla/ upazilla are to be in charge of control room. Three to guide the control room alternatively for groups each containing three volunteers are to work 24 hours
- Constant communication with divisional/ Zilla Sadar is to be maintained
- There must be a register in the control room. Persons acting in any schedule, data and persons in any specific time are to be written information received by and sent to anyone specifically in that register
- Positions of zilla/ upazillas, roads, canals, dams are to be marked on a map hung on the wall of control room so that it may help in identifying the most damaged areas at disaster period
- For the sake of control room activities, it is important to preserve radio, charger light, big torch lights, gum boots, life jackets, batteries, raincoats and other equipment

Planning for Hazard Period .4.2

Table 4.2: During Hazard Activities Implementation

Sl. no	Activity	Target level	When	Who	Who to Help	How	Contact
1	Preparing volunteers	Volunteer groups should be formed under the guidance of UP members at union level	From warning announcement in disaster period	Local Govt.	Disaster Management Committee	Through Emergency Control Room	UzDMC
2	Warning Announcement	Every UP member is to personally ensure the matter of warning announcement in his/ her ward.	From warning announcement in disaster period	Local Govt.	Volunteer groups	ough Thr Emergency Control Room	UzDMC
3	Preparing Boats/ cars/ vans	Sufficient numbers of boats, motor vessels, vans are to be preserved to be used in emergency.	From warning announcement in disaster period	Local Govt.	Volunteer groups	Through Emergency trol Con Room	UzDMC
4	Rescue Activity	preparing sufficient equipments and human resource for rescue activity assessing accurate loss of disaster	Immediately after disaster	Local Govt.	Volunteer groups	Through Emergency Control Room	UzDMC
5	First Aid/ health/ dead management	Organizing necessary treatment/ medicines/ health services assessing accurate loss of disaster	Immediately after disaster	Local Govt.	Volunteer groups	Through Emergency Control Room	UzDMC
6	Collecting and Preparing Dry Food and Life-saving	Dry food like flatten rice, puffed rice etc. is to be collected from local markets for instant distribution.	Immediately after disaster	Local Govt.	Volunteer groups, Health assistant, Family welfare	Through Emergency Control	UzDMC

Sl. no	Activity	Target level	When	Who	Who to Help	How	Contact
	Medicine				assistant	Room	
7	Treatment/ Vaccine for Cattle	Collecting necessary medicines	Immediately after disaster	Local Govt.	Volunteer groups, Upazilla veterinary hospital and Health centre	Through Emergency Control Room	UzDMC
8	Shelter Management	To keep the shelter house usable maintaining necessary repairing before the disaster prone season	Pre and during disaster period	Local Govt.	Volunteer groups	Through Emergency Control Room	UzDMC
9	Relief Activity	UP chairman has to supervise the relief activity of different relief and rehabilitation assisting groups.	during and post disaster period	UP Chairman	Volunteer groups	Through Emergency Control Room	UzDMC
10	Arranging Rehearsals	Arranging continual rehearsals in cyclone/ flood prone areas	April and September of each year	UP	Volunteer groups	UP	UP
11	Emergency Control Room Management	Emergency control room has to be established by Upazilla/ Union Parishad Office immediately after disaster. It has to be ensured that there are at least 3/ 4 volunteers and village policemen always in emergency control room.	during and post disaster period	Local Govt.	Volunteer groups	UP	UP

Source: UzDMC, 2014

4.2.1. Preparing volunteers

- Forming volunteer groups under the guidance of UP members at ward level
- Spreading announcement and information to every villages through volunteers
- Distributing duties signals, data collection, rescue, evacuation, shelter management and arranging training on disaster risk reduction among all volunteers

4.2.2. Warning Announcement

- Every UP member is to personally ensure the matter of warning announcement in his/her ward.
- Once in every hour, mike announcements have to be arranged up to 5 no. signals transmitted by radio, television. As soon as the great danger signal (8-9 no. signals) is announced by radio and television, mike announcement and school bell ringing have to be done constantly as danger alarm.

4.2.3. Evacuation Activity

- Every UP member is to start evacuating people to safer places with the help of volunteer groups of that ward as soon as it is announced to evacuate the people of risky areas by radio, television.
- As soon as 8 no. extreme danger signal is declared, mike announcements and volunteer activities have to be ensured toward every home to direct the vulnerable people to safe places. The vulnerable people must be well-informed of the shelter they belong to.

4.2.4. Rescue and First Aid

- The people of extreme risk zone are to be under the supervision of members of Zilla/upazilla disaster management committee.
- A fixed deposit has to be run by Zilla/ upazilla disaster management committee for rescue management.
- Temporary health camps have to be set up and directed.
- The sick, the old, children and pregnant women are to be sent toward hospitals immediately.
- Every UP member together with volunteers is in charge of dead body management as well as burial of cattle.

4.2.5. Shelter Management

- To keep the shelter house usable maintaining necessary repairing before the disaster prone season
- To fix the specific shelters to be chosen by specific people in emergency
- To ensure complete safety of women, children and disable persons (in taking shelter)
- To ensure safe water supply and other services
- To help people carry their necessary assets (cattle, poultry, food etc.) to safe places

4.2.6. Preparing Boats

- Upazilla disaster management committee is to keep the account of motor-boats and settle on which ones are to be used in emergency.
- The owners of boats are to help them in this task.
- The names and mobile numbers of owners of boats are to be preserved.

4.2.7. Measuring the Damage and Need of Disaster and sending Report

- Immediately after the disaster, 'SOS Form' is to be sent within 24 hours and 'D Form' is to be sent within 7 days to the UP chairman.
- With the help of UP secretary, UP chairman is to collect the reports of every ward and send those to the chairman of upazilla disaster management committee within the next 12 hours.

4.2.8. Relief Activity

- UP chairman has to supervise the relief activity of different relief and rehabilitation assisting groups.
- If any other relief distributor groups come from outside, it is ordered to keep a record of the amount and category of relief and rehabilitation materials and to inform control room of the groups and their assigned areas.
- Union disaster management committee is to fix and distribute the amount/ number of relief materials among people based on vulnerability and damage at ward level.

4.2.9. Collecting and Preparing Dry Food and Life-saving Medicine

- Dry food like flatten rice, puffed rice etc. is to be collected from local markets for instant distribution.
- Food materials like rice, peas, flour, oil etc. and house-building materials like tin, nylon string etc. are to be collected from local markets.
- With the help of health assistant and family planning assistant, all necessary medicines are to be listed and collected at union level.
- Union chairman is to be in charge of assimilation of necessary transportations like rickshaws, taxies and other vehicles to transport relief materials as well as relief workers.

4.2.10. Treatment/ Vaccine for Cattle

- Collecting necessary medicines from upazilla veterinary hospital and preserving those in UP building or health center according to situations
- Arranging necessary trainings on veterinary treatment for the members of union disaster management committee
- Relating experienced persons to veterinary treatment if it is necessary in disaster period

4.2.11. Arranging Rehearsals

- Arranging rehearsals on signal/ warning announcement, evacuation, rescue and primary relief management
- Arranging continual rehearsals in cyclone/ flood prone areas
- Assessing disaster preparation through rehearsals involving the population in April and September each year
- Mentioning in the rehearsals to take the sick, the disable, pregnant women and children to shelter center
- Executing rehearsals, for teaching people of risky areas, in risky villages instead of UP office

4.2.12. Emergency Control Room Management

- Emergency control room has to be established by Upazilla/ Union Parishad Office immediately after disaster. It has to be ensured that there are at least 3/ 4 volunteers and village policemen always in emergency control room.
- Union Parishad secretary and responsible persons are to be in charge of emergency control room.

4.2.13. ntes/ Safe Places Shelter Ce

- Places that do not get washed away in flood and lie away from river erosion can be used as shelter centers.
- Selected shelter centers, local schools, colleges, govt. and non-govt., organizations, high roads and dams can be used as shelter centers.

4.3 List and explanation of area safe places of Dhamoirhat Upazilla

Table 4.3: List of Safe places of Dhamoirhat Upazilla

Shelters	Name	Union	Capacity	Comment
School cum Shelter	--	--	--	--
Public / Private Institutions	Upazilla Parishad	noirhat Dha Sadar	1200-1100 Person	--
Union Parishad Building	Agradigun UP Building	Agradigun	200 150 Person	--
	Alampur UP Building	Alampur	200 150 Person	
	Aranagar UP Building	Aranagar	200 150 Person	
	Dhamoirhat UP	Dhamoirhat	200 150	

Shelters	Name	Union	Capacity	Comment
	Building		Person	
	Isobpur UP Building	Isobpur	200 150 Person	
	Jahanpur UP Building	Jahanpur	200 150 Person	
	Khelna UP Building	Khelna	200 150 Person	
	Umar UP Building	Umar	200 150 Person	
Elevated road	Migonj Bazar to Saligram	Khelna and Alampur	3500–3200 onPers	--
Embankment	Migonj Bazar to Saligram	Khelna and Alampur	3500–3200 Person	--
Others	--	--	--	--

Source: UzDMC, 2014

The detailed description of each shelter center should be written. Information like foundation, date of latest repairing, number of flores, present use, number of tubewells, number of latrines, present condition of those, list and description of equipment's of shelter volunteers and other necessary information should be mentioned. If possible, pictures of every shelter centers and safe places are to be attached.

4.4. Formation of Shelter Management Committee

Shelter management is a very significant part of disaster management. Because of lack of proper and suitable management, many shelter centers get useless. Shelter management:

- Saves life and assets during disasters
- Saves livestock during disasters
- Ensures proper use and management of shelter centers

Shelter Management Committee

- There are 7-9 members in shelter management committee.
- The 7-9 member committee consists of UP chairman/ members, responsible persons, social workers, teachers, NGO staffs, land provider, volunteers etc.
- This committee can act as this management committee according to approval of the denizens.
- Half of the committee members have to be females.
- This committee fixes the responsibilities of shelter management.

- It performs the complete supervision and management of shelter center with the help of the denizens.
- It arranges meetings, keeps records of decisions and fixes responsibilities and deadlines for implementation of those decisions.
- The list of shelter management committee is to be attached to Disaster Management Plan.

The places to be used as shelter centers:

- Selected shelter centers
- Local schools, colleges
- Govt. and non-govt. organization
- High roads and dams

Things to be noticed in shelter center are:

- Preserving tent/ polyether/ ORS/ filter/ necessary medicines (Paracetamol, Flagil etc.)/ water purifying tablets/ bleaching powder etc. in shelter centers
- Measures for drinking water and cooking
- Sanitation system (male-female specified)
- Bathing place (male-female specified)
- Keeping clean and waste free
- Safety
- Light
- Hygiene
- Registration of protected people, enlisting and storing of their reserved assets and returning those properly while discharging
- Distributing duties among particular staffs and volunteers for shelter management
- Managing food and treatment for the protected
- Special care for pregnant women, the old and the disable

Use of Shelter Center:

- Shelter centers are mainly used for safe shelter for vulnerable people during disasters.
- Shelter centers can be used in community development activities except disaster period.
- It can also be used as primary ailment center.
- It can be used as school and education center for elderly people.
- It can be used as wireless station.

Shelter Center Management

- Every shelter center should be properly supervised.
- Local steps should be taken to protect the shelter centers from being ruined.
- Plantation should be maintained surrounding shelter centers in a planned way.
- Shelter center should be locked except disaster period.

- Shelter Management committee should be formed according to guideline.
- The list of Shelter Management committee is to be attached to Disaster Management Committee.

