



Preparation of Disaster Management Plan at the Upazilla Level

Upazilla: Moheshkhali, District: Cox's Bazaar

**Prepared by:
Upazila Disaster Management Committee (UZDMC)
Moheshkahli, Cox's Bazaar**

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Message

Bangladesh is one of the most disaster prone countries of the world. Owing to its geographical location, weather and climate, each districts of the country are affected by sudden disaster. Cox's Bazar district is one of them. Due to it being a coastal region, tidal surge often cause flood, flash flood, mountain sliding, cyclone, mountain cutting and deforestation and salinity. Every year, the eight upazillas of this district are more or less damaged due to various hazards. Moheshkhali is addressed as one of the disaster prone upazilas. This island is inflicted with various disasters like tidal surge, flash flood, mountain sliding, deforestation and salinity and caused huge destruction which affects the national economy.

In order to reduce risks and damages of the disasters, Comprehensive Disaster Management Programme (CDMP) of the Government of Bangladesh has taken initiative to prepare District and Upazila Disaster Management Plan with the technical assistance from UNDP and other development partners.

Accordingly, with initiative of Comprehensive Disaster Management Programme (CDMP)' of the Ministry of Disaster Management and Relief of the Bangladesh Government and with the technical assistance of UNDP, European Union, UK Aid, Australian Aid, Sweden, Norway Embassies and volunteer organization Resource Integration Centre (RIC) together have prepared Disaster Management Action Plan of Moheshkhali upazilla of Cox's Bazar district which will strengthen disaster risk reduction process.

The Disaster Management Plan of Moheshkhali upazila has been prepared in consultation with the community people, different occupational groups, members of the Union Parishad, Government and Non-Government officials of the upazila level and other concern. The Disaster Management Plan has prepared in a participatory way through collecting , analyzing and compiling different relevant information like union based socio-economic status, situation of weather and climate, trend and level of damage during disaster, identification of risk during disaster, coping capacity of the community people, and what are measures may be taken for disaster risk reduction .

RIC staff who worked hard in developing the Disaster Management plan really deserves appreciation. I hope, this plan will contribute to combat and reduce risk of disaster. Proper implementation of the plan may play a vital role in protecting life, livelihood and assets of Moheshkhali upazila.

I would like to thank the employees of Resource Integration Centre (RIC) and members of the Upazilla and Union Disaster Management Committee, concerned representatives of all unions as well as Upazilla administration and the people of Moheshkhali those who were involved in the process of developing Disaster Management Plan of Moheshkhali upazilla.



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Introduction

Bangladesh is ranked among the top disaster prone countries in the world. The inhabitants of the islands located in the Bay of Bengal have been weathering all sorts of natural calamities all their lives. While some of these adversities are weak but recurring in nature, there are others which come suddenly and leave a trail of destruction and devastation behind them. The geographical position of Bangladesh is greatly responsible for the many natural adversities it faces. On account of its geographical location, weather and being a riverine country, Bangladesh is exposed to natural disasters all of all kind, ranging from flood, cyclone, drought, tornado, oceanic tidal wave to regional famine, malaria, wild elephant attack, etc. Due to its geographical location, the country is also always at a risk from hazards such as tsunamis and earthquakes. Furthermore, being a riverine country and surrounded by mountains, every year thousands of people are made homeless by riverbank erosions and floods coming down the hills. Besides humans are in constant danger of being harmed by man-made hazards among which, deforestation, mountain cutting, mountain collapsing, brick kiln pollution, tobacco cultivation, over usage of chemical fertilizer, bird flu, etc. are prominent. All these calamities have a great impact on the national socio-economic situation of the country.

Despite being such an extreme disaster prone area, no long term planning or programs has been undertaken to reduce the impact and damages of the disasters on the general people; importance has only been given to relief distribution and rehabilitation.

In recent days the Government of Bangladesh with the financial and technical assistance of UNDP, European Union, UK Aid, Australian Aid, Sweden and Norway Embassies together have undertaken a revolutionary plan of action aimed at reducing the risk of natural disaster by adopting disaster management programs. Initiatives has been taken to implement this disaster management program at district and sub-district level (based on the information on district and sub-district's socio-economic state and circumstances, weather and climate condition, crises, dangers, capabilities and vulnerabilities as well as identifying risk factors and methods to reduce the risks). We believe the implementation of this program, through the Ministry of Disaster Management and Relief of Bangladesh, will contribute significantly to the risk reduction of natural disasters.

And so in accordance, the Non-Government Voluntary Organization, Resource Integration Centre (RIC), has been awarded the responsibility for implementation of the disaster management plan in Moheshkhali, Cox's Bazaar; and the dedication and relentless efforts of RIC's staffs has successfully developed and implemented it. Many measures had been undertaken by the plan, such as prevention of riverbank erosion, construction of barrage where required, social forestation, construction of robust and disaster enduring infrastructure, installation of deep tube well, dense forestation for the preservation of weather and wildlife diversity, whose implementation will ensure income security and reduce the risk of damages towards property.

I thank the Sub-district Disaster Management Committee, Sub-district Administrator and the people of Moheshkhali for the development and implementation of the Disaster Management Plan.



Abul Haseeb Khan

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First Phase

Introduction to Local Area

1.1 Background

While incorporating the risk and the contingency plan within the disaster dictum, it has been recommended to implement the Disaster Management Plan at District, Sub-district, Union and City Corporation level. The plan is considered of great importance by CDMP and it is very much dependent on the participation of the associated organizations, institutions and population for the plan's permanency and effectiveness as well as determining the efficient method of achieving the expectant outcome.

Bangladesh is identified as one of the top disaster prone countries, due to its geographical position; the country is ravaged every year by floods, heavy rainfall, cyclone/ tornado, drought, cold waves, oceanic tidal waves, mountain floods, landslides, salinity, arsenic poisoning, seasonal storms, etc.

Its geographical position also makes it very vulnerable to earthquakes. On the other hand being a riverine country, almost all of the districts or sub-districts are affected by floods or river bank erosions at one time or another. Apart from the natural disasters, we are also in danger from different types of man-made hazards such as destruction of forests and paragon, mountain or soil cutting, tobacco cultivation, brick kiln emission, usage of medicine and chemical fertilizer, bush fire, etc. Among all the districts, Cox's Bazaar has suffered the most from the above mentioned environmental issues. Every year, the 8 sub-district of Cox's Bazaar is hit by one or more disasters, among which the worst hit area is Moheshkhali. This sub-district is comprised of 8 unions and these unions are devastated year in and year out by one or more natural disasters – tornadoes, oceanic tidal waves, mountain floods, inland flooding by tides, salinity, destruction of forests and paragon, etc. The livelihoods of the inhabitants of every village in every ward of these unions are severely affected as they are prone to be hit by natural disasters throughout the year. Despite all the destruction and the devastation suffered by the country due to different disasters, no long term disaster management plan has been undertaken at sub-district level to prevent or reduce the risk of disaster as well as the damages towards the properties and lives of people. Thus considering the vulnerable state of Moheshkhali sub-district this disaster management plan has been implemented.

1.2 The Key Objective of the Plan:

The livelihoods and the lives of the inhabitants of the coastal island sub-district, Moheshkhali are in constant peril almost all year round due to the hazards and dangers brought upon them by both man-made and natural disasters such as tornadoes, oceanic tidal waves, salinity, deforestation, etc. As a result, the poverty scenario in that region is worsening day by day.

Key Objective:

The sub-district disaster management plan has been implemented in order to identify the existing feasible risks of disasters and undertake the required steps to reduce or eliminate them. The

implementation of the plan will aid the local population and increase their institutional efficiency as well as reduce any risk associated with hazards or disasters which in turn will reduce the level of damages to property and assist in eliminating vulnerability.

Fixed Objective:

- Create public awareness about risks of disasters at both family and social level, and identify all nature of risk reduction procedures at familial, social, union – sub-district – district administration level;
- Initiate and develop the implementing measures of the use of local resources to reduce the risks of disasters among local people;
- Exercise and apply the locally created plan to post disaster rescue, evacuation, damage claim, relief distribution and immediate relocation;
- Act as a general plan for disaster management committee and other related sectors (Government, international and local institutions, donor organizations, etc.);
- Providing instructions to the disaster management committee and related sectors regarding the application and implementation of the plan;
- Ensure earnest participation, effective partnership and inspire proprietorship, of the related committees in the disaster management plan.

1.3 Introduction to Local Area:

Situated at the southernmost point of Bangladesh, Cox's Bazaar is home to the longest beach in the world. It's a beautiful district, surrounded by scenic views of mountains and the sea. The district is comprised of 8 sub-districts. One of the islands, of this historically famed district is Moheshkhali sub-district. Apart from Dholghata, Matarbari, Shonadia islands, the Moheshkhali sub-district is comprised of three other island as well as 8 unions and 1 Pouroshova. The Bay of Bengal and Kutubdia channel surrounds the island from the south and west of the island, while the Moheshkhali channel surrounds it from the east. Hills both high and low, dot the eastern side of the island, the tallest measuring up to 288 feet. There are many theories as to how the island came to be named Moheshkhali. According to the history books on Cox's Bazaar, the Hindu God Shiva's another name is Mohesh and so many believe it is named after the God. On the other hand the records from East India Company show that the island was referred as 'Moishkhal' Long time ago wild buffalo used to roam on the island and many believe the buffaloes were called 'Muish' and hence the island was named 'Moheshkhali'. Barring all the above speculations, according to historians, Moheshkhali Island was actually a part of the Cox's Bazaar district's mainland. The terrible tornado and oceanic tidal wave of 1569 caused the island to be separated from the mainland and so the Europeans identified Moheshkhali as a 'Mexal' island. And over the centuries this 'Mexal' word has slowly become 'Moiscal', 'Mohesh Island' and lastly 'Moheshkhali Island'.

The borderline of Moheshkhali lies 9 kilometers to the northwest of Cox's Bazaar District Sadar. 2 kilometers to the west, the Upazilla Parishad is built next to the road,

Due to its natural and geographical location, the island is at risk from various natural and manmade hazards. A large part of the sub-district's population is exposed to various types of hazards and disasters such as, oceanic tidal waves, tornadoes, inland flooding, salinity, etc., on a regular basis. Furthermore,

man-made hazards such as mountain cutting, destruction of trees and paragon, pollution from brick kilns, etc. is greatly threatening the ecology of the sub-district and devouring the local population.

Moheshkhali can be reached either by a speed boat or an engine boat through sea route from the Cox's Bazaar Shodor, which takes 20-30 minutes or 1-2 hours respectively. One can also travel by road, which takes around 3-4 hours by bus, taxi or jeep through Chakaria/Badarkhali.

Nearly 70-80% of Moheshkhali's population is directly involved in fishing business; these fishermen travel far into the sea, for better catch of fishes; always putting their lives on line.

There is a Buddhist temple, nearly 200 years old and the 120 years old National Peace Pagoda in the Rakhine village of Moheshkhali. Roughly 120 years ago an epidemic was sweeping across the country, in order to stop the epidemic, the Buddhists built the National Peace Pagoda upon consulting their religious leaders. There is a Muchalinda Buddha within the compound of the Buddhist temple. According to myths, 5 weeks after attaining his Buddhism, Gautama Buddha went to Bodh Goya in India where he sat in meditation for seven days long in the Muchalinda ditch. During that time, the King of Snakes, Nagraj protected Gautama Buddha from the torrential rain and storm that raged around him, and so in reflection of that incident, the Muchalinda Buddha has been established. Apart from this, Adinath temple, the infamous ancient holy and pious place of the Hindus in Southeast Asia is situated at the Peak of Pauranik Moinak Mountain in Moheshkhali, which has been named after the 1st name of Shiva, 'Adi' out of the list of 108 of his names. In 1910, a temple was established beside the Adinath Temple for the eight handed goddess Protima which is said to be the goddess of the Nepalese Royal family. Thus following this line of thought, a jetty was built with the aid of the Nepalese Government in 2006, to make it more comfortable for the pilgrims who travel to the temple on the last day of spring. Furthermore the first Muslim community 'Shipahi Village' of Moheshkhali was also founded in the hills. It is said that, when the Emperor Shah Shuja was defeated and was escaping to Arakan, some of his soldiers got separated from him and started living among the hills.

All these historical temples and communities keep on attracting tourists all year round.

1.3.1. Geographical Position of the District/ Sub-district:

Geographical Position:

The Bay of Bengal surrounds the Moheshkhali sub-district on the west and south, while the Ujantia Union of Pekua sub-district lies on the north Moheshkhali Channel and the Cox's Bazaar district on the east.