Table 4.4: List of Shelters

Shelters	Name	Union	acityCap	Comment
School cum Shelter	--	--	--	--
Public / Private Institutions	Upazilla Parishad	Dhamoirhat Sadar	1200-1100 Person	--
Union Parishad Building	Agradigun UP Building	Agradigun	200 150 Person	--
	Alampur UP Building	Alampur	200 150 Person	
	Aranagar UP Building	Aranagar	200 150 Person	
	Dhamoirhat UP Building	Dhamoirhat	200 150 Person	
	Isobpur UP Building	Isobpur	200 150 Person	
	Jahanpur UP Building	Jahanpur	200 150 Person	
	Khelna UP Building	Khelna	200 150 Person	
	Umar ngUP Buildi	Umar	200 150 Person	
Elevated road	Migonj Bazar to Saligram	Khelna and Alampur	3500-3200 Person	--
Embankment	Migonj Bazar to Saligram	Khelna and Alampur	3500-3200 Person	--
Others	--	--	--	--

Source: UzDMC, 2014

4.5. List of Resources of Upazilla (usable during disaster)

Table 4.5: List of Resources of Upazilla

Infrastructure / resources	Number	Responsible Person	Short Description
Shelter	--	--	--
Storage	3	Dhamoirhat-Mujibor Rohman	--

		Rangamati-Soid Abdul Hannan Agradigun-Atikul Islam	
Transport	2	Upazilla Parishad	One of them Upazilla Chairman and another one for UNO

Source: UzDMC, 2014

Finance .4.6

The income of Union Parishad arises from collecting local tax, approving lease for hat/ bazaars and canals/ swamps and approving trade licenses for business and trade. But, this authority has been taken away from Union Parishad. As a result, its income sources have been reduced. Nonetheless, Govt. is presently allowing Union Parishad 1% of land registration fee that UP used to have the whole of it before. Moreover, after the salaries of gram polices and UP secretary are paid with this money, the rest is seldom sent to UP. Very recently, govt. has taken measures to allow 4/5 lakes taka per year directly to UP.

Income of Parishad

There must be a deposit for every Union Prishad.

(a) Local Sources (union tax, rate & fees)

- Tax on yearly fiscal value of household
- Tax on business, trade and profession (trade license)
- Licenses and Permit fees issued by UP
- Lease money
 - Hat/ bazaar leasing
 - Moorage (ghat) leasing
 - Public pond leasing
 - Khoarr (cattle detention place) leasing
- Tax on vehicles except motor cars
- Income from properties
- General deposit of UP

(b) Govt. donation

- Development sector
 - Agriculture
 - Health and sanitation
 - Road construction and repairing
 - Development assisting deposit (LGSP)
- Adjustment
 - Honorary bills for chairman and members
 - Salaries and bills for secretary and other staffs
- Others
 - 1% of and registration tax

- (c) Local govt. sources
 - Money allowed by Upazilla Parishad
 - Money allowed by Zilla Parishad
- (d) Non-govt. development organization
 - NGOs
 - CDMP

Various donor organizations and non- govt. development organizations are financing directly to UP to strengthen local govt. A better achievement depends on efficiency, sincerity and, most importantly, good-governance of Union Parishad. UP is supposed to manage the finance considering all the hazards and promoting those that are the major obstacles for the development of the union. UP should prepare, finance and implement every development project relating disaster risk reduction to it.

4.7 Updating and Analyzing Work Plan

2 follow-up committees are to be structured to devise plan.

1. Plan Follow-up Committee
2. Plan Implementation and Management Committee

Plan Follow-up Committee

5 member plan recording and presentation committee

1. Chairman
2. Secretary
3. NGO representative
4. 2 members (from general committee)

up Committe-Plan Follow Table 4.6: List of

Sl. No	Name	Designation	Mobile
1	Md. Deldar Hossain	Upazilla Chairman	01916446401
2	Md. Hemayet Uddin	President	01827111888
3	Tonmoy (World Vision)	NGO	01730320846
4	Dr. Md. Jamal Uddin	Member	01712272859
5	Md. Israfil Hossain	Member	01725085295

Source: UzDMC, 2014

Tasks of committee:

- Assessing rough plan and devising final plan
- Sector-wise planning activity e.g. consulting Deputy Assistant Agriculture Officer for planning on agriculture, livestock and fishery
- Making the plan pragmatic signifying specific tasks and finance

Plan Implementation and Management Committee

7-Member Plan Implementation and Management Committee

1. Chairman
2. Secretary

3. Female Member
4. Govt. Representative
5. NGO Representative
6. 2 Members (from general committee)

Table 4.7: List of Plan Implementation and Management Committee

Sl. No	Name	Designation	Mobile
1	Md. Deldar Hossain	Upazilla Chairman	01916446401
2	Md. Hemayet Uddin	President	01827111888
3	Md. Faruk Ahmed	Women Member	01712959582
4	Dr. Md. Jamal Uddin	GO Member	01712272859
5	Tonmoy (World Vision)	NGO	01730320846
6	Shree Tapos Roy	Member	01731521437
7	Md. Israfil Hossain	Member	01725085295

Source: UzDMC, 2014

Tasks of the Committee:

- Every year in April/ May, present work plan must be updated through complete assessment, essential modification and addition. Committee member secretary is personally liable for taking the steps. All necessary amendments must be implemented assessing the flaws of current plan immediately after any disaster.
- Every year in April/ May, disaster management rehearsal must be celebrated by the direction of Management Bureau on national disaster day.
- Disaster management plan has to be approved by District Disaster Management Committee.
- Plan implementation should be supervised.
- Communication with different organization should be maintained.

Chapter Five

Rescue and Rehabilitation Plan

5.1 Damage Assessment

Main Sectors	Detailed Description	Adjustment with Disaster Risk Reduction
Agriculture	<p>Owing to climate change, a flood like 1988's may ruin the agricultural products of 22561 hectors of cultivable land. River erosion may cause financial loss for numerous families destroying sugarcane and paddy lands of 6 unions. Drought, as occurred in 2001, may ruin the agricultural products of approximately 16600 hectors and cause severe financial damage for families. As a result of climate change of hailrainchange, a sudden raise may destroy the agricultural products of 18230 hectors that consequently may create financial loss for many households. Cold wave may destroy agricultural products of 12680 hectors that may create a scarcity of food in Dhamoirhat upazilla. Heavy mist is also a threat that may ruin the production of a lot of mango trees (for dropping out buds) and 11925 hectors of cultivable lands.</p>	<p>In Dhamoirhat upazilla, 95% of people are involved in agriculture (50% day-laborers, 30% petite farmers, 10% middle class farmers and 5% are affluent farmers). A change in climate causing drought, heavy rainfall, hail storm, cold wave, heavy mist and flood may cause severe financial loss damaging agricultural products. So, more modification and advancement is needed in agricultural sector to cope up with disaster risk reduction.</p>
Fisheries	<p>Severe drought may ruin the fish cultivation in 2750 ponds that leads to financial loss and lack of protein supply in Dhamoirhat upazilla. 2582 cultivable ponds may get washed away by a flood as occurred in 1988. As a result, it is obvious to bring about a scarcity of food, nutrition and</p>	<p>A change in climate causing heavy rainfall and flood may harm agriculture severely. In that case, fisheries can serve with instant financial safety and solvency. So, fish cultivation is effective in disaster risk reduction.</p>

Main Sectors	Detailed Description	Adjustment with Disaster Risk Reduction
	.protein	
Livestock	As a result of climate change, a flood like 1988's may smash down many a tree in Dhamoirhat upazilla. It is a great hamper for environmental balance. River erosion also may hamper environmental balance grasping many trees into the river in unions 6.	A change in climate causing heavy rainfall and flood may harm fisheries and agriculture severely. In that case, livestock can serve with instant financial safety and solvency. So, rearing livestock is effective in disaster risk reduction.
Health	A flood like 1988's may create lack of safe place for 60% pregnant women during the flood in Dhamoirhat upazilla. It may even cause death because of vulnerable communication. Besides, different epidemic may bring out. Drought like 2001's may cause different kinds of skin diseases and other problems among 65% of the population of Dhamoirhat upazilla.	In Dhamoirhat upazilla, many diseases bring out in disaster period. Therefore, more advancement in health service is needed to be connected with disaster risk reduction.
Livelihood	Flood, drought, river erosion, heavy mist, low rainfall etc. seriously affect agriculture, fisheries, livestock and most importantly human resource. People of Dhamoirhat upazilla 48% may become workless because of these hazards. As a result, it throws a terrible challenge towards the economic condition of Dhamoirhat upazilla.	When disasters like flood, drought, river erosion, heavy rainfall, low rainfall etc. occur in Dhamoirhat Upazilla, livelihood of common people gets affected by seriously damaged agriculture, fisheries and livestock. But, if people manage to alternative occupations, immediate recovery from disasters can be possible. It also help keep solvency in disaster period. So, alternative livelihood is effective in disaster risk reduction.
Plantation	Heavy drought and low level of water in Aranagar and Umar unions may cause a horrible scarcity of water in several unions of result, Dhamoirhat upazilla. As a damage of 20862 hectares of	Agriculture, fisheries, livestock are seriously damaged when disasters like flood, drought, river erosion, heavy rainfall, low rainfall etc. occur in Dhamoirhat Upazilla. Apart from this, many houses, roads and other

Main Sectors	Detailed Description	Adjustment with Disaster Risk Reduction
	<p>cultivable land may cause financial loss of numerous families. Besides, different diseases like skindisease can spread all over and agriculture, fisheries and livestock can be severely spoiled.</p>	<p>structures are smashed in storms, which affect lives and livelihoods of people as well as environment. Plantation has no alternative to prevent this. So a movement with a slogan like “Plant trees, save environment” can play role in disaster risk reduction.</p>
<p>Infrastructure</p>	<p>Asuddenstorm like 2003’s may stuctures smash down 42% of including academic and religious ,institutionswhich may result in unexpected disruption of education. 80% of earthen houses can be devastated by the storm that leads to suffering and economic loss for many people. A flood like 1988’s almost 349.05 km. may damage roadswhich may impede communication. In six unions, approximately 89 kilometers road and some schools, colleges and other structures also may be devoured by the river. 32% of earthen houses may get submerged in water leading many families to be homeless and economically fallen.</p>	<p>When disasters like floods, droughts, river erosion and heavy rainfall happen in Dhamoirhat upazilla, a variety of structural assets helps in many ways. The dams located on the banks of the river Jamuna protect the upazilla from river erosion. During floods and heavy rainfall, the culverts are used for communication and water supply. It also would benefit a lot in agriculture. The tubewells are used for water supply in irrigation during drought and thus help produce agricultural products. Roads connect different areas and develop communication. Bazaars are also essential for the people during disasters providing their necessary elements. Infrastructural resources play important role in coping with the disasters. So there is no alternative but strengthening infrastructural resource to reduce risks of disasters.</p>

5.2 Rapid/ Early Recovery

5.2.1 Administrative Restoration

Sl No.	Name	Designation	Mobile
1	Md. Hamait Uddin	UNO	01833900018
2	Md. Dalder Hossen	Upazilla Chairman	01916446501
3	Md. Zahurul Islam Dulal	Upazilla Vice-Chairman	01713719640