The State of Nature:

The sub-district is mainly comprised of hills, and the sides of the hills gently slope toward plains. Two rivers lie on two sides of the sub-district while the Bay of Bengal surrounds the other two sides.

Nature of Soil:

The sub-district has different types of soil such as the nature of the ground soil is loam, while silt is deposited on the river bank and the soil near the sea shore are sandy. Some places in the sub-district have higher soil salinity than others.

Natural Resources:

Moheshkhali is heavily endowed by nature such as the sea, rivers, canals, chors, land, trees, parabon, fishes, domestic animals, wild animals, etc.

1.3.2 Area

The Moheshkhali sub-district measures roughly 388.5 square kilometers, it is comprised of 8 Unions and 1 Pouroshova. There are 81 wards, 32 Mouja and 20 villages under these 8 Unions and 1 Pouroshova.

Serial No.	Name of Unions	Name of Villages	Village based Administrative Units
1	Boro Moheshkhali Total number of villages: 29	Borodeil, Shukhria Kata, Fokira Kata, Mogria Kata (Ward No. 1), Munsir Deil, Majher Deil, Pahar Toli, East Munsir Deil (Ward No. 2), Miajir Para, Mahara Para, Monsur Ali Para (Ward No. 3), Debenga Para, Gulgulia Para, Hindu Para, Pahartali Para (Ward No. 4), Modhuar Deil, Mohurir Deil, West Shipahir Para, Napit Para, Latuar Deil (Ward No. 5), Boro Kulal Para, Choto Kulal Para, Shathghoria Para, Nijtaluk Para (Ward No. 6), Middle Jagaria Ghona (Ward No. 7), West Jagaria Ghona, East Fokira Ghona (Ward No. 8), West Fokira Ghona (Ward No. 9)	1. Bara Moheshkhali Mouja, 2. Jagira Ghona Mouja, 3. Fokira Ghona Mouja
2	Choto Moheshkhali Total number of villages: 13	North Shipahir Para (Ward No. 1), Shipahir Para (Ward No. 2), South Nolbila (Ward No. 3), Uttarkul Choto Moheshkhali (Ward No. 4), Dokkhinkul Choto Moheshkhali, Lomba Ghona (Ward No. 5), Mudirchara, Ahmedia Kata (Ward No. 6), Thakurtola Deil Para (Ward No. 7), Teli Para, West Thakur Tala (Ward No. 8), Thakur Tala, North Thakur Tala (Ward No.9)	1. Pahar Thakurtola Mouja, 2. Choto Moheshkhali Mouja, 3. South Nolbila Mouja, 4. Shipahir Para Mouja, 5. No. 12 Mouja (Khash)
3	Dholghata Total number of villages: 15	Nasir Md. Deil, North Mohuri Ghena (Ward No. 1), Panir Chora, Mohuri Ghena (Ward No. 2), Bonjamir Ghena, Maij Para (Ward No. 3), Shorai Toli, Maij Para (Ward No. 4), Shikder Para, North Shutria (Ward No. 5), Middle Shutria (Ward No. 6), South Shutria (Ward No. 7), Begun Bunia, Panditer Deil (Ward No. 8), Shapmarar Deil (Ward No. 9)	1. Dholghata Mouja

Serial No.	Name of Unions	Name of Villages	Village based Administrative Units
4	Hoanak Total number of villages: 27	Chonkhola Para, Deilla Ghona (Ward No. 1), Horiar Chora, Kalagazir Para (Ward No. 2), Padma Pukur Para, Hamidur Rahman Para, Kathaltoli Para, Fokir Khali Para, Khorsha Para (Ward No. 3), Puichora, Jamal Para, Bania Kata (Ward No.4), Borochoora, Majher Para, Algadia (Ward No. 5) Rajuar Ghona (Ward No. 6), Kerun Toli, Naya Para, Addomula Para, Bheuakhali (Ward No. 7), KalaliaKata, Mohra Kata, Dholghat Para (Ward No. 8), Panir Chora, Barghor Para, Chorar Aga, Joiyar Kata (Ward No. 9)	<ol style="list-style-type: none"> 1. Horiarchora Mouja 2. Hoanak Mouja 3. Amaboshshakhali Mouja 4. Atalia Mouja 5. Panirchora Mouja 6. Kerun Toli Mouja
5	Kalamarchora Total number of villages: 22	Chalia Toli, Dorga Ghona, North Nolbila (Ward No. 1), Borua Para, Afjalia Para, North Nolbila (Ward No. 2), Yunus Khali, Maij Para (Ward No. 3), Marka Ghona, North Jhapua (Ward No. 4), Chikoni Para, South Jhapua (Ward No. 5), Naya Para and Shona Para (Ward No. 6), Md. Shah Ghona, Fokirjom Para, Samira Para, Office Para (Ward No. 7), Nunachori, Fokira Ghona (Ward No. 8), Adhar Ghona, Mijjir Para (Ward No. 9)	<ol style="list-style-type: none"> 1. Kalamarchora Mouja 2. Kaligonj Mouja 3. Jhapua Mouja 4. Yunus Khali Mouja 5. Uttar Nolbila Mouja
6	Kutubjom Total number of villages: 24	West Ghoti Bhangra, Middle Ghoti Bhangra, Dhembunipara (Ward No. 1), East Shonadia, West Shonadia (Ward No. 2), Tajia Kata, Adarsha Gram, Chor Para (Ward No. 3), Nayapara. Chor Para (Ward No. 4), West Para, Chandra Kata (Ward No. 5), Doullar Para, Mog Kata, Lal Md. Shikder Para (Ward No. 6), Kutubjom, East Para, Bujuruk Para, South Para (Ward No. 7), Komitar Para, North Para, Meheria Para (Ward No. 8), Khondokar Para, North Khondokar Para, South Khondokar Para (Ward No. 9)	<ol style="list-style-type: none"> 1. Ghoti Bhangra Mouja 2. Kutubjom Mouja 3. Shonadia Mouja
7	Matarbari Total number of villages: 27	Shikder Para, North Shikder Para, West Shikder Para (Ward No. 1), Bandi Shikder Para, Khondar Bill, Eastpara (Ward No. 2), North Rajghat, South Rajghat, Bill Para (Ward No. 3), Shathghorpara, Laila Ghona, Mon Hajir Para (Ward No. 4), Miojir Para, North Miojir Para, Bolir Para, Site Para (Ward No. 5), Tita Majhir Para (Ward No. 6), Maij Para, Majher Deil, Fuljan Mura, Nayapara, Moshraf Ali Shikder Para (Ward No. 7), Hongshomiaji Para, Mogdeil Para (Ward No. 8), Sardar Para, Sairar Deil, Site Para (Ward No. 9)	<ol style="list-style-type: none"> 1. Matarbari Mouja

Serial No.	Name of Unions	Name of Villages	Village based Administrative Units
8	Shaplapur Total number of villages: 19	Shite Mara (Ward No. 1), J. M. Ghat, Shaker Mohammad Kata, Jomir Chori (Ward No. 2), Mithachori Hindu Para, Baria Chori (Ward No. 3), Moulovi Kata, Ghona Para (Ward No. 4), Monipur Napit, Shomichar Para (Ward No. 5), Shathghor Para, Jahida Ghona (Ward No. 6), Mukbeki, Ghona Para (Ward No. 7), Sadeker Kata, Nunachori, Kaidabadh (Ward No. 8), Dineshpur, Kutubdia Para (Ward No. 9)	<ol style="list-style-type: none"> 1. Shaplapur Mouja 2. Mukbeki Mouja 3. Nunachori Mouja 4. Dineshpur Mouja 5. No. 12 Mouja (Khash)
9	Moheshkhali Pouroshova Total number of villages: 30	Lomba Haider Para, Muhuri Deil, Khuishar Mar Para (Ward No. 1), Yar Mohammad Para, Amir Chand Para, Paul Para, Kaistha Para, Mobarak Ali Mattabor Para (Ward No. 2), South Puti Bila, Dashi Majhir Para, Mosharaf Ali Para, Mokleshur Rahman Para, Notun Para (Ward No. 3), Boro Rakhine Para, South Rakhine Para, Dak Bungalow Para, Upazilla Parishad Para, Thana Parishad Para (Ward No. 4), South Ghona Para, Bijoy Ram Sardar Para, North Ghona Para, North Chor Para (Ward No. 5), South Hindu Para, Boloram Para, (Ward No. 6), Bazaar Elaka, Joldash Para, Middle West Gorokghata Chor Para, Sarkar Para (Ward No. 7), Shikder Para (Ward No. 8), Gorokghata Chor Para (Ward No. 9)	<ol style="list-style-type: none"> 1. Gorokghata Mouja 2. Putibila Mouja 3. Hamidar Diya Mouja

1.3.3 Population:

The total population of the district amounts to 321218 people, among which 165693 is men and 155525 is women. Total number of families is 58177.

Out of the total population, 52% are extremely vulnerable while 7.6% are moderately vulnerable.

According to 1996's survey, 90% of the total population is Muslim, nearly 7.8% are Hindus and the Buddhists comprise of only 1.3%.

Union	Male (15-59)	Female (15-59)	Total Population	Older Persons (60+)	Children (0-15)	Disabled	Families	Voter
Boro Moheshkhali	23466	21602	45068	2569	18929	750	8149	27315
Choto Moheshkhali	13312	11943	25255	1339	11365	486	4650	14958
Dholghata	6688	6189	12877	760	5537	260	2250	8383

¹ Source: Related Union Parishad and Pouroshova

Union	Male (15-59)	Female (15-59)	Total Population	Older Persons (60+)	Children (0-15)	Disabled	Families	Voter
Hoanak	26515	25072	51587	2889	23214	456	9373	28897
Kalamarchora	25615	23653	49268	2808	21185	478	8930	30686
Kutubjom	15766	14871	30637	1593	13480	540	5367	16041
Matarbari	22801	22136	44937	2696	19323	580	8168	27389
Shaplapur	17461	16807	34268	1748	16791	535	6229	17422
Moheshkhali Pouroshova	14069	13252	27321	1612	10381	430	5061	16637
Total	165693	155525	321218	18014	140204	4524	58177	187728

1.4 A short description of the information on the existing and non existing infrastructure situation:

1.4.1 Infrastructure:

- **Number of Barrages: 16**

There are in total, 16 barrages in Moheshkhali sub-district which stretches over nearly 107 km. These barrages protect the farming lands, roads, houses and very institutions from natural disasters, such as riverbank erosion, floods, inland flooding during tide, oceanic tidal waves, etc.

The following table gives information on all the barrages according to the unions.

Union	Name of Barrage	Total Length and Height	Location	Ward	Whether used as shelters during flood
Boro Moheshkhali	Owapoda Barrage	Length: 6 km Height: 17-20 feet	From Fata Ghona till Bhanga's Canal	Ward no. 9, 8, 7, 3 and 1	No
Choto Moheshkhali	Thakurtola Barrage Ahmedia Kata Barrage	Length: 4 km Height: 5 feet (Since 2006, cement blocks, financed by the Government of Nepal; had been placed for roughly 0.5 km in ChotoMoheshkhali's Ward no. 9, Thakurtola, so as to protect the Adinath	From ward Thakurtola of no. 9 till Ahmedia Kata's northern border of ward no. 6's	Ward No. 6 and 9	No

Union	Name of Barrage	Total Length and Height	Location	Ward	Whether used as shelters during flood
		Temple from tidal waves)			
Dholghata	Matarbari Dholghata Barrage (Folder No. 70)	Length: 27 km Height: Nearly 17-20 feet (Out of 27 km , 19 km is broken)	From Dholghata Union's, Shapmara Deil of ward no. 9 till Mohuri Ghona of ward no. 1	From ward no. 1 - 9	Nearly 30 fisherman families have taken up permanent resident on the barrage after losing their houses
Hoanak	Hoanak Barrage	Length: 7 km Height: nearly 15 feet	Starting from the western side of no. 1 Deilla Ghona till the western side of Joiyar Kata of ward no. 9	From ward no. 1-9	No
Kalamarchora	Chakkata Kati	Length: 8 km Height: 5 foot	From Site Mara of ward no. 1 till Boina Kata of ward no. 3	Ward no. 1 and 3	No
	Chariatoli Mill Ghona				
	Shathir Baaper Ghona	Length: 2 km Height: 5 feet	From Harkila Khali of ward no. 4 till Jhapua Canal of ward no. 5	Ward no. 4 and 5	
	Fokira Ghona Kat				
	Shodur Ghona Kati	Length: 5 km Height: 4 feet	From Jhapua Canal ward of no. 5 till Nunachori Canal of ward no. 7	Ward no. 5, 6, and 7	
	Shukuria Ghona Kati				
Teita Ghona Kati	Length: 4 km Height: 5 feet	From Nunachori Canal of ward no. 8 till Kalipara of ward no. 9	Ward no. 8 and 9		
Juigha Ghona Kati					
Shuddho Khali Ghona					

Union	Name of Barrage	Total Length and Height	Location	Ward	Whether used as shelters during flood
	Kalapara Ghona				
Kutubjom	Kutubjom Barrage	Length: 6 km Height: 16 feet (it is worth mentioning that ward no. 3's Tajiakata's, Adarsha village's and ward no. 4's Chorpara village's nearly 1.5 km of the barrage is broken)	From Khondokar Para of ward no. 9 till Bhangar Canal's bridge of ward no. 1	Ward no. 9,, 8, 7, 4, 3 and 1	No
	Temporary Barrage made out of Sand Bags	Length: 300 km Height: 7 feet (to protect the West Para Village of Shonadia island)	Shonadia island	Ward no. 2	
Matarbari	Sairar Deil Barrage	Length: 5 km Height: 7 feet	From the southern border of ward no. 9 till the northern border of ward no. 5	Ward no. 9 and 5	No
	Kankati Ghena Barrage	Length: 3 km Height: 7 feet	From North Miaji Para of ward no. 5 till the southern border of ward no. 2's	Ward no. 5 and 2 Ward no. 2 and 8	
	Dhonar Ghona Barrage	Length: 3 km Height: 7 Feet	From the middle of ward no. 2 till ward no. 8's southern border		

Union	Name of Barrage	Total Length and Height	Location	Ward	Whether used as shelters during flood
Shaplapur	Owapoda Barrage	Length: 14 km Height: 18-20 feet (but out of this 14 km long barrage, 12.6 km of the barrage is broken in various areas resulting in inland flooding of the surrounding villages on a frequent basis)	From Dineshpur and Kutubdia Para of ward no. 9 till the end of ward no. 1's Site Mara	Ward no. 1, 2, 3, 4, 6, 7, 8, and 9	No
Moheshkhali Pouroshova	Owapoda Barrage	Length: 3.5 km Height: 17-20 km (around 2.8 km out of the 3.5 km barrage from South Ghona Para to Moheshkhali jetty is broken in various places)	Starts from South Ghona Para, goes through Gorokghata Chor Para till the Moheshkhali Jetty	Ward no. 5, 7, 8, and 9	No
	Owapoda Barrage	Length: 1.5 km Height: 15-16 km (of the 1.5 km barrage spanning from Boro Rakhine Para to Kaishar Mar Para. 0.75 km is broken in various places)	From Boro Rakhine Para through Baruna Ghat Canal till the eastern side of Khuishar Mar Para	Ward no. 4, 2 and 1	

- **Sluice Gate:**

There are a total of 31 sluice gates in Moheshkhali sub-district which help the rivers to flow smoothly.

The following table provides a list of sluice gates found with in Moheshkhali sub-district, divided according to unions:

Union	Name of Sluice Gate	Name of River or Canal to which it is connected	Name Ward/Location	Whether it works or not
Boro Moheshkhali	Syhletia Pool Sluice Gate, Bhol Khali Gate, Boro Dia Sluice Gate = 2	Siletia Canal, Bhol Khali Canal, Boro Dia Canal	Ward no. 1 and 9	Works

Union	Name of Sluice Gate	Name of River or Canal to which it is connected	Name Ward/Location	Whether it works or not
Choto Moheshkhali	Boruna Ghat Sluice Gate = 1	Boruna Canal	Ward no. 8	Works
Dholghata	Madrasa Sluice Gate, Panir Chora Sluice Gate, Bodhuar Ghat Sluice Gate, Panditer Deil Sluice Gate, Notun Ghena Sluice Gate, Bonjamir Ghena Sluice Gate = 7	Kuhelia River (the first 5) and at the estuary of Bay of Bengal	Ward no. 1, 2, 6, 8, and 3	The Madrasa Sluice Gate is not working The other five works
Hoanak	Jomira Canal Sluice Gate Bhangar Canal Sluice Gate = 2	The Kuhelia River is connected to Jomira Canal The Kuhelia River is connected to Bhangar Canal	Ward no. 2, 8 and 9	Works
Kalamarchora	No Sluice Gate	None	-	-
Kutubjom	Panir Chora Sluice Gate, Bol Khali Canal's Sluice Gate, Borodia Sluice Gate, Ghoti Bhanga Sluice Gate, Khondokar Para Sluice Gate = 5	Bhonga Canal, Bolkhali Canal, Borodia Canal, Ghoti Bhanga Canal and Khondokar Para Canal	Ward no. 1 and 9	Bol Khali Canal's and 2 Sluice Gates of Borodia are not working The other five works
Matarbari	Kankati Ghena Sluice Gate, Dhonar Ghona Sluice Gate, Baniakata Sluice Gate, Rangakhali Sluice Gate, Rustom Dhona Sluice Gate and Tia Kata Sluice Gate = 6	Khudarkum Horonia Canal, Dhonar Ghona Canal, Khondar Bill, Rangakhali Canal, Rustom Dhona's Canal and Tia Kati Canal	Ward no. 1,2,3,7 and 8	Rustom Dhona Sluice Gate is not working The others are working
Shaplapur	Dineshpur Loilla Chara Sluice Gate, Baria Para Sluice Gate, Mukbeki Sluice Gate, Shaplapur Sluice Gate, J.M. Ghat Sluice Gate and Site Mara Sluice Gate = 6	Moheshkhali Channel	Ward no. 9, 8, 7, 5, 2 and 1	None of them works All the Sluice Gates are situated on Owapoda Barrage. Since none of the Sluice Gates work, the water from Moheshkhali Channel is always flooding the surrounding villages
Moheshkhali Pouroshova	Boruna Ghat Sluice Gate Ghonapara Sluice Gate = 2	Boruna Ghat Bakkhali Ghat	Ward no. 2 and 5	Works

- **Number of Bridges:**

There are in total of 118 bridges in Moheshkhali sub-district. They are constructed out of concrete and iron; these bridges aid the rivers and canals to flow freely.

A list of bridge according to the unions is provided in Appendix 8.

- **Culvert/Pipe Culvert:**

The Moheshkhali sub-district has in total 279 culverts and pipe culverts. The culverts have been built in various roads, chora and canals and in the ways through which water from mountain and inland water are drained.

A list of culverts according to the unions is provided in Appendix 9.

- **Number of Dam: 3**

Name of the Dam	The River or Canal it is connected to	The Union or Ward it is located in	Whether it works
Site Mara Dam, North	Forest Office Chora	Shaplapur Union	Works
Site Mara Dam, Roar Jhiri Dam	Site Mara Chora	Ward no. 1	

- **Roads**

Most of the roads within Moheshkhali Pouroshova are paved; the communication system has improved significantly over the last 5-10 years. But the road system within the unions of the sub-district is in terrible state, only the main roads that connect the unions to the sub-districts are paved. The roads that lead to the villages from the main road are either haphazardly laid with bricks or they are simply dirt roads. In most places the bricks have become dislodged which is causing great sufferings to the local people. Moheshkhali sub-district has roads spanning a total 575 km, out of which nearly 75 km is paved road, 182 km is HBB road and the rest of 354 km of road consists of dirt road. Nearly 100 km of road is flooded.

A list of roads according to the unions is provided in Appendix 7.

- **Irrigation Provision:**

For irrigation purposes, electric run shallow tube wells and diesel run power pumps are used. Apart from these, the local farmers also dig up small wells to store water while in winter they build temporary dirt dams in chora for irrigation purposes. The farmers also use power trailers.

The following table contains information on irrigation practices according to unions:

Union	Deep Tube Well	Inoperative/Out of Order	Shallow Tube Well	Inoperative/Out of Order	Comments
Boro Moheshkhali	16	–	3500	1200	Leakage of salt water in the tube well water source, they are not used any
Choto Moheshkhali	15	–	1320	7	
Dholghata	50	10	4	4	
Hoanak	150	15	4500	200	
Kalamarchora	152	50	6503	220	

Kutubjom	3	2	4300	150	more for irrigation purposes
Matarbari	220	70	6677	110	
Shaplapur	125	21	410	125	
Moheshkhali Pouroushova	18	2	320	25	
Total	749	170	27534	2041	

2

- **Haat Bazaar**

Haat:

There are 18 haats in Moheshkhali, where a huge trade of betel leaves go on apart from everyday necessities.

Below is a table listing the haats of Moheshkhali sub-district according to unions:

Union it is located in	Name of Haats	The days it remains open	Number of Shops	Does it have a Samiti	Whether it is free from flood
Boro Moheshkhali	The Betel Leaf Haat takes place on the field adjacent to Notun Bazaar's Union Parishad	Tuesday and Friday	410	They have	Yes
Choto Moheshkhali	Lombaghona Bazaar Betel Leaf Haat	Tuesday and Friday	No fixed number of shops		
Dholghata	There are no haats	None	-	-	-
Hoanak	Chonkhola Bazaar Hoanak Time Bazaar Keruntoli Bazaar Kalalia Kata Bazaar Panirchora Bazaar	Sunday and Wednesday Sunday and Wednesday Sunday and Wednesday Sunday and Wednesday Tuesday and Friday	840	They have	Water coming down the hills, flood all the areas but being hilly areathe water does not remain long
Kalamarchora	Kalamarchora Betel Leaf Haat	Monday and Thursday	435	Nayapara Betel Leaf Haat	Water coming down the

² Sub-district Agriculture Department, FGD with local farmers and Union Parishad

Union it is located in	Name of Haats	The days it remains open	Number of Shops	Does it have a Samiti	Whether it is free from flood
	Chaliatoli Betel Leaf Haat	Tuesday and Friday		doesn't have a samiti	hills flood all the areas but being hilly areas the water does not remain long
	Nunachori Betel Leaf Haat	Sunday and Wednesday		The other three have samiti	
	Nayapara Betel Leaf Haat	Saturday and Tuesday			
Kutubjom	There is no Haat	None	-	-	-
Matarbari	Fokira Haat	Sunday and Wednesday	650	They have	Yes
	Notun Bazaar Haat	Saturday and Tuesday			
	Mogdale Bazaar Haat	Monday and Thursday			
Shaplapur	Shaplapur Bazaar	Sunday and Wednesday Only Betel Leaf Haat	The Betel Leaf Merchants trade their goods in front of shops	-	-
	Kaidabadh Bazaar				
	J. M. Ghat Bazaar (these are only Betel Leaf haat)				
Moheshkhali Pouroshova	Gorokghata Boro Bazaar (the haat is only for selling Betel Leaf and Fish at wholesale)	Monday and Friday	-	-	-

- **Number of Bazaars (Big):**

There are 39 big bazaars in Moheshkhali. Apart from the big bazaars there are also small bazaars set up along the road sides, the turn of roads and beside various buildings, where they sell everyday necessary goods.