5.2.2 Wreckage Cleaning

Sl No.	Name	Designation	Mobile
1	Mohammad Zakaria, dhamaira Hat	Member	01728376256
2	Golam Mawla	Member	01915343116
3	Mohammad Haider Ali	Member	01714314616
4	Md, alamapura	Member	---
5	Md Atiur	Gram Police	01767400827
6	Shri Chandra tunes	Gram Police	01736753192
7	Mr. ramajanama barida, Umar	Member	01726433457
8	Mohammad Nazmul Haque	Member	01715360732
9	Mohammad Zafar Ali	Member	01754162149
10	Mohammad Abul Kalam, aranagara	Member	01714513808
11	Kuramata Mohammad Ali	Member	01748596115
12	Md jaidula Amazon	Member	01757826085
13	Abdul Kader, jahanapura	Member	01721888876
14	Abdur Rahman	Member	01728105585
15	Anil Barman	Gram Police	01729453999
16	Mohammad Ahsan Habib, isabapura	Member	01733105103
17	Mohammad Habib Rahman	Member	01724424399
18	Abu Yusuf	Member	01740956307
19	Mohammad Idris Ali, toys	Member	01730962649

20	Dinesh madi	Member	01745052015
21	Din Mohammad mayeja	Gram Police	01739415063
22	Chanaula Mohammad Haque, agrabiguna	Member	01745072685
23	Mohammad Ashraful	Member	01744818743
24	Samasula Mohammad Haque	Gram Police	01775235057

5.2.3 Public Service Resume

Sl No.	Name	Designation	Mobile
1	Dr Mohammad Ali Kabir	Member	01716963060
2	Abu Hossain, dhamaira Hat	Member	01718784346
3	Mohammad Haider Ali	Member	01714314616
4	Mr. Pack, alamapura	Member	01728772724
5	Md	Member	
6	Shri Chandra tunes	Member	01736753192
7	Mohammad Hilal Hussain	Member	01748687773
8	Mr. mohmamatajura Rahman Omar	Member	01718835331
9	Mr. ramajanama barida	Member	01726433457
10	Chabadula Islam aranagara	Member	01716185723
11	Mohammad Abul Kalam	Member	01714513808
12	Mosah tanajila	Member	01736501398
13	Mr. Osman Ali, jahanapura	Member	01715464726
14	Abdur Rahman	Member	০১৭২৮ ১০৫৫৮৫
15	Abdul Kader	Member	০১৭২১ ৮৮৮৮৭৬
16	Abu Wadud (Shama), isabapura	Member	০১৭১৪ ৫০৫১৮৬
17	Mohammad Abbas Ali	Member	01734340432
18	Mohammad Habib Rahman	Member	01724424399
19	Alahila Mahmud, toys	Member	01719036000
20	Mohammad Amirul Islam	Member	01729832455
21	Dinesh madi	Member	01745052015
22	Mohammad Abdul Mannan	Member	01712418477
23	Md sahariyara, agradbiguna	Member	01815265407

24	Mohammad Ashraful	Member	01744818743
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5.2.4 Emergency Livelihood Support

Sl No.	Name	Designation	Mobile
1	Abu Hossain, dhamaira Hat	Member	01718784346
2	Golam Mawla	Member	01715343116
3	Mohammad Haider Ali	Member	01714314616
4	Mr. Pack, alamapura	Chairman	01728772724
5	Md	Member	----
6	Shri Chandra tunes	Member	01736753192
7	Mr. mohmatajura Rahman Omar	Member	01718835331
8	Mr. ramajanama barida	Member	01726433457
9	Mosah Umm Kulthum	Member	01713788698
10	Chabadula Islam aranagara	Member	01716185723
11	Mohammad Abul Kalam	Member	01714513808
12	Mosah tanajila	Member	01736501398
13	Abdul Kader, jahanapura	Member	01721888876
14	Abdur Rahman	Member	017281055085
15	Mosah Sultana Razia (Lovely)	Member	01718739565
16	Mohammad Abbas Ali, isabapura	Member	01734340432
17	Mohammad Habib Rahman	Member	01724424399
18	Mohammad the Banu	Member	01738786982
19	Mohammad Amirul Islam, toys	Member	01729832455
20	Dinesh madi	Member	01745052015
21	Mosah rokasana	Member	01756978291
22	Md sahariyara, agradbiguna	Member	01815265407
23	Mohammad Ashraful	Member	01744818743

24	Mosah Umm Kulthum	Member	01722775863
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Annex 1

Plan Implementation Checklist of Hazard Period

Checklist

The following 'Table' (checklist) has to be checked out immediately after the broadcast of 5 .ary measures have to be taken number danger signal by radio/ television and necess

.S. N	Subject	Yes/ No
.1	If the selected members of volunteer group assigned for warning announcement have been ordered to declare the coming hazard	
.2	If the responsible persons/ groups are prepared to rescue the people of vulnerable areas	
.3	If the declaration to keep dry food and drinking water buried under ground for 2/1 days is announced	
.4	If life jackets for the safety of volunteer groups are provided	
.5	If the necessary manpower is prepared to keep Union Control Room open constantly	
.6	If the necessary safety measures for union food storage/ relief storage are ensured	
.7	Others	

N. B.

Assessing the checklist, immediate measures should be taken for the flawed sectors.

It is very necessary to manage life jackets for volunteer groups with union Parishad deposit or any other source/ organization.

Checklist

The following 'Table' (checklist) must be filled and sent to Upazilla Nirbahi Officer and District Commissioner discussing in the meeting of Disaster Management Committee within 15th of April/May each year.

Sl. no	Subject	Mark (√)
1	If sufficient food is reserved in Union food storage	
2	If the children of risk zones have been served with vaccines	

3	If the children (1-6) and their mothers are served with vitamins	
4	If sufficient amount of oral saline is reserved in UP Clinic/ Hospital	
5	If the members of volunteers group are served with annual training	
6	If there are necessary drugs and first aid equipments for each shelter	
7	If there is selected village doctor for each shelter	
8	If there is tubewell for each shelter	
9	If the doors and windows of each shelter are in proper condition	
10	If the alternative care taker is present in each shelter	
11	If there are separate facilities for women in each shelter	
12	If there are selected midwives for the taking care of pregnant women in each shelter	
13	If mound shelters are selected for the cattle	
14	If the member of volunteers group are aware of their assigned responsibilities.	
15	If there is sanitation facilities each shelter	
16	If the microphones are activated to spread weather announcement and danger signals	
17	If the people are made aware to preserved dry food and drinking water for at least 2/1 days	
18	Others	

Attachment 2

Upazila Disaster Management Committee

Sl. no	Name	Designation	Member	Mobile
1	Din Mohammad Himayat	UNO	President	01827 111 888
2	Hossain Mohammad Israfil	PIO	Secretary	01725 085 295
3	Pharahadiba	Vice Chairman	Member	01713 772 775
4	Fruitfully Islam Dulal	Vice Chairman	Member	01713 719 640
5	Dr. Md Jamal Uddin	Agriculture Officer	Member	01712 272 859
6	Md nadirujjamana	Education Officer	Member	01713 622 186
7	Mohammad Ali Documentary Moksed	Fisheries Officer	Member	01731 048 370
8	Mr. Tapas Roy	Social Welfare Officer	Member	01731 521 437
9	Abdul Rashid	Cooperative Officer	Member	01737 370 194
10	Md mokalesura Baby	Youth Development Officer	Member	01716 389 294
11		Secondary Education Officer	Member	
12	Shekhar adversary Debnath	Food Control Officer	Member	01712 19 516
13	Cisco	Public Health Engineering Officer	Member	01740 602 792
14	Islam	Rural Development Officer	Member	01720 413 819
15	Mohammad Ahsan	BRDB Officer	Member	01712 923 853
16	Ekramul	Charge (charge)	Member	01713 373 839
17		Health and Family Planning Officer	Member	
18	Dr. Md Mosharraf Hossain	Livestock Officer	Member	01711 478 899
19	Mohammad Muzaffar Rahman	Family Planning Officer	Member	01712 711 867

20	Mohammad Farooq Ahmed	Women's Affairs Officer	Member	01712 959 58
21	Abdur Razzak	Accountant officer	Member	01712 663 811
22	Saphiujjamana	Assistant Upazila Education	Member	01716 580 225
23	Mohammad Tariq Hussain	Assistant Upazila Education Officer	Member	01716 849 924
24	Dr Mohammad Ali Dayan	Chairman, Dhamoirhat UP	Member	01716 963 060
25	Mohammad Abdul Mannan	Chairman, agradbiguna UP	Member	01712 418 477
26	Maulana Mohammad Pack	Chairman, alamapura UP	Member	01728 772 724
27	Mohammad Hilal Hussain	Chairman, Omar UP	Member	01748 687 773
28	Mohammad Shahjahan Ali	Chairman, aranagara UP	Member	01719 898 007
29	Mohammad Osman Ali	Chairman, jahanapura UP	Member	01715 464 726
30	Sama Abu Wadud	Chairman, iusuphapura UP	Member	01714 505 186
31	Alahila Mohammad Mahmud Chowdhury	Chairman, toys UP	Member	01719 036 000
32	Rahman (buds)	Somehow representative	Member	
33	Alam Md Babul	NGO representatives	Member	01755 557 733
34	Ayanula Haq	Sonali Bank, dhamuirahata	Member	56014
35	Pharamuda Hossain	Freedom fighter	Member	01715 973 666

Attachment 3

of Union volunteers List

Sl.no	Name	Father/ Husband	Word no	Training	Mobile
1	Golam Mawla, Dhamoirhat		5		01915 343116
2	Mohammad Haider Ali		6		01714 314616
3	Mohammad Zakaria		3		01728 376256
4	Shri Chandra tunes, alamapura				01736 753192
5	Md soharapha				01747 872297
6	Md Atiur				01767 400827
7	Mohammad Nazmul Haque		4		
8	Mr. ramajanama barida		1		01726 433457
9	Mosah Umm Kulthum		1		01713 788698
10	Kuramata Mohammad Ali, aranagara		2		01748 596115
11	Mohammad Abul Kalam		1		01714 513808
12	Mosah tanajila		1,2,3		01736 501398
13	Abdul Kader, jahanapura		2		01721 888876
14	Abdur Rahman		8		01728 105585
15	Mosah Sultana Razia (Lovely)		1,2,3		01718 739565
16	Mohammad Ahsan Habib, isabapura		2		01733105103
17	Mohammad Habib Rahman		3		01724 424399
18	Mohammad the Banu		1,2,3		01738 786982

19	Mohidrisa Ali, toys		1		01730 962649
20	Dinesh madi		4		01745 052015
21	Mosah rokasana		1,2,3		01756 978291
22	Chanaula Mohammad Haque, agradbiguna		1		01745 072685
23	Mohammad Ashraful		2		01744 818743
24	Mosah Umm Kulthum		1,2,3		01722 775863

Attachment 4

List of Shelters Management Committee

Mound Shelter

Name of Shelter	Responsible Person	Mobile	Comment
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School cum Shelter

Name of Shelter	Responsible Person	Mobile	Comment
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Public / private institutions

Name of Shelter	Responsible Person	Mobile	Remarks
Dhamoirhat Union Council	Dr Mohammad Ali Kabir	01716 963060	Chairman
Alamapura Union Council	Mr. Aatur Rahaman	01728 772724	Chairman
Omar Union Council	Mohammad Hilal Hussain	01748 687773	Chairman
Aranagara Union Council	Mr. Mohammad Shahjahan Ali Kamal	01719 898007	Chairman
Jahanapura Union Council	Mr. Osman Ali	01715 464726	Chairman
Isabapura Union Council	Abu Wadud	01714 505186	Chairman
Khalna Union Council	Mahmoud Mohammad alahila	01719 036000	Chairman
Agradbiguna Union Council	Mohammad Abdul Mannan	01712 418477	Chairman

Elevated roads or dams

Name of Shelter	Responsible Person	Mobile	Remarks
Khalna Union Parishad	Md. Alhil Mahamud	01719036000	Chairman

Health Committee

Name of Health Center	Responsible Person	Mobile	Remarks
Dhamoirhat union health			
Alamapura union health	Dilruba Rahaman		FWD
Omar union health			
Aranagara union health			
Jahanapura union health	Md.Nuruzzaman	01916895776	ACMO
Isabapura union health			
Khalna union health			
Agradbiguna union health			

Fire Station

Fire Station	Responsible Person	Mobile	Remarks
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Union

Union	Responsible Person	Mobile	Remarks
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Local Businessman

Union	Local Businessman	Mobile	Remarks
Dhamoirhat	Dr Mohammad Ali Kabir	01716 963060	President
Alamapura	Mr. Aatur Rahaman	01728 772724	President
Omar	Mohammad Hilal Hussain	01748 687773	President

Aranagara	Mr. Mohammad Shahjahan Ali Kamal	01719 898007	President
Jahanapura	Mr. Osman Ali	01715 464726	President
Isabapura	Abu Wadud	01714 505186	President
Toy	Mahmoud Mohammad alahila	01719 036000	President
Agradbiguna	Mohammad Abdul Mannan	01712 418477	President

Annex 5

At a glance

Area	sq km 300.80	Charce	8
Union	8	Edgah	103
Mouja	285	Bank	11
Village	245	Post Office	12
House Hold	49046	Club	45
Population	169772	Market	24
Male	85814	Graveyerd	96
Female	83958	ShasanGhat	22
Educational Institution	207	Poltry Firm	60
y SchoolGov. Primar	108	Deep Tubewell	358
Reg. Primary School	4	Tubewell	11630
Secondary School	26	Hand Tubewell	2467
College	5	River	2
Madrassa	24	Canal	5
Litarecy Rate	%62.5	Pond	3443
Embankment	10	Wet Land	4
Sluice Gate	4	Katch Road	277.32 km
eBridg	5	Pacca Road	181.66
Culvurt	459	Play Ground	30
Mosque	293	Community Clinic	17
Temple	24	Mobile Tower	

Annex 6

List of Some Important Broadcast Programs of Bangladesh Betar

Radio Centre	Program	Time	Day
ka-Dhaka	Krishi Shamachar	am 7.00-6.55	Everyday
	Shukher Thikana	am 7.30-7.25	Everyday
	Shasthoi Shukher Mul	am 1200-11.30	Everyday exept Friday
	Shonali Foshol	pm 6.35-6.05	Everyday
	Weather News	pm 7.00-6.50	Everyday
Chittagong	Krishi Kotha	pm 7.00-6.55	Everyday
	Krishi Khamar	pm 6.50-6.10	Everyday exept Monday
	Shukhi Saongshar	pm 8.30-8.10	Everyday exept Friday
Rajshahi	Khet Khamar Shamachar	am 7.00-6.55	Everyday
	Shabuj Bangla	pm 6.50-6.05	Everyday
Khulna	Shastho Tatthyo	am 7.00-6.55	Everyday
	Krishi Shamachar	pm 4.30-4.20	ydayEver
	Chashabad	pm 6.50-6.10	Everyday
Rangpur	Shukher Thikana	am 7.30-7.25	Everyday
	Khet Khamare	pm 6.35-6.05	Everyday
Shylet	Ajker Chashabad	am 7.00-6.55	Everyday
	Shukher Thikana	am 7.30-7.25	Everyday
	Shymol Shylet	pm 6.50-6.05	ridayEveryday exept F
Thakurgaon	Kishan Mati Desh	pm 6.25-6.05	Suterday, Monday & Wednesday
Cox's Bazar	Ajker Krishi	pm 3.45-3.07	Everyday
	Sonali Prantor	pm 3.45-3.40	Tuesday & Thursday
Barishal	Krishi Kotha	pm 3.30-3.15	Everyday exept Sunday, Wednesday & Friday
	Chhoto Paribar	pm 3.50-3.35	Everyday exept Monday, Wednesday & Friday
Rangamati	Jiboner Jonno	pm 1.55-1.50	Everyday
	Khamar Bari	pm 3.15-3.05	Everyday

* Weather news is broadcast to all stations at 6.50 pm.

Community Radioe Important Broadcast Programs of CoSom

Radio Centre	Program	Time	Day

Interactive Voice Response (IVR)

Interactive Voice Response (IVR) refers to disaster early warning system that spreads disaster early warnings to common people via mobile phone. One can get weather news and early warning for flood and river ports dialing 10941.

Annex – 7

Feedback through Sharing/Consultation with Upazila Disaster Management Committee (Validation Workshop/Meeting) Dhamurhat Upazila

Introduction:

The disaster management plan has been shared with the Dhamurhat Upazila Disaster Management Committee (UzDMC) through a validation workshop in 28 April 2014 at the Upazila Auditorium at Dhamurhat. In this workshop the Upazila Chairman, UNO, PIO as well as other members of UzDMC with Shushilan staffs were present in this sharing workshop. The workshop chaired by Upazila Chairman named Md. Deldar Hossain.

Major Activities:

The validation workshop started from 10.30 am through permission from the Chairperson of UzDMC named Md. Deldar Hossain by senior the senior management of Shushilan. Here mainly presented the report and discussed. In the workshop disaster management plan and shown different data/information through multimedia projector. Here shown different findings i.e. hazards, vulnerability, risk map, different committees, planning for disaster management. And at the same time shared findings sharing, reviewed and feedback taken to insert in the report

Recommendations/List of Feedback:

Through the sharing of the draft DM plan report the recommendations are listed below

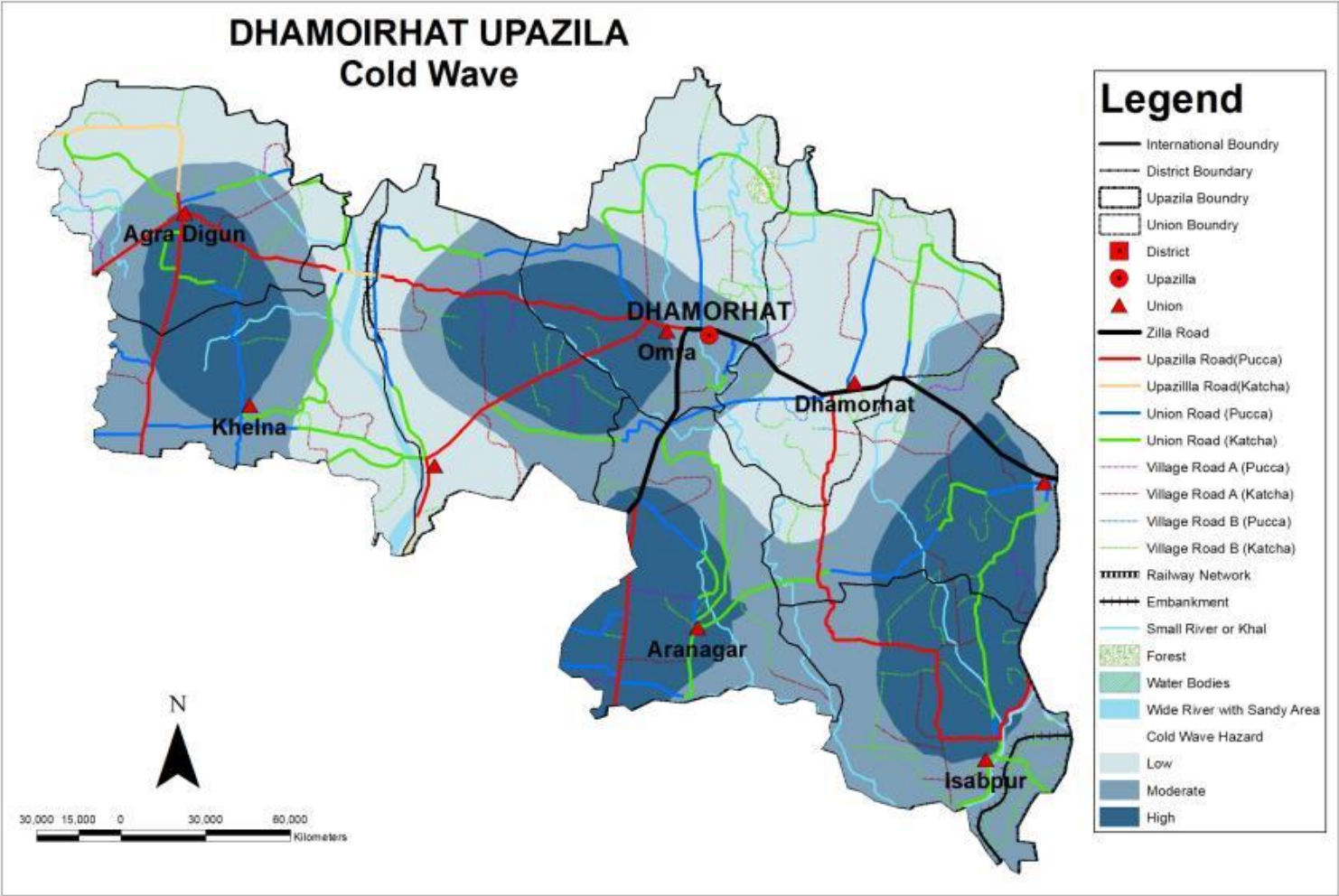
- In the hazard list of the upazila have to include Thunder storm, insect as crop pest, fire, unplanned infrastructures, rice husk & coal from rice mill, illegal land occupation and earth quake.
- In this upazila has serious ground water scarcity.
- In the upazila level report hare need to include dazing machine, 10 raised embankments (need to rehabilitate) with cross dram as a part of disaster management capacity.
- Rooted plant forestation activities like bamboo tree plantation have an opportunity beside the river bank as a part of river erosion risk mitigation in the upazila.
- Have a opportunity to cultivate saline tolerant crop as a part of drought mitigation
- The more vulnerable river bank erosion areas were Khelna, Agradbigan, Alampur, Jahanpur and Islampur of the upazila.
- In the upazila have disaster management formed committee and disaster volunteer.
- In the upazila pest infection is a great problem.