Below is a table listing the bazaars of Moheshkhali sub-district according to unions:

Name of Union or Ward where it is located	Name of Bazaars	Number of Shops	Whether they have Samiti	Whether free from Flood
Boro Moheshkhali	Notun Bazaar, Bazaar at the top of the road and Luinna	580	They have	Yes

Name of Union or Ward where it is located	Name of Bazaars	Number of Shops	Whether they have Samiti	Whether free from Flood
	Bazaar			
Choto Moheshkhali	Shipahi Para Bazaar, Lombaghona Bazaar and Thakur Tola Bazaar	160	They have	Gets partially flooded but being a hilly area the water goes down quickly
Dholghata Union	Mohuri Ghona Bazaar and Shutria Bazaar	170	They have	Yes
Hoanak Union	Chonkhola Bazaar, Time Bazaar, Kerun Toli Bazaar, Kaliakat Bazaar, Panirchora Bazaar, Kala Gazipara Bazaar, Mohura Kata Bazaar and Borochoa Bazaar	1055	They have	Gets partially flooded but being a hilly area the water goes down quickly
Kalamarchora Union	North Jhapua Bazaar, South Jhapua Bazaar, Yunuskhali Bazaar, Borua Para Bazaar, Adhar Ghona Bazaar, Mijjir Para Bazaar, Kalamarchora Bazaar, Chalia Toli Bazaar and Nunachori Bazaar	735	They have	Gets partially flooded but being a hilly area the water goes down quickly
Kutubjom Union	Khondokar Para Bazaar, Kabir Bazaar, Bottoli Bazaar, Kala Mia Bazaar, Tajia Kata Bazaar, Ghoti Bhangra Bazaar and Bujruk Bazaar	224	Only Khondokar Bazaar does not have any Samiti while the 6 have	Although it gets flooded, but being a sandy area water does not remain long
Matarbari Union	Shanti Bazaar and Bangla Bazaar	210	They have	Yes
Shaplapur Union	Shaplapur Bazaar, Kaidabadh Bazaar, J. M. Ghat Bazaar	310	They Have	Yes
Moheshkhali Pouroshova	Gorokghata Big Bazaar and Bania's Shop Bazaar	770	They Have	Being a coastal region water does not collect here

1.4.2 Social Resources:

- **Houses and Accommodation:**

Generally all the unions of Moheshkhali sub-district have: mud houses with straw roofs, bamboo or wooden house with straw roofs, mud houses with tin roofs, tin or bamboo or wooden houses with tin roofs, concrete houses with tin roofs and full concrete houses. Among the houses and accommodations found in the sub-district mud houses with straw roofs make up 50% of the numbers while bamboo or wooden houses with straw roofs amount to 20%, mud houses with tin roofs amount to 12%, tin or bamboo or wooden houses with tin roofs amount to 10% and half concrete houses - concrete houses with tin roofs and full concrete houses - brick, sand, cement, rod amount to 5% and 3% respectively. The sub-district Sadar and Pouroshova has a bigger share of institutions and houses which are either half or full concrete in nature.

Below is a table of different types of houses found in Moheshkhali sub-district according to unions.

Union	Total Number of Houses	Mud Houses	Bamboo/Wooden Houses	Tin Houses	Half and Full Concrete Houses
Boro Moheshkhali	11267	5634	3605	1690	338
Choto Moheshkhali	6313	3157	2020	947	189
Dholghata	3219	1610	1030	483	97
Hoanok	12896	6448	4127	1934	387
Kalamarchora	15620	7810	4998	2343	469
Kutubjom	7659	3829	2451	1149	230
Matarbari	16234	8117	5195	2435	487
Shaplapur	8567	4284	2741	1285	257
Moheshkhali Pouroshova	7252	2214	2728	1436	874
Total	89027	43103	28895	13702	3328

- **Water**

The people of the sub-district depend upon ponds, shallow wells and tube-wells for drinking water and everyday use. There are shallow tube wells in all the neighborhoods in every unions of Moheshkhali sub-district, from which nearly 200 to 300 families collect their drinking water. The level of iron and salinity has increased significantly compared to the last 20-30 years. Some deep tube wells have been installed in some of the unions by the Public Health Engineering Department, which are free from iron and salinity. Yet despite the tube wells nearly 40% families in the sub-district are suffering from lack of safe water. Many of the tube wells in Kutubjom, Shaplapur, Matarbari and Kalamarchora union are tainted by salt water, making them unfit for source of safe drinking water. Boring down in the ground of Choto Moheshkhali as well as in the mountain areas of other unions, meets with rocky grounds which discourage many people/ organization from installing deep tube-well.

The following is a table representing the number of tube wells in Moheshkhali sub-district:

Union	Number of Tube Wells	Operative	Inoperative/ Out of Order	Usage
Boro Moheshkhali	3416	2376	1100	Used for drinking and everyday purposes
Choto Moheshkhali	1335	1328	7	
Dholghata	54	52	2	
Hoanok	3515	2315	1200	
Kalamarchora	6652	6382	270	
Kutubjom	4303	4151	152	
Matarbari	6897	6710	187	
Shaplapur	535	392	143	
Moheshkhali Pouroshova	338	311	27	
Total	27045	23957	3088	

There are in total 27045 shallow tube wells in Moheshkhali sub-district out of which only 30% of them have a concrete base. 80% of the tube wells are above the flood level and during flood 85% of the tube wells are operative.

- **Sewage Provision:**

The inhabitants of the Moheshkhali sub-district, especially of the Boro Moheshkhali, Kalamarchora and Matarbari Union are very behind when it come to usage of proper and hygienic toilets. The sub-district has nearly 11442 hygienic/permanent toilets, 19103 pit toilets, whose 40% of the big water reserve pans have been demolished; and 18401 open toilets. Most of the pit and permanent toilets can be found in the houses of educated and conscious people's houses which have been built by various organizations. Roughly 5% of the populations take care of their personal hygiene in open areas, which are very unhealthy practices. It should be noted that where the areas are very sandy, the ring slab toilets sink into the ground after a few days of installation and quickly become out of order. This also leads to pollution during the monsoon season.

Below is a list of latrines according to unions:

Union	Hygienic	Pit	Open	Usage
Boro Moheshkhali	820	4074	2848	30% of the inhabitants use hygienic latrines. Most of these latrines are found in the houses of the well – to – do, educated and cautious people as well as different institutions. Pouroshova has a higher number of hygienic latrines.
Choto Moheshkhali	714	2704	3462	
Dholghata	338	900	675	
Hoanok	925	1612	1962	
Kalamarchora	1041	3704	3762	
Kutubjom	620	1649	1462	
Matarbari	1900	4460	1368	
Shaplapur	934	676	1951	
Moheshkhali Pouroshova	2970	1180	911	
Total	10262	20969	18401	

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³Source: Sub-district Public Health Engineering Department and Union Parishad

- **Schools/Educational Institutions:**

Over the last 10-15 years, the general condition of education has improved noticeably. The percentage of child education has increased significantly since 1991. The sub-district's literacy rate is 89%, education rate is 62% and child education rate is 89%. The sub-district has – **57**Government Primary School, **6**Non-Government Primary School, **8** Non-Government Lower Secondary School, **15** Boys High School, **2** Girls High School, **1** Government Girls High School, **1** University, **4** College, **33** Senior/Dakhil Madrasa, **38** Junior/Ebadtia Madrasa, **12** Kindergarten School, **165** NGO School, **7** Satellite School, **22** Orphanages and **1** Buddhist Orphanage. Every primary school has small playgrounds and every high school has football fields.

A list of educational institutions according to unions is given in Appendix 5.

- **Religious Institution:**

The Moheshkhali sub-district has **374** mosques,**53**Temples and **9**Keyangs. Below is a list of all the religious institutions according to the Unions:

Number of Mosques/ Temples/ Churches/ Keyang	The Union or Ward they are located in	Whether free of flood	Short Description
Mosque: 60 Temples: 10	Boro Moheshkhali Union There are mosques in 9 wards Ward no. 4 and 5 has temples	Since they are on high areas so water does not remain for long	-
Mosque: 34 Temples 14 (including the Adinath Temple) Keyang: 2	Choto Moheshkhali Union 9 wards have mosques Ward no. 8 and 9 has temples Ward no. 6 and 9 has Keyang	The mosques get partially flooded The temples are not free from flood The keyang in ward no. 9 is free from flood	Adinath Temple: The infamous Adinath Temple of this sub-continent is situated on top of Pauranik Moinak Mountain over Shuch Tila, on the bank of Choto Moheshkhali Channel in Ward no. 9 and Thakurtola. The temple has an eight handed goddess and every year a Shiva Choturdoshi fair is held for 7 days in spring. Pilgrims from India, Nepal and Myanmar visit this temple. Like the Hindus, the Rakhine also visit this temple to pray. Everyday numerous tourists travel to this temple by taking a speed boat or launch or steamer from Cox's Bazaar's Shodor's no. 6jetty to

Number of Mosques/ Temples/ Churches/ Keyang	The Union or Ward they are located in	Whether free of flood	Short Description
			Moheshkhali or Adinath Temple Jetty
Mosques: 21 Temples: 1	Dholghata Union 9 wards have mosques Ward no. 7 has a temple	Not free from flood	-
Mosque: 54 Temples: 4	Hoanak Union 9 wards have mosques Ward no. 3, 5 and 7 have temples	Gets partially flooded when water comes down the hill but once the rain stops the water drains away	-
Mosques: 55 Temples: 5 Keyang: 3	Kalamarchora Union 9 wards have mosques Ward no. 2, 3, 5 and 7 have temples Ward no. 1 and 2 has Keyangs	The mosques and the temples get partially flooded The keyangs are free from flood	-
Mosques: 34	Kutubjom Union 9 wards have mosques	While they get partially flooded but being a coastal and sandy area the water drains away fast	-
Mosques: 56 Temples: 3	Matarbari Union 9 wards have mosques Ward no. 4 has a temple	While they get partially flooded but being a coastal and sandy area the water drains away fast	-
Mosques: 44 Temples: 5 Keyangs:1	Shaplapur Union 9 wards have mosques Ward no. 3 and 5 have temples Ward no. 5 has a Keyang	Gets partially flooded when water comes down the hill but once the rain stops the water drains away	-
Mosques: 16 Temples: 11 Keyangs: 2	Moheshkhali Pouroshova 9 wards have mosques Ward no. 2, 5, 6 and 7 have temples Ward no. 4 has a Keyang	While they get flooded but being high area the water drains away quickly	Ward no. 4 has a nearly 200 years old Buddhist Temple

- **Religious Meeting Place (Eidgah):**

Number	The Union or Ward it is situated in	Whether Flood Free	Short Description
Ward no.1 Boro Dale and Ward no. 2 Munshir Dale	Boro Moheshkhali Union Ward no. 1 and 2	During heavy flood or high tides the fields get flooded	
	In the other Unions, the Eid prayer is held in the fields adjacent to the mosques		

- **Healthcare:**

There is only 1 sub-district health complex (Government Hospital), 7 Union Health and Family Welfare Center (Government), 26 Community Clinic (Government), 3 NGO operated Healthcare Center and 1 Private Healthcare Center. Apart from this people from many of the unions depend upon pharmacy, Ojha, Kabiraj and Herbal medicine to cure illness. If the diseases are of complicated nature then the well to do people travel to Cox's Bazaar, Chakaria or Chittagong for healthcare services.

Union and Wards	Name of Healthcare Center	Number of doctors and nurses and their expertise	Level of Service	Expense	Comments
Moheshkhali Pouroshova Ward no. 4's Upazilla Parishad Complex	Sub-district Health Complex (Government Hospital): 1	UHO - 1 RMO - 1 Juni: Con: (Child) - 1, Juni: Con: (Cardio) - 1 MO - 2, Co: surgeon (EMO)-1 Sanitary Inspector - 1 SACMO - 2, MT (Pharma) - 1, MT (Lab) - 1, MT (Dental) - 1 MT (EPI) - 1, SS Nurse - 2, Compounder - 1 Cardiographer - 1	This hospital provides all kinds of health services. According to Government rule, there should be 32 doctors and 14 nurses but at present there are only 5 doctors and 2 nurses. Furthermore, despite having modern equipments the lack of manpower and trained technicians have caused the machines to become out of order. Since the ratio of	Outdoor patients pay Tk. 10 to see doctors Furthermore pathology and O.T. expenses are charged according to Government set charges.	This is the only hospital in the whole Moheshkhali sub-district which has beds for 50 patients. Those who are well off they see doctors in Cox's Bazaar Shodor

Union and Wards	Name of Healthcare Center	Number of doctors and nurses and their expertise	Level of Service	Expense	Comments
		Herbal Assistant - 1 Lab Attendant- 1 O.T. Boy - 1 Emergency Attendant - 1 M L S S - 1 Ward Boy - 1	doctor to patient is very low, sometimes the doctors have to work through double shifts ad this may cause the level of service to fall.		
Moheshkhali Pouroshova Ward no. 4	Sub-district Family Welfare Center: 1	Sub-district P: P: Officer - 1 UFPA - 2 MLSS - 1 FWV - 2 FWA - 3	Once a month the Center conducts a camp on permanent birth control for both male and female	There is no charge for either permanent or temporary birth control	Family Planning Officers monitors the works of the staffs
At Boro Moheshkhali Union's no. 4, Dholghata Union's no. 6, Matarbari Union's no. 1, Hoanak Union's no. 2, Kalamarchora Union's no. 7 Kutubjom Union's no. 3 and Shaplapur Union's no. 5 wards	Union Health and Family Welfare Center -7	In every center Additional Assistant Community Medical Officer -1 FWV - 1 FWA - 6 FPI - 1	Provides all sorts of services related to Mother and Child (EPI, Family Planning service and Primary Healthcare)	Free	There is no center in Choto Moheshkhali since the Sub-district's Shodor is nearby. So people can easily visit the Sub-district healthcare complex. Officers of Matarbari also perform the tasks of Dholghata. During monsoon season, the roads being out of order the center is nearly always closed. On the other hand during dry season the doctor is available only on two days of the week (Sunday and

Union and Wards	Name of Healthcare Center	Number of doctors and nurses and their expertise	Level of Service	Expense	Comments
					Monday).
Boro Moheshkhali Union's Ward no. 1, 2, 5, 7 and 9 = 5	Community Clinic - 26	In every community clinic: CHCP - 1 HA - 2 FWA - 1	Provides all sorts of health related services (EPI, P:P: and Primary Healthcare)	Free	
Choto Moheshkhali Union's Ward no. 7 and 9 = 2					
Dholghata Union's Ward no. 2 = 1					
Matarbari Union's Ward no. 1, 4, 7 and 9 = 4					
Hoanak Union's Ward no. 1, 6, 7,8 and 9 = 5					
Kalamarchora Union's Ward no. 1, 5, 8 and 9 = 4					
Kutubjom Union's Ward no. 1, 6 and 7 = 3					
Shaplapur Union's Ward no. 2 and 9 = 2					

Union and Wards	Name of Healthcare Center	Number of doctors and nurses and their expertise	Level of Service	Expense	Comments
<p>Boro Moheshkhali Union</p> <p>Ward no. 5's Hope Medical Center</p> <p>Matarbari Union</p> <p>Ward no. 1' Shikder Para B. G. S. Health Center</p> <p>Ward no. 5 BRAC National Tuberculosis Control Program</p>	<p>NGO Operated Healthcare Center</p>	<p>MBBS Doctor - 1</p> <p>Nurse - 5, Pathology technician – 1, Assistant Pathology technician - 1</p> <p>Aid – 1</p> <p>MBBS Doctor</p> <p>Health Assistant - 1</p> <p>Technical Assistant - 1</p> <p>Laboratorian - 1</p> <p>Health Officer - 2</p> <p>Health service provider - 25</p>	<p>Consists of 4 beds</p> <p>Mother and Child Health Center and Pathology Center</p> <p>Mother and Child Health Center and Pathology Center</p> <p>Provides healthcare services to only Tuberculosis Patients</p>	<p>Doctor's fee is tk. 30 and 10% off on all Health tests</p> <p>Doctor's fee is tk. 50 and 50% off on all Health tests</p> <p>Tk. 20 per ticket, Doctor, Medicine and Health tests are free</p>	<p>RIC and Hope has struck a deal where every month Hope will provide free healthcare to 30 elderly people</p>
<p>Moheshkhali Pouroshova</p> <p>Ward no. 4</p>	<p>Neuron Health and Diagnostic Center</p>	<p>MBBS - 6</p>	<p>Everyday 2 Doctors provides health service, apart from this once a week child, diabetes and medicine specialists visits the clinic.</p>	<p>Since it is a private clinic, the doctor's fee is between Tk. 200 - 400. There are other charges on all health tests</p>	<p>Only well off people can come here for health services</p>

- **Number of Banks: 8**

Name of the Bank	Branch Name and location	Types of Services	Level of Services
Krishi Bank 5	Notun Bazaar branch – Boro Moheshkhali Union’s Ward no. 3 Notun Bazaar Shikder Para branch – Matarbari Union’s Ward no. 1 Kalamarchora Bazaar branch – Kalamarchora Union’s Ward no. 7 Time Bazaar branch – Hoanak Union’s Ward no. 3 Gorokghata Bazaar branch – Moheshkhali Pouroshova’s Ward no. 7	Provides agricultural loans on easy conditions, DPD, distributing government allowance and money deposits	Good and satisfying
Sonali Bank 1	Gorokghata Bazaar branch – Moheshkhali Pouroshova’s ward no. 7	Distributing government allowances, money deposits, salary distribution of both government and non-government officers	Good and satisfying
Islami Bank 1	Gorokghata Bazaar branch – Moheshkhali Pouroshova’s ward no. 7	Money Deposits, DPS, provides loans on easy conditions, salary distribution of non-government officers	Good and satisfying
Pubali Bank 1	Gorokghata Bazaar branch – Moheshkhali Pouroshova’s ward no. 7	Money Deposits, DPS, provides loans on easy conditions, salary distribution of non-government officers	Good and satisfying

- **Post Office: 8**

Name of Post Office	Location	Types of Services	Level of Service
Notun Bazaar Post Office	Boro Moheshkhali Union’s Ward no. 3	Regular exchange of letters, money order conveniences, Post office insurance, saving schemes, etc.	Due to increased usage of mobile and other advanced technology, the need of post office services are diminishing, but those who uses post offices are satisfied with the services.
Shutria Bazaar Post Office	Dholghata Union’s Ward no. 6		
Time Bazaar Post Office	Hoanak Union’s Ward no. 3		
Kalamarchora Post Office	Kalamarchora Union’s Ward no. 7		
Kutubjom Post Office			
Notun Bazaar Shikder Para			

Post Office Shaplapur Post Office	Kutubjom Union's Ward no. 6		
Sub-district Post Office, Gorokghata Bazaar	Matarbari Union's Ward no. 1 Shaplapur Union's Ward no. 6		
	Moheshkhali Union's Ward no. 3		

- **Other Institutions:**

Bon Bit/ Forest Office:

Name	Location	Comments
Office Para Bon Bit Office	Kalamarchora Union's Ward no. 7	
Ummonia Para Forest Office	Choto Moheshkhali Union's Ward no. 4	
Ghotibhanga Forest Office	Kutubjom Union's Ward no. 1	
Keruntoli Forest Office Mohorakata Forest Office	Hoanak Union's Ward no. 7 and 8	As the Mohorakata Forest Office protects parabon, soothe local knowit as parabon bit.
Dineshpur Forest Shaplapur Forest Office	Shaplapur Union's Ward no. 9 and 5	

- **Fish Unloading Center: 2**

Name of Office	Location	Comments
Keruntoli Fish Unloading Center	Hoanak Union's Ward no. 7	The unloading center was built in 1998 but since it does not have any cold storage it has been abandoned from the beginning
Boro Rakhine Para Fish Unloading Center	Moheshkhali Pouroshova Union's Ward no. 4	

- **Land Office: 1**

Name of Office	Location	Comments
Shaplapur Land Office	Shaplapur Union's Ward no. 5	
Gorokghata Bazaar Land Office	Moheshkhali Pouroshova Union's Ward no. 7	

- **Sub Registry Office: 1**

Name of Office	Location	Comments
Sub Registry Office	Moheshkhali Pouroshova Union's Ward no. 7	

- **Cottage Industry: 6**

Name of Office	Location	Comments
Cottage Industry	Moheshkhali Pouroshova Union's Ward no. 4	6 Cottage Industry in Moheshkhali Pouroshova's Boro Rakhine Para

- **Flour Mill: 1**

Name of Office	Location	Comments
Flour Mill	Moheshkhali Pouroshova Union's Ward no. 2	Paul Para

- **Ice Mill: 2**

Name of Office	Location	Comments
Ice Mill	Moheshkhali Pouroshova Union's Ward no. 4	Boro Rakhine Para

- **Saw-Mill: 5**

Name of Office	Location	Comments
DakBungalow Para Saw-Mill - 1, Boro Rakhine Para Saw-Mill - 2, Haji Mokleshur Rahman Para Saw-Mill - 1, Baniar Dokan Saw-Mill - 2	Moheshkhali Pouroshova Union's Ward no. 7, 4, 3 and 2	

- **Court Buildings: 1**

Name of Office	Location	Comments
Adalot Bhaban	Moheshkhali Pouroshova Union's Ward no. 7	Adalot Para

- **Sub-district Buildings: 1**

Name of Office	Location	Comments
Upazilla Bhaban/Upazilla Parishad	Moheshkhali Pouroshova Union's Ward no. 4	Upazilla Parishad Area

- **Police Station: 1**

Name of Office	Location	Comments
Moheshkhali Police Station	Moheshkhali Pouroshova Union's Ward no. 4	Upazilla Parishad Area

- **Telephone Exchange: 1**

Name of Office	Location	Comments
Telephone Exchange	Moheshkhali Pouroshova Union's Ward no.4	College Para

- **Jeep Station: 1**

Name of Office	Location	Comments
Jeep Station (stand)	Moheshkhali Pouroshova Union's Ward no. 7	Gorakghata Bazaar

- **Electricity Office:**

Name of Office	Location	Comments
Polli Biddut Office	Moheshkhali Pouroshova Union's Ward no. 7	Gorakghata Bazaar

- **Dak Bungalow: 1**

Name of Office	Location	Comments
Dak Bungalow	Moheshkhali Pouroshova Union's Ward no. 4	Dak Bungalow Para

- **Slaughter House: 1**

Name of Office	Location	Comments
Pouro Slaughter House	Moheshkhali Pouroshova Union's Ward no. 7	Gorakghata Bazaar

- **Food Storage: 1**

Name of Food Storage	Location	Activity	Comments
Kalamarchora	Kalamarchora Union's Ward no. 7	Stores wheat, Rice as well as different types of food product	This had been recently renovated but it is still left abandoned.

- **Secondary Education Office: 1**

Name of Office	Location	Comments
Secondary Education Office	Moheshkhali Pouroshova Union's Ward no. 7	Gorakghata Bazaar

- **B R D B Office: 1**

Name of Office	Location	Comments
B R D B Office	Moheshkhali Pouroshova Union's Ward no. 7	Gorakghata Bazaar

- **Scout :1**

Name of Office	Location	Comments
Scout	Moheshkhali Pouroshova Union's Ward no. 4	Upazilla Parishad Area

- **Public Library: 1**

Name of Office	Location	Comments
Public Library	Moheshkhali Pouroushova Union's Ward no. 7	Ghoraghata Bazaar

- **Club / Cultural Center: 20**

Club/ Cultural Center	Location	Types of Activity	Whether they aid in any Developing or Social Activity
Boro Moheshkhali Older Persons Welfare Organization And Alhaji Sirajul Haque Memorial Community	Boro Moheshkhali Union's Ward no. 3 and 7	Social Welfare Activities Income Increasing Activities	Observing National Day, tree planting, fish farming, poultry and cattle rearing and aiding the poor and vulnerable Participating in various sports
None	None in Choto Moheshkhali Union	-	-
People's Welfare Club – Mohuri Ghona	Dholghata Union's Ward no. 2	Social Welfare Activities Income Increasing Activities	Observing National Day, tree planting, fish farming, poultry and cattle rearing and aiding the poor and vulnerable Participating in various sports
Bania Kata Social Welfare Committee Keruntoli Development Society	Hoanak Union's Ward no. 4 and 7	Social Welfare Activities Income Increasing Activities	Observing National Day, tree planting, fish farming, poultry and cattle rearing and aiding the poor and vulnerable Participating in various sports Providing education to the elderly
Friend's Association and Kalamarchora Sports and Society Developing Community	Kalamarchora Union's Ward no. 7	Social Welfare Activities Income Increasing Activities	Observing National Day, tree planting, fish farming, poultry and cattle rearing and aiding the poor and vulnerable Participating in various sports, providing education to the elderly
Ghotibhanga Social Welfare Samiti	Kutubjom Union's Ward no. 6	Social Welfare Activities Income Increasing Activities	Observing National Day, tree planting, fish farming, poultry and cattle rearing