Open Discussion & Closing Remarks:

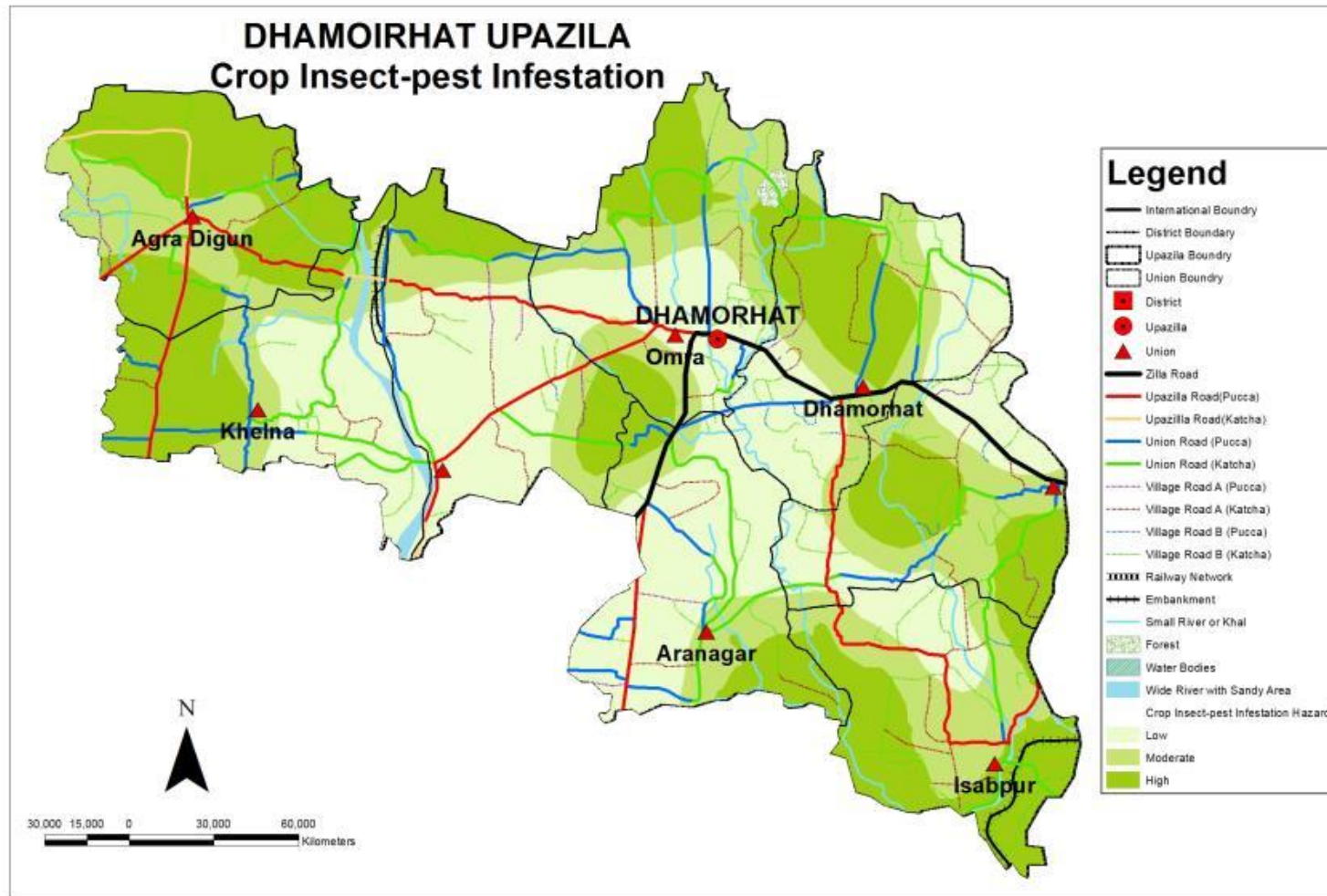
In the open discussion session Upazila Chairman Md. Deldar Hossain has given thanks to the participants and the presented report as disaster management plan. He has also mentioned its importance to prepare plan for disaster management. He told that all the information

has nicely articulated & clearly presented and overall report were excellent. Also mentioned about reviewed as incorporate feedbacks from this workshop. UNO and other members were discussed about the presented report with its risk mapping areas and given his thanks for such reporting activities. After that the Chairperson told that it is our document and it will help to mitigate disaster risk with proper planning during disaster. After that he has given thanks for the all members of the meetings as well as Shushilan and concludes the validation workshop.

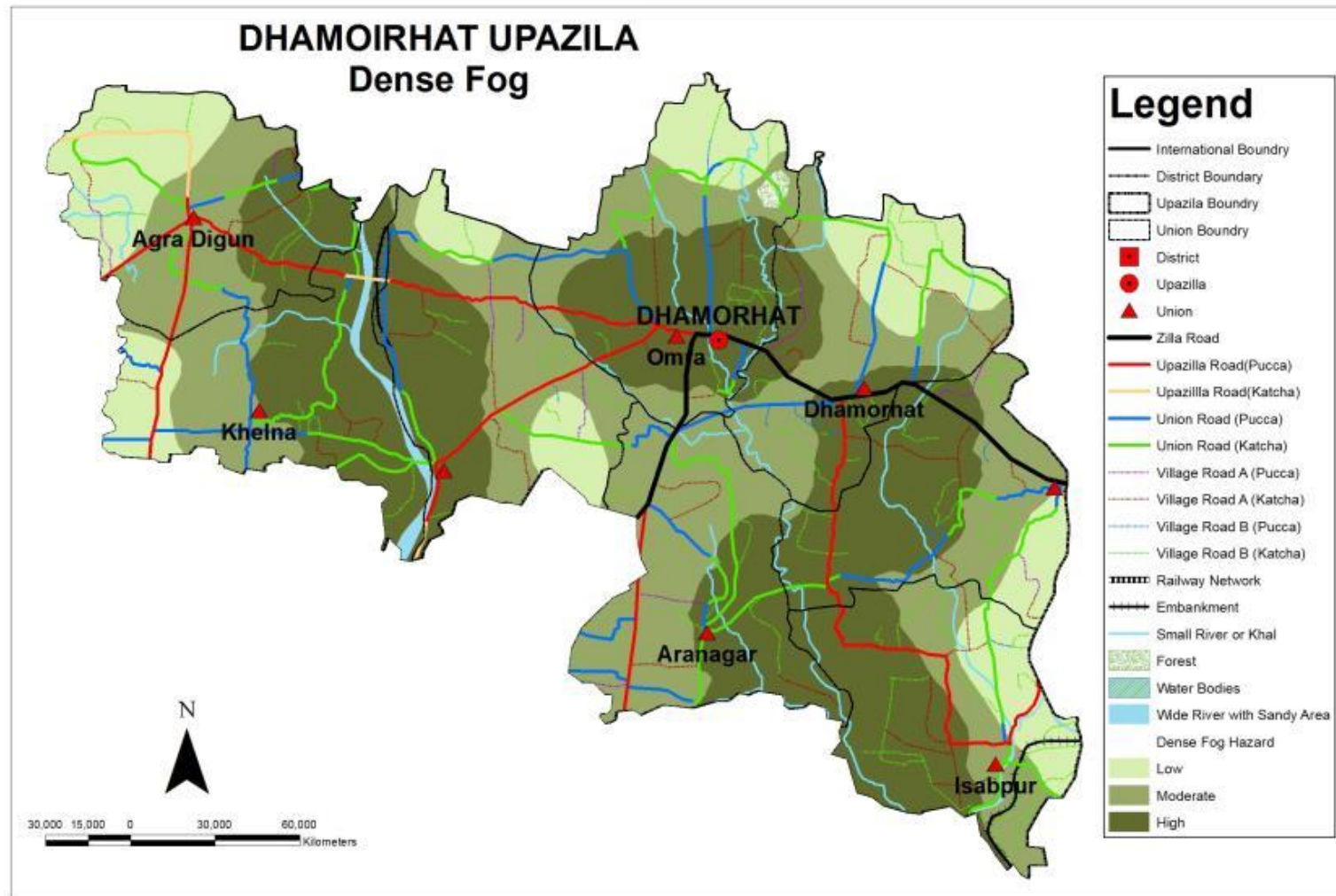
Hazard Map : Annex 9 (Cold Wave)



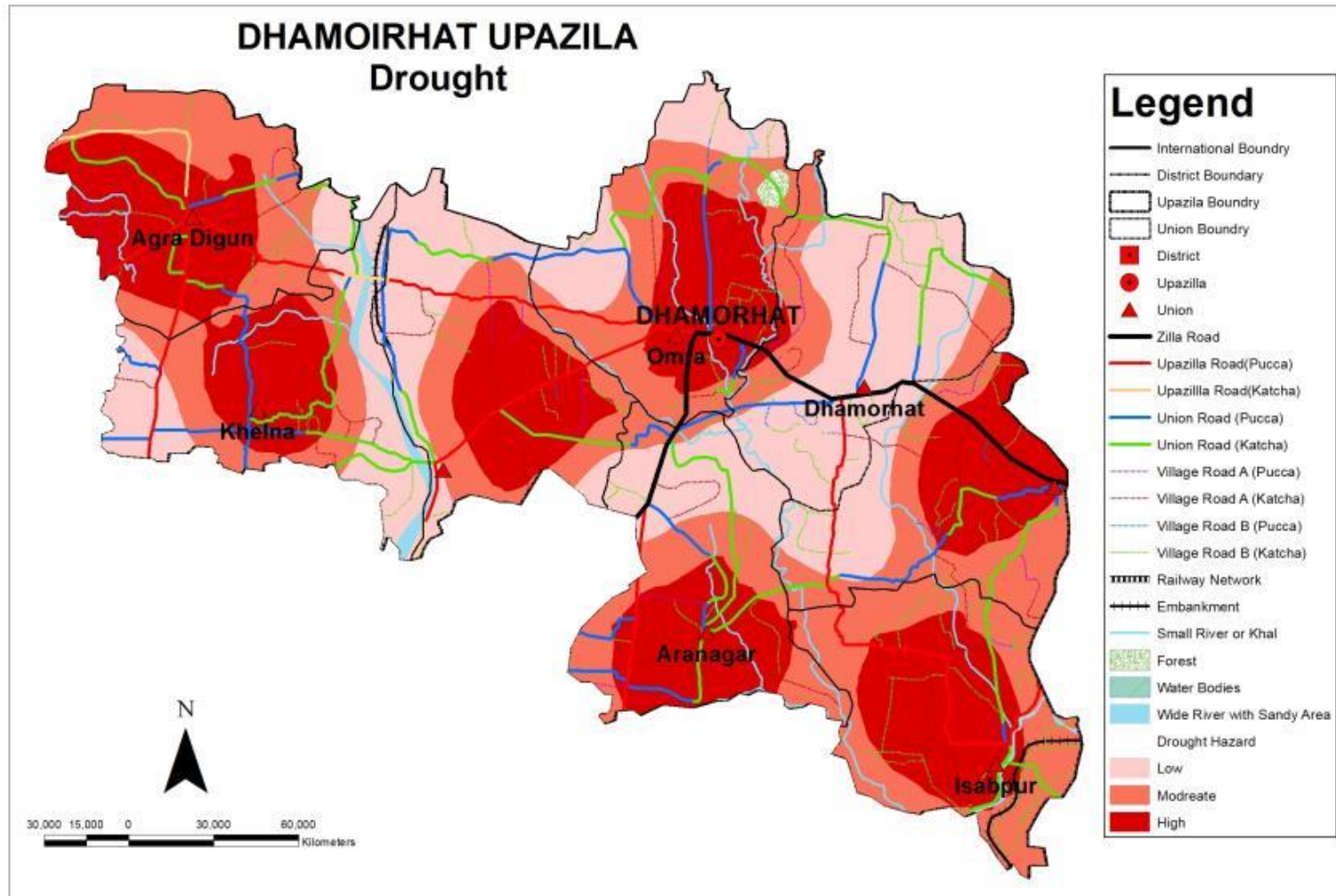
Hazard Map :Annex 10 (Pest Infestation)