Club/ Cultural Center	Location	Types of Activity	Whether they aid in any Developing or Social Activity
			<p>and aiding the poor and vulnerable</p> <p>Participating in various sports, providing education to the elderly</p>
<p>Matarbari Coastal Social Welfare Samiti – Shikderpara, Matarbari Social Welfare Samiti – Notun Bazaar, Matarbari Shikderpara Social Welfare Samiti, Coastal Foundation – Owapoda Para</p>	<p>Matarbari Union’s Ward no. 1 and 2</p>	<p>Social Welfare Activities Income Increasing Activities Educational Activities Tree Plantation</p>	<p>Observing National Day, tree planting, fish farming, poultry and cattle rearing and aiding the poor and vulnerable</p> <p>Participating in various sports, providing education to the elderly</p>
<p>Coastal Social Welfare Organization Kaidabadh Hillful Fujul Association</p>	<p>Shaplapur Union’s Ward no. 2 and 9</p>	<p>Social Welfare Activities Income Increasing Activities Educational Activities Tree Plantation</p>	<p>Observing National Day, tree planting, fish farming, poultry and cattle rearing and aiding the poor and vulnerable</p> <p>Participating in various sports, providing education to the elderly</p>
<p>Gorakghata Youth Development Parishad Officer’s Welfare Club, Putibila General Kali Mandir Parishad, Putibila IPN Club, Gorakghata Bazaar Bonik Samiti, Shaheed Monindro Lal Bhattacharyya and Noni Shushila Memorial Foundation = 6</p>	<p>Moheshkhali Pouroshova Ward no. 2, 4 and 7</p>	<p>Social Welfare Activities Income Increasing Activities</p>	<p>Observing National Day, tree planting, fish farming, poultry and cattle rearing and aiding the poor and vulnerable</p> <p>Participating in various sports, providing education to the elderly</p>

- **NGO/Voluntary Organization:**

Serial No.	NGO	Areas of their Activities	No. of Benefitted People	Duration of the Programs	Union
1.	RIC	Micro Credit Program related to CDMP Disaster Program	12074	Ongoing Till February 2014	Boro Moheshkhali, Choto Moheshkhali, Dholghata, Kalamarchora, Matarbari, Kutubjom, Hoanak, Shaplapur and Moheshkhali Pouroshova
2	Bureau Bangladesh	Micro Credit	5000	Ongoing	Boro Moheshkhali, Choto Moheshkhali, Kutubjom, Hoanak, Shaplapur and Moheshkhali Pouroshova
3	Protashi	Micro Credit	22000	Ongoing	Boro Moheshkhali, Choto Moheshkhali, Kalamarchora, Matarbari, Hoanak and Moheshkhali Pouroshova
4.	Grameen Bank	Micro Credit	14000		Boro Moheshkhali, Choto Moheshkhali, Kalamarchora, Matarbari, Kutubjom, Hoanak and Moheshkhali Pouroshova
5.	ASHA	Micro Credit	9900	Ongoing	Boro Moheshkhali, Choto Moheshkhali, Kalamarchora, Matarbari, Kutubjom, Hoanak, Shaplapur and Moheshkhali Pouroshova
6.	CODAC	Education	4500	2012 - 2016	Boro Moheshkhali, Choto Moheshkhali, Kalamarchora, Matarbari, Kutubjom, Hoanak, Shaplapur and Moheshkhali Pouroshova
7.	SARPV	Rickets	1500	Ongoing	Boro Moheshkhali, Choto Moheshkhali, Hoanak, Shaplapur
8.	Coast Trust	School Fielding, Rickets and Micro Credit Program	41000	2013 – 2016 Ongoing	Boro Moheshkhali, Choto Moheshkhali, Dholghata, Kalamarchora, Matarbari, Kutubjom, Hoanak, Shaplapur and Moheshkhali Pouroshova

Serial No.	NGO	Areas of their Activities	No. of Benefitted People	Duration of the Programs	Union
9.	BRAC	HNPP Eradication of Malnutrition and Poverty Alleviation Program Mother and Newborn Child Healthcare, Tuberculosis Program Micro Credit Program	16000	Ongoing	Boro Moheshkhali, Choto Moheshkhali, Dholghata, Kalamarchora, Matarbari, Kutubjom, Hoanak, Shaplapur and Moheshkhali Pouroshova
10.	BGS	Education, Health, Watsan, Micro Credit Program	9700	2002 - 2014	Kalamarchora, Matarbari,
11.	ISD	Micro Credit Program	2400	Ongoing	Kalamarchora
12.	Shukhi Bangladesh	Parabon formation, Keya forestation, preservation of turtle eggs	Inhabitanats of Ward no. 1 and 2	2010 - 2014	Kutubjom
13.	Poush	Parabon formation, Keya forestation	Inhabitanats of Ward no. 1 and 2	2007 - 2013	Dholghata, Kutubjom
14.	Muslim Aid	Micro Credit Program	540	Ongoing	Moheshkhali Pouroshova
15.	Baitush Sharif	Society based rehabilitation, Same Society Program	610 people	Ongoing	Moheshkhali Pouroshova
16.	Azad	V.G.D. Program	1956 people	2013 - 2014	Boro Moheshkhali, Choto Moheshkhali, Kutubjom and PouroShova
17.	Shakti Foundation	Micro Credit Program	1450 people	Ongoing	Boro Moheshkhali, Choto Moheshkhali and PouroShova
18.	Mukti	Micro Credit Program Provision of Life Saving Health Care Service Project (P.L.H.C.S.)	1100 people The beneficiaries have not been identified in the new program	Ongoing January 2014 – July 2014	Boro Moheshkhali, Choto Moheshkhali, Kutubjom and PouroShova

- **Main Sports:**

Football, Cricket, Volleyball, Ha-do-do and Pole game are local sports.

- **Playing Field (Big): 22**

Every primary school has a small playing field and every higher secondary school has football fields. There are smaller fields in open areas.

Union	Name of Playing Field	Location	Whether used during Disasters	How
Boro Moheshkhali	Boro Dale Madrasa field, Munsir Dale field, Notun Bazaar field and Notun Bazaar Primary School field	Ward no.1, 2 and 3	Notun Bazaar Primary School field comes in use during disaster	Used for relief distribution
Choto Moheshkhali	Choto Moheshkhali Lower Secondary School field	Ward no.5	Comes in use during disaster	Used for relief distribution
Dholghata	Shutria Primary School field	Ward no.3	Comes in use during disaster	Used for relief distribution
Hoanak	Hoanak Time Bazaar Government Primary School field, Hoanak Bohumukhi High School field, Panirchora Adarsha High School field	Ward no.3, 4 and 9	Comes in use during disaster	Used for relief distribution
Kalamarchora	Yunuskhali High School field, Kalamarchora Government Primary School field and Nunachori Community Center field	Ward no. 3, 7 and 8	Comes in use during disaster	Used for relief distribution
Kutubjom	Kutubjom Adarsha High School field, Auposur High School field and Kutubjom Jamesunnah Darul Ulom Dakhil Madrasa field	Ward no. 5 and 6	Comes in use during disaster	Used for relief distribution as well shelter during disasters
Matarbari	Matarbari High School field	Ward no. 1	Comes in use during disaster	Used for relief distribution
Shaplapur	Dineshpur field Shaplapur High School field	Ward no. 9 and 6	Comes in use during disaster	Used for relief distribution
Moheshkhali Pouroshova	Moheshkhali Adarsha High School field, College Para, Moheshkhali DegreeCollege field,	Ward no. 3 and 9	Comes in use during disaster	Used for relief distribution

Union	Name of Playing Field	Location	Whether used during Disasters	How
	College Para, Gorakghata High School field, Chor Para and Chor Para playing field			

- **Graveyard/ Crematorium:**

Graveyard: 311, Hindu Crematorium: 23 and Buddhist Crematorium: 3

Union	Name of Graveyard/Crematorium	Location	Whether above flood level
Boro Moheshkhali	Graveyard 60 and Hindu Crematorium 1	On average there are 5/6 graveyards in all 9 Wards. Crematorium can be found in Ward no. 4 and 6	Gets partially flooded, but being a sandy area the water drains away quickly
Choto Moheshkhali	Graveyard 34 Crematorium: Hindu: 4 Buddhist: 1	On average there are 3/4 graveyards in all 9 Wards. Hindu crematorium can be found in Ward no. 8 and 9 (3) and Buddhist crematorium in Ward no. 6	Gets partially flooded, but being a mountain area the water drains away quickly
Dholghata	Graveyard 18 and Hindu Crematorium 1	On average there are 2 graveyards in all 9 Wards. Crematorium can be found in Ward no. 7	Being a coastal area, water does not stagnate
Hoanak	Graveyard 55 and Hindu Crematorium 7	On average there are 6 graveyards in all 9 Wards. Crematorium can be found in Ward no. 2, 4, 5 and 7	Gets partially flooded, but being a mountain area the water drains away quickly
Kalamarchora	Graveyard 37 and Hindu Crematorium 3	On average there are 4/5 graveyards in all 9 Wards. Crematorium can be found in Ward no. 1, 3 and 7	Gets partially flooded, but being a mountain area the water drains away quickly
Kutubjom	Graveyard 40	On average there are 4/5 graveyards in all 9 Wards.	Being a coastal area, water does not stagnate
Matarbari	Graveyard 27 and Hindu Crematorium 1	On average there are 3 graveyards in all 9 Wards. Crematorium can be found in Ward no. 4	Being a coastal area, water does not stagnate
Shaplapur	Graveyard 30 Crematorium:	On average there are 3/4 graveyards in all 9 Wards. Hindu	Gets partially flooded, but being a mountain area the water drains

Union	Name of Graveyard/Crematorium	Location	Whether above flood level
	Hindu: 1 Buddhist: 1	Crematorium can be found in Ward no. 6 (3) and Buddhist Crematorium in Ward no. 5	away quickly
Moheshkhali Pouroshova	Graveyard 10 Crematorium: Hindu:6 Buddhist:1	All 9 Wardshave3 graveyards. Hindu Crematorium can be found in Ward no. 2 and 6 (each has 2) and Buddhist Crematorium in Ward no. 7	The Buddhist Crematorium is connected to South Rakhine Para. It is always flooded during high tides thus they go to Choto Moheshkhali Union's crematorium.

- **Communication and Transport Mode:**

The Moheshkhali sea channel and the road (through Chakaria) are the main route of travelling between the Moheshkhali sub-district and the Cox Bazaar district as well as other sub-district. The inhabitants of the sub-district travel either through the channel by engine boat (1/1.5 hour) or speed boat (20 minutes) or by roads through Chakaria in auto rickshaws, Jeeps, taxis, mini bus etc. Furthermore while travelling along the paved roads from the sub-district to the unions and from the unions to the wards and villages one can ride taxis, rickshaws and auto rickshaws. Small boats can be used to travel by rivers and can walk or take a rickshaw down the dirt roads.

The roads between the Moheshkhali sub-district and shodor are in good condition. Most of the roads are either paved or laid with bricks. One can travel by taxi, rickshaw or tom toms as they venture further in. A paved road has gone through the unions from Moheshkhali to District city, which is why one can take either of the two roads to travel to Cox's Bazaar from Moheshkhali Pouroshova. One of the ways is through Pouroshova's Ward no. 4, by taking a Jeep or CNG from Boro Rakhine Para's station through Shaplapur – Bodorkhali road which is nearly 33 km., but robberies take place on this road during the night so the road is avoided after dark. The other road leads from Boro Rakhine Para's station in Ward no 4 on to the route - Boro Moheshkhali – Hoanak – Kalamarchora and then one take a Jeep or CNG to Bodorkhali which is 35 km far. Apart from this one can take a speed boat (20 -25 minutes) or a wooden engine boat (1 hour) from Pouroshova jetty to District City. The river route runs from sunrise to sunset. At present the roads are being widened after the formation of Moheshkhali Pouroshova and since there is paved road to every union from the Pouroshova so people are not disconnected from the Pouroshova during monsoon.

There are paved roads from the sub-district to the unions but not all wards of the unions have paved roads, which makes travelling in the monsoon season risky. To travel to Cox's Bazaar from the unions, one has to take taxis, auto rickshaws or rickshaws from some of the unions and engine boats, small boats / boats from other unions to Moheshkhali Pouroshova jetty then take a speed boat or engine boat to District City.

Again during tourist season and Hindu's Shiva chaturdoshi fair, for the benefit of the pilgrims engine and speed boats run from Choto Moheshkhali Union no. 9's Adinath Temple situated in Thakurtoli to Cox Bazaar City from sunrise to sunset.