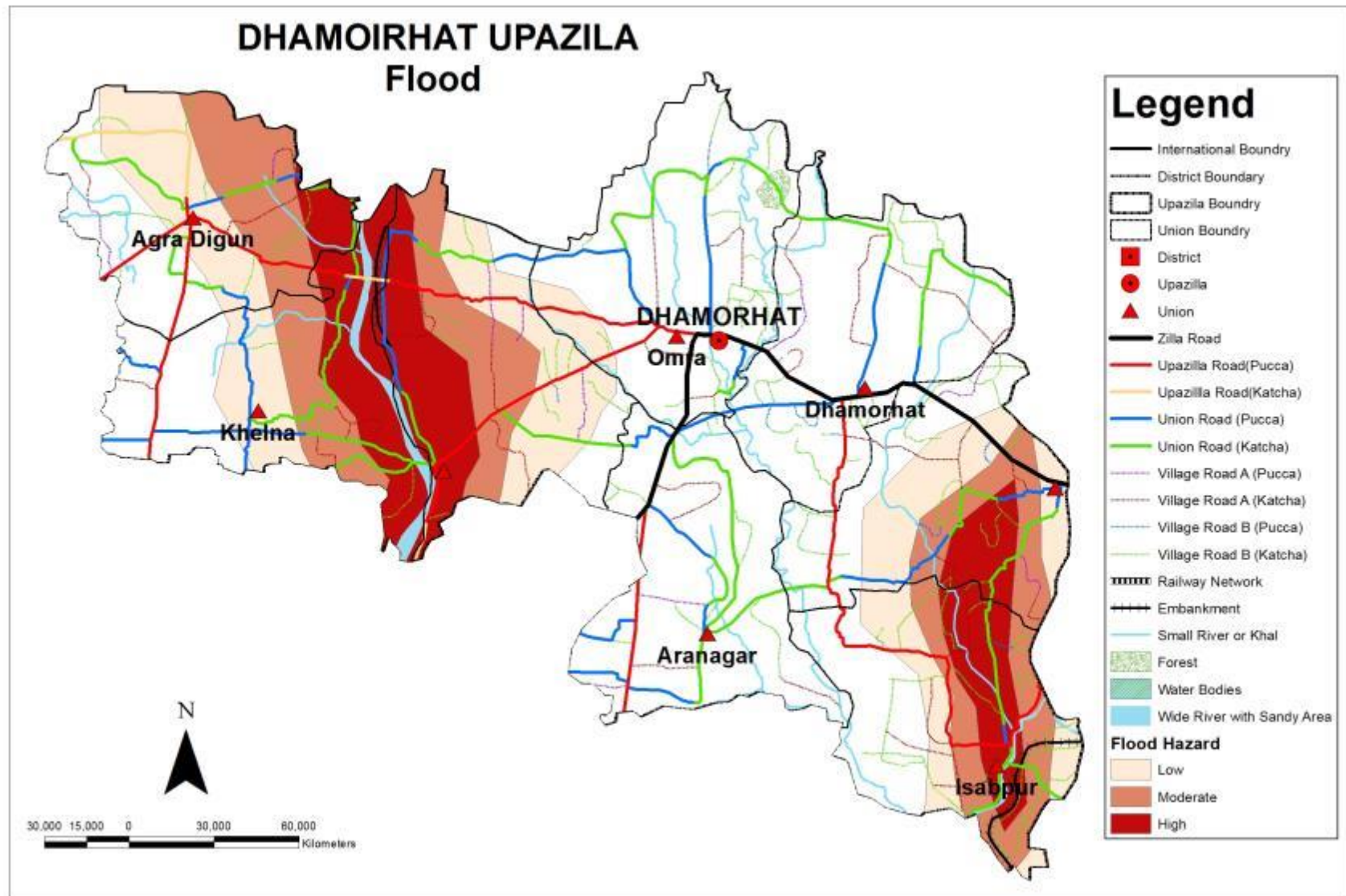
Hazard Map :Annex 11 (Dense



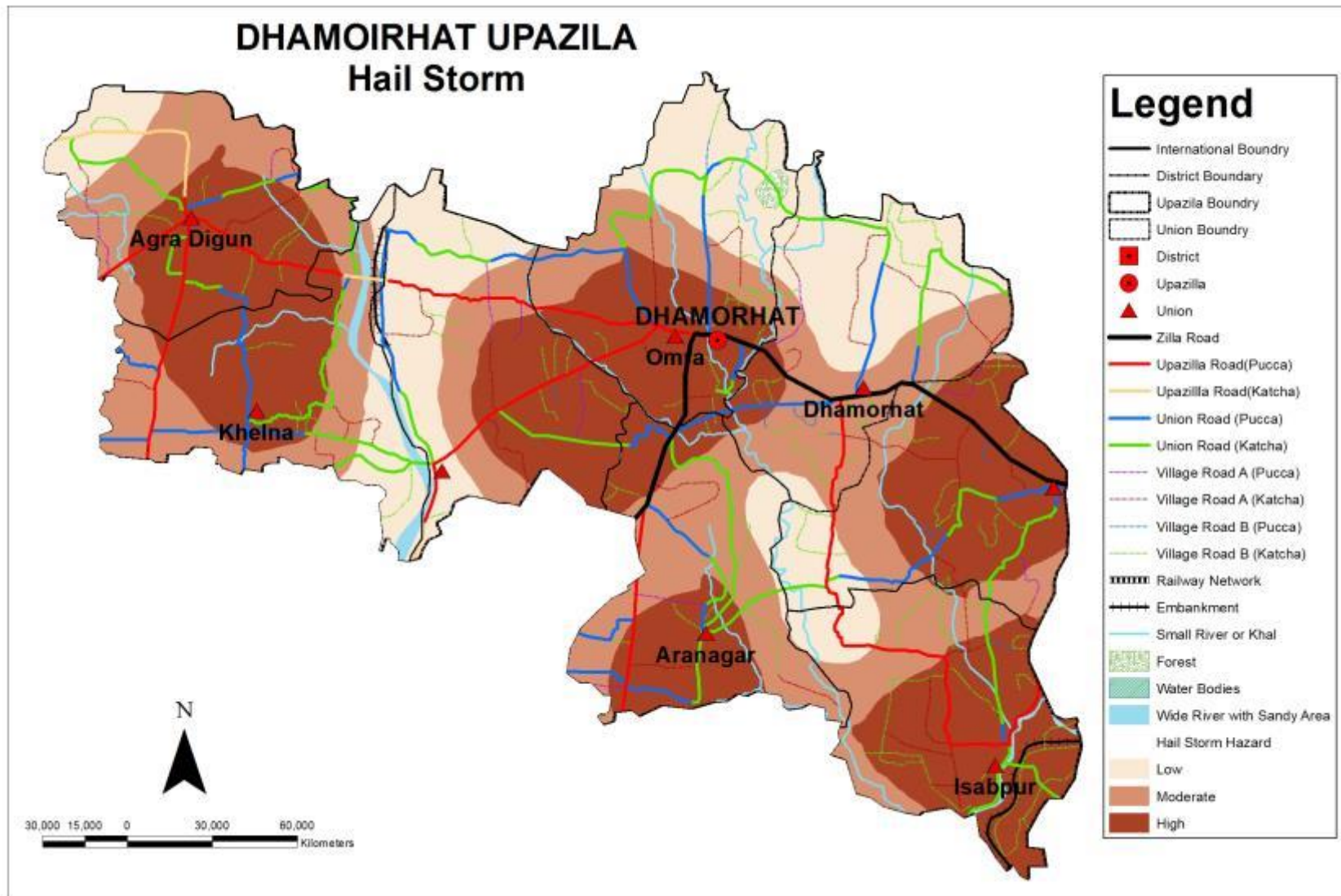
Hazard Map :Annex 12 (Drought)



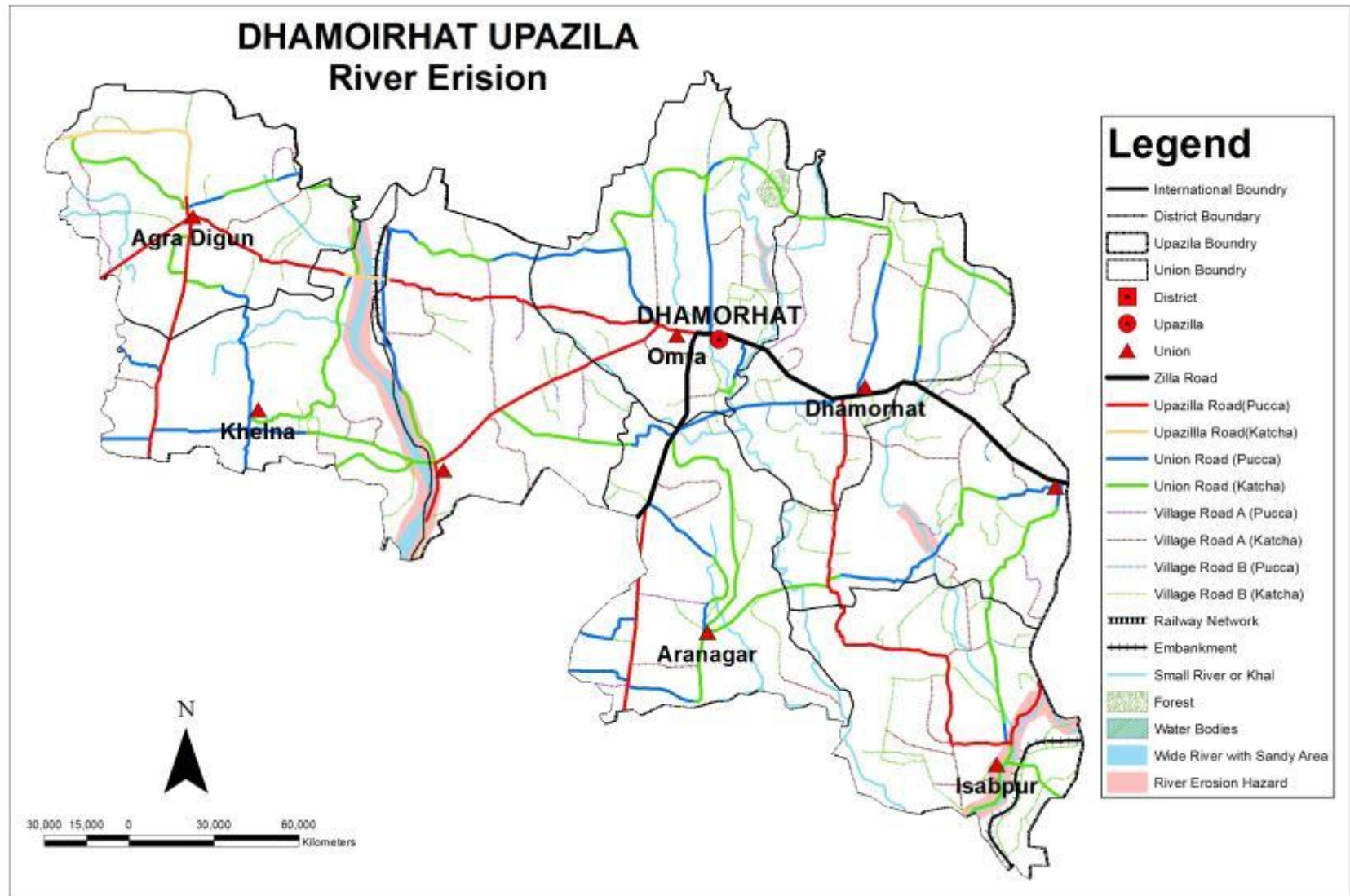
Hazard Map :Annex 13 (Flood)