- **Forest and Forestation:**

The Moheshkhali forest areas covers nearly 73051 hectares of land (nearly 180435 acres) out of which, the parabon covers roughly 15000 acres of land. The Moheshkhali forest areas have been reduced over the years, even 10 -15 years back the hills used be covered in green trees, in some areas one could not even see the sunlight. But now we cannot find that natural greenery. Sometimes one can catch some forests created and protected by the forest department 5-10 years back but they don't amount to 15% of the previous natural forests. There used to be a huge Parabon from Sairar Dale to Ujantia, Bodorkhali to Ghotibhanga through Thakurtoli, from Ujantia to the east and from Rajghat to Ranga Khali. The nearly 32 km Parabon now exist in 3 areas measuring only 4 km in total. Furthermore roughly 80% of the dense parabon from Dholghata to the mouth of Bodorkhali's Canal has been destroyed over the last 15 years due to fishing, buffalo grazing, building of shrimp enclosures, salt farming, etc. Agricultural forestation cannot be seen anymore, one can see scant collection of coconut, mango, jackfruit, etc. trees. But over the last 5-7 years people has become enthusiastic about tree plantation and have started planting Bamboo, Eucalyptus, Rain tree, Mahogany, Mango, Jackfruit, Coconut, etc. trees beside houses, roads, ponds, etc. No steps or initiative has been taken by the local governments or the NGOs to rebuild the forests.

1.4.3 Climate and Weather:

- **Level of Rainfall**

Before 1991, the sub-district experienced a fairly regular rainfall pattern. But after 1994 a change has been noticed in the rainfall pattern, there is less rainfall between the months of Magh and Boishakh. There are sudden heavy rainfalls between the months Joistho to Ashar which more or less leads to flood scenario. And then the same thing happens again in Ashin and Kartik months. For the last 10/12 the harvests are getting affected severely by the change in rainfall pattern. The production cost increases as the rice and salt production gets affected.

- **Temperature**

The temperature range in the sub-district: Poush – Magh (January) the temperature ranges between 15 to 26 degree Celsius, in the months of Choitra, Boishakh, Joistho (April, May) it ranges between 25 – 31 degree Celsius. Mainly:during the months of Choitra, Boishakh and Joistho the sub-district experiences extremely hot weatherand has a high probability of being hit by natural disasters. Usually: during this time the inhabitants of the island face a shortage of water which leads to a lull in productivity and an outbreak of water borne diseases. The high temperature affects the everyday life and environment of the island adversely. The current state of deforestation and parabon destruction and the failure to protect and rebuild them reflects a very grim future.

- **Groundwater Level**

Even 10 -15 years ago the level of groundwater was pretty high. It was still easy to access the groundwater in many of the unions of Moheshkhali sub-district especially in Dholghata and Matarbari. At present, safe drinking water can be accessed within 60 to 120 feet but in hilly areas it can be accessed at low as 350 to 400 feet. But the salinity has increased significantly over the last 10 years in some areas where salt water is trapped for shrimp farming.

1.4.4 Others

- **Land and its usage:**

The Moheshkhali sub-district covers in total, 85736 acres of land. Out of which 78408 acres of land is engaged in farming (farming lands, fisheries, salt fields, shrimp farms, betel leaf barouj, trees on hilly areas, etc.). Betel leaf is cultivated on 22664 acres of land, salt on 19471 acres of land and shrimp on 18487 acres of land. 82% of the arable land is used for 2 crop cultivation and 18% for one crop cultivation.

There is nearly 7328 acres of non-arable land out of which 2500 acres of land gets flooded.

Below is a list of land distribution according to Unions:

Types of land	Land Measurement (Acres)									
	Boro Moheshkhali	Choto Moheshkhali	Dholghata	Hoanok	Kalamarchora	Kutubjom	Matarbari	Shaplapur	Pouroshova	Total
Arable	7326	9000	1986	8600	24213	7453	6500	12087	1243	78408
Non-arable	200	650	900	598	1188	697	2000	450	645	7328
Total acres of land	7526	9650	2886	9198	25401	8150	8500	12537	1888	85736

- **Agriculture and Food:**

Moheshkhali is an agrarian sub-district, where the main occupation is farming. Usually during farming season two types of rice are farmed and in winter vegetable farming can be seen beside houses and in open spaces. While the rice demand is easily met but the vegetable production is very poor compared to local demand. Although the farmers farm two types of rice but nearly 52% of the population spend an affixed time in a year, farming salt and shrimp. Shrimp and salt farming has been started on 38049.62 hectares of land. Since Kutubjom, Dholghata, Choto Moheshkhali, Shaplapur and other unions are located on or near river banks and sea shores, the people of these areas are mostly fishermen. These fishermen are very poor and cannot afford their own boat or fishing nets thus they lease boats and nets for a season or per day or cut deals with others and goes fishing in the sea or river. The wives and children of these fishermen dry fishes in between household work and studying. The farming scene is yet to be modernized thus they still rely on buffalo for fallowing the land and on rain and river for irrigation water.

Main crops and vegetables:

Rice, Betel Leaf, Areca Nut, Tomato, Egg Plant, Radish, Cauliflower, Cabbage, Beans, Chili, Lal Shakh, Loncho, Kolmi, Peas, Kochu, Turmeric, Bitter Melons, Ginger, Felon, Pumpkins, Calabash, Rai Shakh, Okra, Palong, Spinach, Cucumber, Gourd, etc.

Fruits:

Mango, Damson Plum, Jackfruit, Pomelo, Orange, Olive, Star fruit, Banana, Wood Apple, Coconut, Dates, Areca Nut, Country Goose Berry, Bel, Golap Jum. Guava, Pineapple, Tum, Papaya, etc.

- **Rivers**

The Moheshkhali sub-district has 3 and 1 channel flowing through or by its side. During the monsoon season, water from the hills and oceanic tidal waves cause river bank erosion and flooding. Below is a description of the rivers and their location.

Bankkhali River:

The Bank Khali River starts from the south eastern side of Moheshkhali, flows through the north western side and meets at the Kutubdia Channel of Bay of Bengal. People find Ujantia fascinating since high and low tide happens at the same time. Some of the fishes worth mentioning of this river are: Laitta, Shrimp, Coral, Pangash, Khorol, Hilsha, etc. while the 'Bata' fish of this river is delicious. This is the only river way to travel from Cox's Bazaar to Gorokghata, Choto Moheshkhali, Shaplapur and Matarbari. Big passenger boats and goods boats travel to and from Kutubdia to Cox's Bazaar on a regular basis. Before people used to travel from Chittagong along this route on a steamer but at present it has stopped as the river is being filled in.

Bohodar River:

The river came into being from the Moheshkhali Channel. Measuring nearly 10 km, this river flows through Ward no. 7's Hamidia to Ward no. 1's Siletia Pool where it merges with the canal. Mainly the water of this river is used for salt, shrimp and fish farming. But ever since the canal got filled in, the river overflows during the monsoon season and floods surrounding houses, shrimp, salt and fish farms. It severely affects the farmer's financially. Furthermore, as salt water flows through this river, the salinity of the surrounding villages is increasing.

Kuhelia River:

Some parts of the Kuhelia River have flowed towards the end of the hills of Boro Moheshkhali. The river flows along the northern border of Dholghata, that is it flows through some parts of Ward no. 1, 2 and 5 of Tiakati to Ward no. 8 and 9's Panditer Dale's Notun Ghona, into various canals.

The river is approximately 8 km long, flows from Ward No. 1's Dorodia canal, along the western side of Shathir Baaper Ghena and merges with Ward no. 9's Kalagazir Para Ghona towards Hoanak Union. During the heavy rain falls in monsoon season, the water coming down the hills severely affects the houses, salt fields, betel leaf barouj and other crops.

Moheshkhali Channel:

This channel, flowing from the Bay of Bengal, runs along the side of Choto Moheshkhali. It is approximately 10 km long, flows through Choto Moheshkhali Union's Ward no. 9's Rakhine Para beside Ward no. 6's Mudirchora to Ward no. 9 and 4's Rashid Miar Khamar Bari and then towards Shaplapur's border. Every year during monsoon water overflowing from the channel floods the surrounding areas, causing great damages.

- **Ponds:**

In total there are 806 pond in Moheshkhali comprised of both big and small ponds. There are nearly 200 big ponds and 606 small ponds out of which only 745 ponds are suitable for usage. Most of the ponds contain water all year round but during the monsoon season, they all get filled up . Water from the ponds is used for everyday activities, fish farming, irrigation, etc. Most of the fishes grown in the pond are Rui,

Katla, Tilapia and other different types of carps although there has been a growth in the small fish production thus fulfilling nutritional demands as well as providing financial security. The fish farmers are contributing to the national economy by growing fishes in the ponds.

Below is a table representing information on ponds according to the unions:

Number of Ponds as per Unions									
Boro Moheshkhali	Choto Moheshkhali	Dholghata	Hoanok	Kalamarchora	Kutubjom	Matarbari	Shaplapur	Pourosхова	Total
117	150	250	50	29	25	128	33	24	806

- Canals:**

39 canals flows or passes by Moheshkhali sub-district. The canals measures in total 111km. The water from the canals is used mainly for irrigation purposes of different types of rice and vegetables and salt and shrimp farming. The fishermen are contributing to the national economy as well as earning a living by catching different types from the various canals. They are fulfilling nutritional demands as well as local fish demand. But the temporary dams built in the canals to create shrimp enclosures and salt fields, cause the canals to overflow during the monsoon season and flood the low areas of the unions. Every year during the rainy season, heavy rain falls, water from the mountains and rivers flow in to the canals and so in turn flood the surrounding villages, salt fields, farm lands and betel leaf bouraj which causes huge financial damages.

The table below lists the number of canals according to unions:

Union	Name and Lenth of Canals	Whether works or not
Boro Moheshkhali	Ichamoti Canal – 4 km , Napiter Canal – 3 km	All of them works
Choto Moheshkhali	Boruna Ghat Canal – 2.5 km, Raichar Canal – 1 km, Telipara Canal – 5 km, Putir Chora Canal – 2 km, Kuchi Mara Canal – 1 km, Mudirchora Canal – 3 km, Chengchori Canal – 1.5 km, Achortoli Canal- 2 km, Bairgachori Canal – 3 km, Gorom Chori Canal – 4 km	All of them works
Dholghata	Lomba Canal – 3 km, Neel Ghonar Canal – 3 km, Panirchora Canal – 3 km, Borotonimar Canal – 5 km, B.N.P Canal – 3 km, Ulakhali Canal – 4 km, Batamoni Canal – 4 km, Bishaw Canal – 5 km	All of them works
Hoanok	Jameri Canal – 2.5 km and Bhangar Canal – 3.5 km	All of them works
Matarbari	Rangakhali Canal – 7 km and Tiakati Canal - 5 km	All of them works
Kalamarchora	Dorodia Canal – 1.5 km, Harkila Canal – 1 km, Jhapua Canal – 1.5 km and Nunachori Canal – 4 km	All of them works
Kutubjom	Siletia Canal – 5 km, Borodia Canal – 5 km, Chirar Mukh Canal – 1km, Bohodar Canal – 1 km, Koiteria Canal – 1 km, Pankouri Canal – 1 km, Jobboria Canal – 1 km, Shonadia East Canal – 1 km, Shonadia West Canal – 1 km, Tajiakata Canal – 5 km	All of them works

Moheshkhali Pouroshova	Boruna Ghat Canal- 2 km	All of them works
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- **Bill:**

There are no bills.

- **Haoar:**

There are no haoars.

- **Salinity:**

Since Moheshkhali is a coastal area so the salinity level in the water is higher than is normal. Apart from this the salt and shrimp farming in populated areas has increased the level of salinity in those areas as a result the salinity of the ground soil and water is on the rise.

The increased salinity level of the soil is destroying its fertility and so leading to a fall in the volume of production. Furthermore saline water is also killing off all types of trees such as fruit bearing, leafy and medicinal trees. The increased level of salinity in the water is reducing the number of sweet water fish (local) and leading to scarcity of drinking water. Excess salinity is also causing skin diseases, thus if the salinity level keeps on rising it will destroy the natural balance of the environment and threaten the lives of both humans and wild animals severely.

- **Arsenic Pollution:**

There is very little presence of arsenic in this area's water but it contains a high quantity of iron.

In 2000 the Local Health Engineering Department and NGOs implemented a program that tested the ground water for presence of arsenic. Traces of arsenic were found in some areas. In the last 5 years there had been no initiative to test the ground water for arsenic either by the government or other partner organizations, Thus at present the local government or the sub-district administration has no idea whether the ground water of the area is contaminated or not.

- **Wildlife Diversity:**

The population of a lot of the wildlife species has been declining over the last 20-25 years in Moheshkhali such as Khatash, Elephants, Monkeys, Mongoose, Skunk, Otter, Porcupine, Boar, Fox, Wild Cock, etc. They are slowly becoming extinct. Furthermore many animals such as turtles, different types of reptiles such as, Monitor Lizard, Darash Snake/ Oriental Rat snake, Bon Rui, Girgiti, Ajar / Indian Rock Python; then wild ducks, Bamboo Doves, etc. have all but become extinct. But one can still get a glimpse of Dahuk, Crows, Common Myna in the bushes beside the houses as well as Kingfisher, Crane, Sea Gulls, Kada Khocha, etc. near the river banks. The number of these species has fallen significantly over the last 15 – 20 years. The destructive tornado of 1991 and destruction of the paragon is slowly leading the wildlife to extinction.