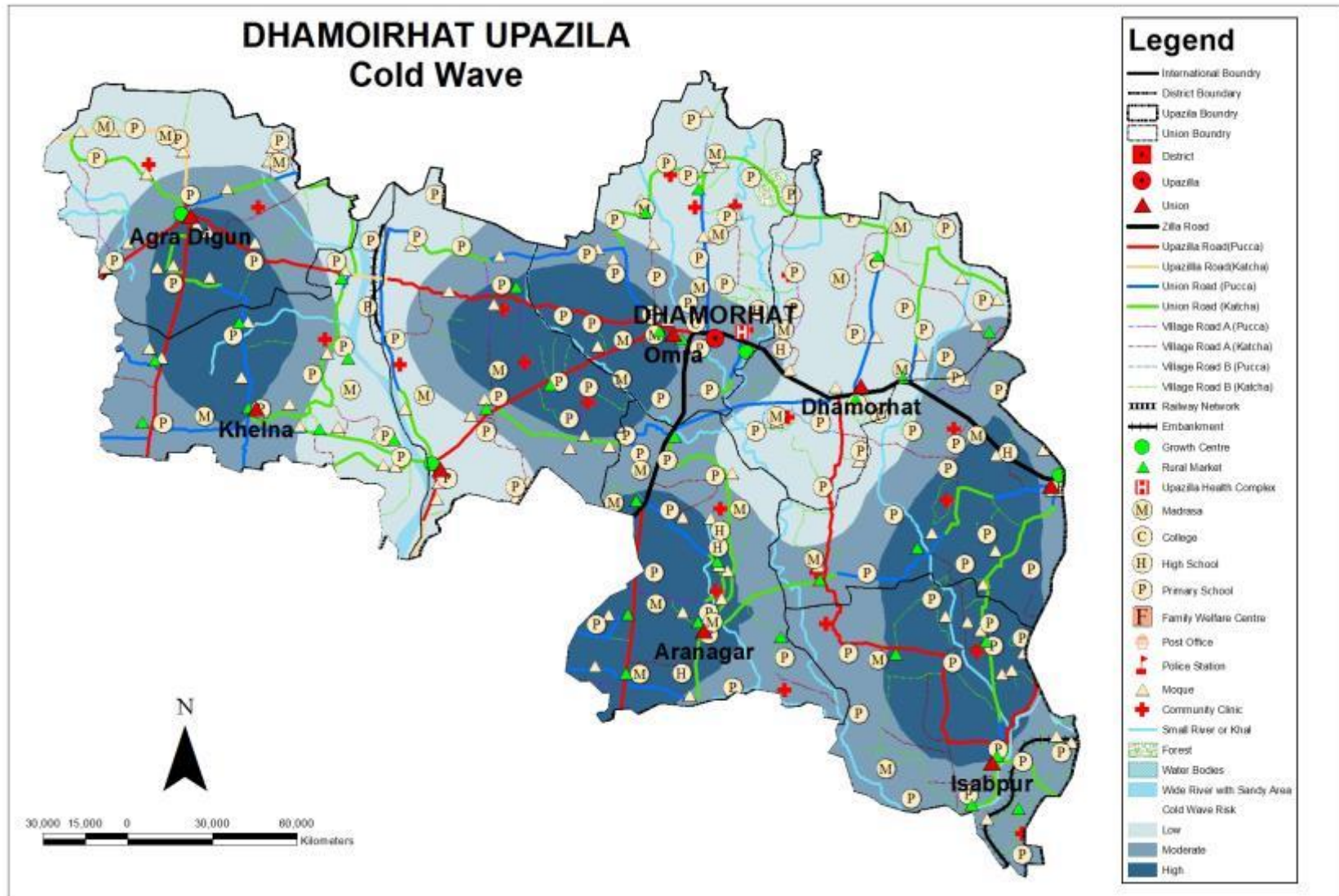
Hazard Map :Annex 14 (Hail Storm)



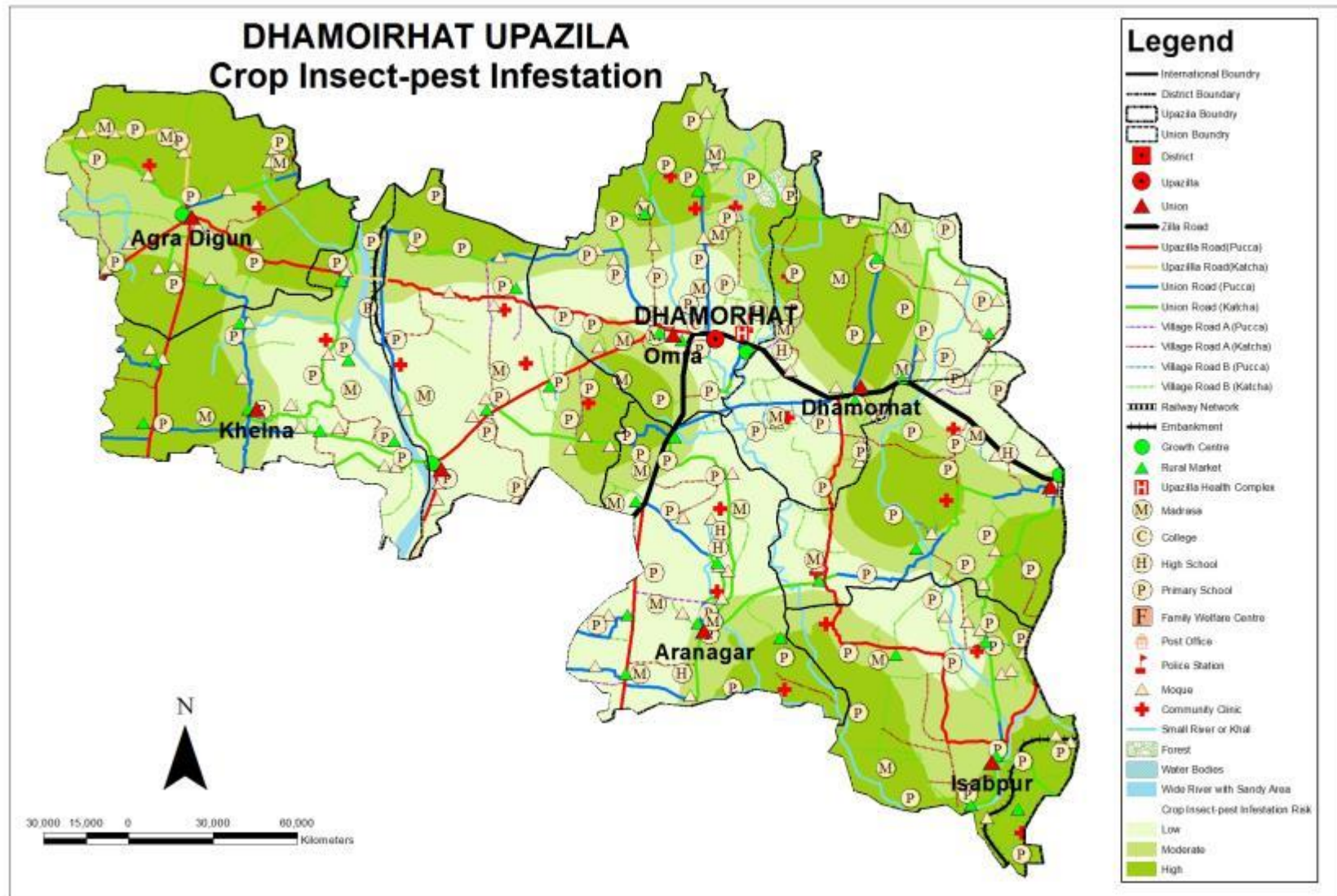
Hazard Map :Annex 15 (River Erision)



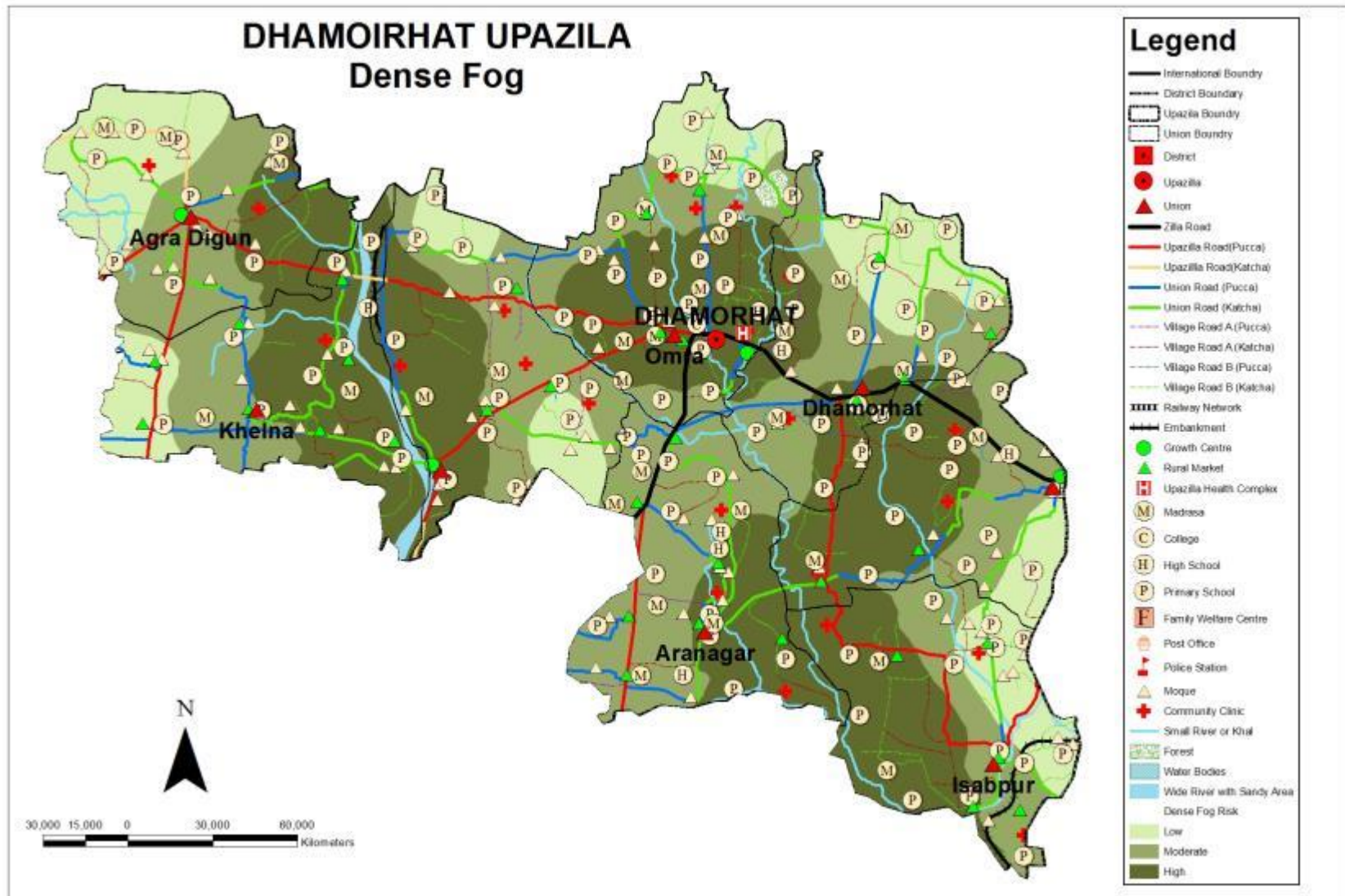
Risk Map :Annex 16 Cold Wave))



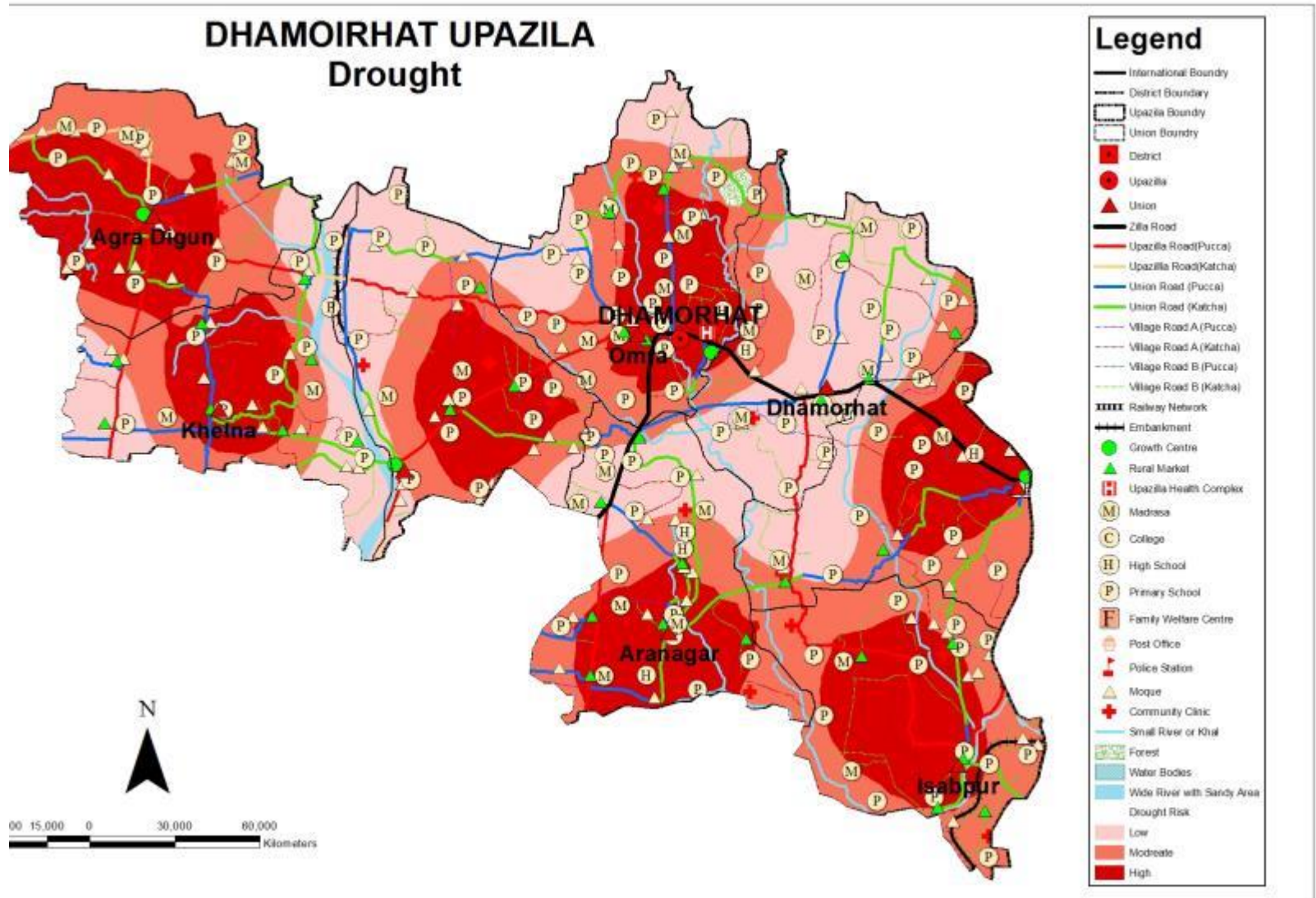
Risk Map :Annex 17 pest Infestation-p InsectCro))



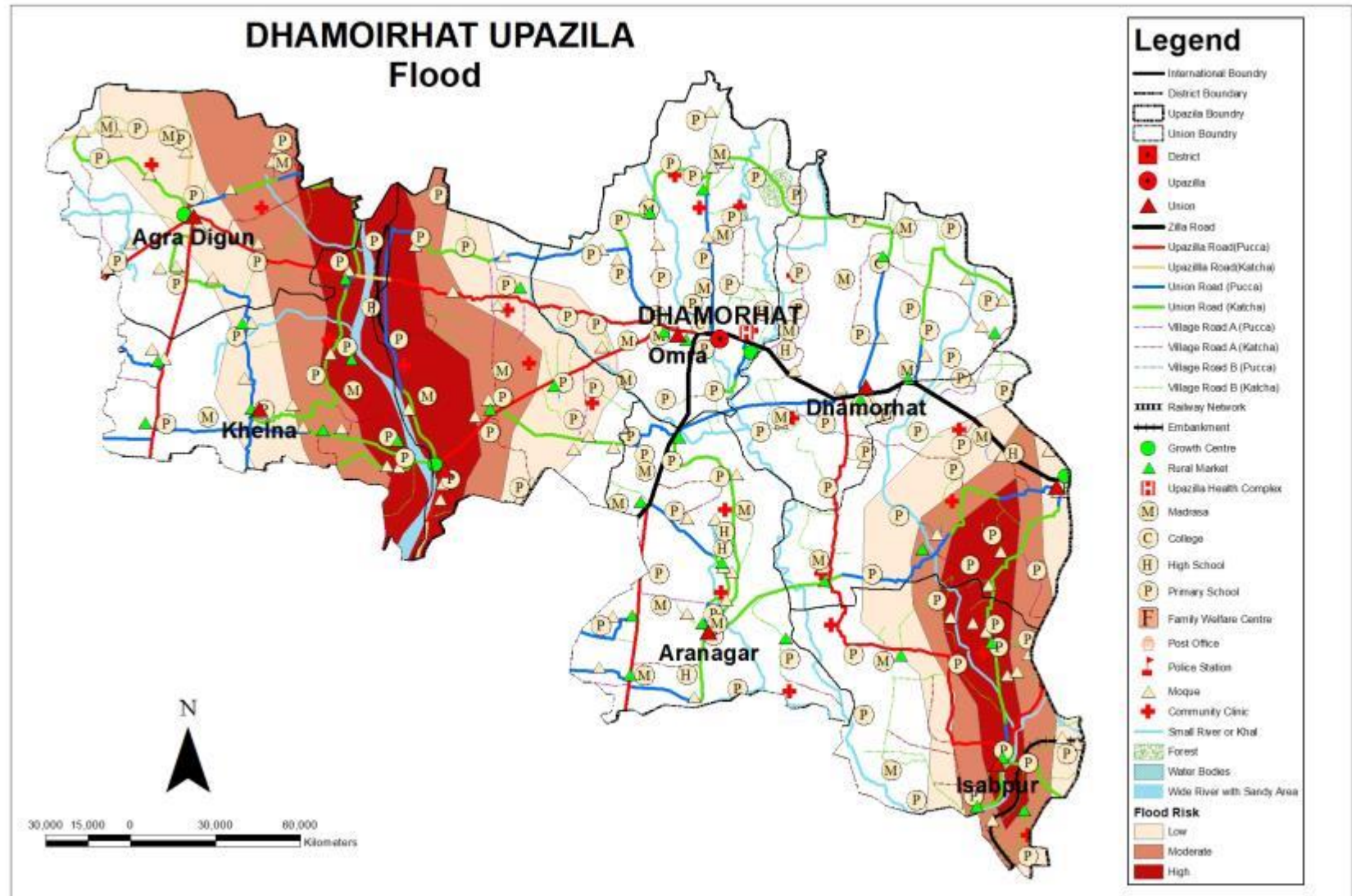
Risk Map :Annex 18 Dense Fog))



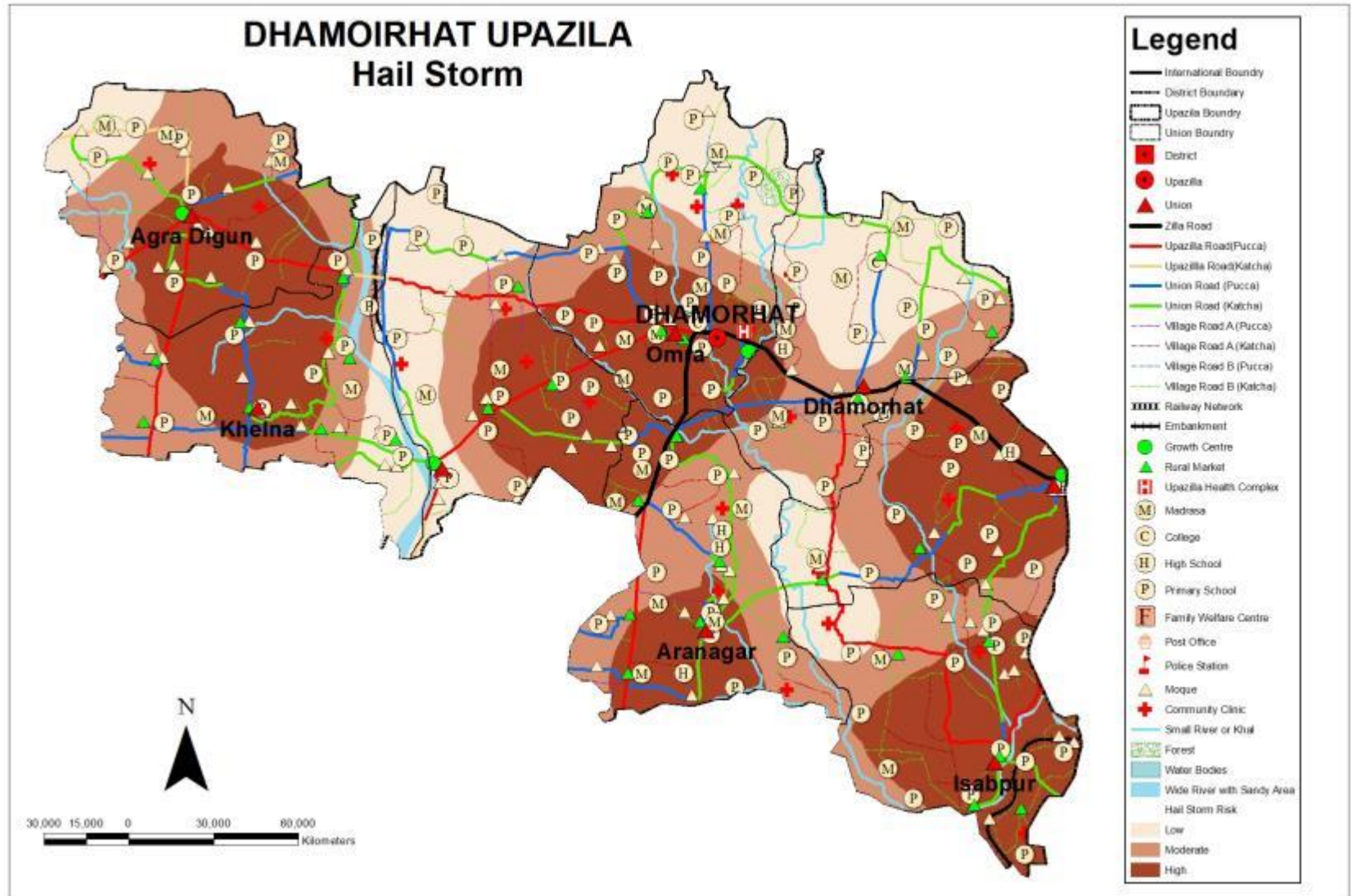
Risk Map :Annex 19 Drought))



Risk Map :Annex 20 Flood))



Risk Map :Annex 21 Hail Storm))



Risk Map :Annex 22 River Erosion))