Nearly Extinct Trees:

Even 20/25 years ago Cow Fruit or Apple of Sodom, Hortoki, Bohera Chondul, Mahogany, Cashew Nut, different types of Bam boo, Keya and different types of vines were in existence in Moheshkhali but now none of the above mentioned trees or fruits can be found.

Guest Birds:

Different types of foreign birds used to visit the chor areas, river banks, sea shores and big ponds in Moheshkhali 20/25 years back. But now no birds visit Moheshkhali due to lack of forests, increased population near water bodies and poaching nature of humans.

Fish Resources (Natural water bodies):

Water bodies of the Sub-district consist of rivers, canals, Moheshkhali Channel and the sea on the south and west. Some fishes found in the Moheshkhali rivers, canals, ponds and sea are: Hilsha, Rup Chanda, Aish Chanda, Sea Koi, Maitta, Guijja, Korati, Faisha, Teli Faissa, Poya, Churi, Pangash, Lokkha, Chaypa, Loitta, Tailla, Lata, Tak Chanda, Coral, Luissa, Tiger Prawns, Dhoncha, Baish, Bora Mach, Poitta, Surma, Tuita, Bhata, Kechki, Dara Puri, Koir, Datina, Chayla, Guilsha, etc.

Sweet Water Fish:

Koi, Shing, Catfish, Taki, Boyal, Shol, Gojar, etc. fishes could be found in different ponds of the sub-district. But nowadays there had been a increase in the types of fishes which are grown in the ponds such as Rui, Katla, Tilapia and different types of carps thus the fishes natural to the ponds are becoming extinct.

Domestic Animal Rearing:

Only a few families in Moheshkhali used to own cows, goats, sheep, buffalo, etc. 20- 25 years back. Nowadays almost every family has 1 or 2 cow or goat but the number of domestic animals in the sub-district has fallen due to lack of grazing field and parabon destruction. The current situation of domestic animals in Moheshkhali is:

There are nearly 8000cows, 17752 goats, 300 sheep, 4000 buffaloes and 80000 poultry. Compared to the rapid increase of population, the cattle, fish and poultry numbers are falling significantly.⁴

- **Description of Local Society and Population**

Different Social Status:

1. The Landless Poor (who depends upon everyday earnings for survival)	42%
2. Lower Middle Class: (who has a little savings left after necessary expenditure)	20%
3. Middle Class: (who has a modest saving left after necessary expenditure)	35%
4. Rich: (who leads a good life and has a big savings)	03%

Financial Activities and Profession:

- **Salary Man** **3%**
- **Business Man (micro enterprise)** **7%**
- **Works in the agricultural sector (farming crops, betel leaf, salt and shrimp)** **60%**
- **Day Laborer, Van and Rickshaw Puller** **15%**
- **Fisherman** **13%**
- **Barber, Launderer and Carpenter** **2%**

Ethnicity:

The Bengali ethnic population of Moheshkhali sub-district consists of Muslims, Hindus and Rakhine community. The Rakhines are the descendents of the Buddhist community of the then Arakan Kingdom. As a race they came into recognition in 3325 B.C., their lineage tracing back to the Shakko Clan and Mongolian race. Due to political reasons, after the decline of the Arakan Rule, some of the Rakhines

⁴UP, Upazilla Animal Office

settled down on the eastern south region of Bangladesh. The Rakhines do not to accept the Indigenous status since in the past they were a part of a civilized race in an independent country. They have their own language, literature, culture, norms and philosophy. Like the other indigenous tribes, they do not occupy or are not settled in the areas marked for them. Their independent spirit is a blatant proof of their drive for their generic rights. From the Pali word 'Rokh' came from the word 'Rokkhain' which later got corrupted over time to 'Rakkhain' or 'Rakhine'. The Imperialist Burma started attacking the Arakan Kingdom, the Rakhine's foremost home ground; from 1406. In 1784 the Burmese King Alongpaya, the Burmese Emperor Bodawpaya along with the infamous war minister Mahabenduha seized the Arakan Kingdom and tortured the Arakanese nationals into giving up their independent state. As a result some Rakhines came over to Bangladesh build up a settlement. The Rakhine's culture and history is independent that of Burma. Statistics show that, there are nearly 3 lac Rakhines living in Bangladesh. The Rakhine community is spread out in many countries of South East Asia, the biggest of which can be found in Myanmar (nearly 99%). Other than that the Rakhines are also found in Bangladesh's Cox's Bazaar, Chittagong, Potuakhali and Bogura area. Moreover, more than 70000 Rakhines have made their home in Cox's Bazaar Shodor, Khurushkul, Choufoldondi, Moheshkhali, Ramu, Panerchora, Harbung, Chakaria, Kahariaghona, Borbakia, Manikpur, Bajalia, Kharengkhali, Shabrun, Hilla Choudhury Para and Teknaf Thana. Similarly 400 to 450 Rakhine families live in Moheshkhali Pouroshova's ward no. 4's Boro Rakhine Para's South Rakhine Para. Since beginning of their race, the Rakhines females wear Thami and Anji and males wear lungi and shirt. They live in Machang houses. While they have a male dominant culture, the females lead relatively independent lives. Their main professions consist of weaving, small cottage business, barber, fishermen, etc. which at present is becoming extinct.

Social Events:

Muslim:

Eid-UI-Fitr, Eid-UI-Azha, Eid-a-Miladunnobi, Shab-e-Kadar, Shab-e-Barat, Ashura, Shab-e-Meraj, Sunnote Khatna, Mela-Porbon, Wedding, Akika, Janaja, etc.

(Sunnote Khatna is a ritual that is performed by all Muslims. There are no special rites to perform it although differing rites are observed from region to region. While conducting CRA in Moheshkhali Pouroshova of Cox's Bazaar District we came across an altogether different way of celebrating Khotna. The circumcised boy is dressed as a groom and taken around the village in a decorated taxi or on a decorated rickshaw with his grandparents seated beside him. The celebration was such that we have never experienced before.)

Buddha:

Choitra Shongkranti (Shanggren), Buddha Purnima, Modhu Purnima, Maghi Purnima, Kothin Chibor Dan, Wedding, Antoshthikria, Cremation, etc.

(Choitra Shongkranti (Shanggren): This is an event unique to Cox's Bazaar District, a rare occasion of prayers. Borua, Rakhine, Hindu and business men, all celebrate this occasion. But the Rakhines' celebration of the occasion is one of a kind, they cook and take food to each other's place and participate in the enthralling water festival (Shanggren). Beautifully dressed adolescent Rakhine girls take their place under the marquee while the Rakhine youths outside the marquee, throw water at the girls to gain their attention and then the girls return the favor by throwing water back at the boy. Through this festival, the Rakhines clear away their past years debts and quarrels and start the new year with hope, joy and happiness. This event usually takes place during the monsoon season and continues for 3 months. 'Owacho', the full moon of the month Ashar (June-July) marks the start of 'Owa' or 'Lent' festival where clothes and other necessary things are given to 'Foongi' or Buddhist beggars. For 3 months the Foongis are engaged in religious rituals and meditations. During Owacho, no marriage takes place in the Rakhine community. During those 3 months, the Buddhist beggars cannot stay in any other place apart from the Keyangs or religious institutions belong to. But if their father or mother or any important local person or Keyang director becomes very sick or die then they can stay away for 3-5 days. 'Rathapoye' or chariot festival is very big among the

Rakhines. Most of the people of this country are acquainted with the game of tug of war and this tug of war or 'Rathapoye' is the national game of the Rakhines. This festival is celebrated on holy day of the Buddhists, the full moon of the month of Magh.)

Hindu:

Sharodio Uthshab (Durga Puja), Swarasati Puja, Lakshmi Puja, Monosha Puja, Horiram Mohajoggo, Kartik Puja, Ganesh Puja, Jonmashtomi, Shiva Choturdoshi, Ekadoshi Vow, Wedding, Cremation, etc.

(Rice of Vow: this is one of the revered prayer rituals of the Hindus of the outlying areas of South Chittagong. On the 29th day of Arshin, the girls of all household (Hindu) cooks the rice for the vow in new clay or aluminum pot using shells while fasting. On 30th Arshin, the priest goes from house to house to give the prayer for the rice of vow and on 1st Kartik they entertain guest with the rice of vow. It should be noted that when a new bride enters the household, the mother-in-law hands over the pot in which the rice is cooked to the bride. Through this gesture it is established that the mother-in-law is passing on all her duties and responsibilities to her daughter-in-law.)

Social Values:

Everyone is hospitable and helpful to each other irrespective of different religion. Everyone is invited to all family and social festivals.

Gender Diversity:

Women are always on the forefront of everything in Moheshkhali; even then they are discriminated because of social and religious superstitions. In many unions the rate of girl's education is very low and even if they are slightly educated, their education is limited to religious books. According Islamic rules, the Muslim females wear veils or 'borkas' when stepping outside the house and are delegated to certain roles: giving birth to children, rearing domestic animals and taking care of crop lands. On the other hand women of other religions and races are seen to work alongside men on the farming lands besides doing household chores. Nowadays participation of women in social activities and work force is mentionable.

Traditional and Legal Rights:

Traditionally, the males are awarded more rights than females due to the social structure. Under the national law and religious and family traditions men are awarded more rights from land ownership to other things. The respected member of the area and Union Parishad members together conducts deliberations and Shalish but nowadays female participation can be noticed in village Shalish and discussions. Thus even though women are not getting equal rights but they are also enjoying many legal rights of their own.

Political Organization:

- Bangladesh Jatiyotabadi Dal
- Bangladesh Awami League
- Jamaat Islami Bangladesh
- Bangladesh National Party
- Liberal Democratic Party

Map of Sub-district



Second Phase

Disaster, Hazard and Vulnerability

2.1 The General History of Disaster:

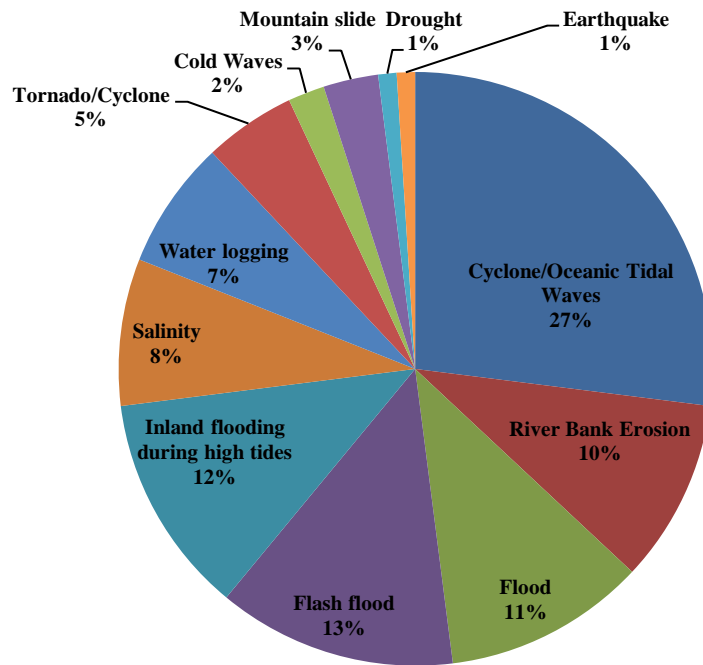
Year	Name of the Disaster	The extent of the damages	Which fields or productions are affected
1991	Cyclone and Oceanic Tidal Waves	Roads and Barrages: 144 km Number of Domestic Animals: 66476, Farmlands, Rice, Salt and Shrimp farming:15290 Acres Forestland: 8928 Acres Number of various Institutions: 180 Number of affected Families: 45150 Number of affected People: 48715 Number of People dead: 11045	Infrastructure, roads, barrages, domestic animals, farmlands, rice, salt, shrimp enclosure, various institutions, forestlands, affected families
1997	Cyclone and Oceanic Tidal Waves	Roads and Barrages: 30 km Number of Domestic Animals: 8060, Farmlands, Rice, Salt and Shrimp farming:7930 Acres Forestland: 494 Acres Number of various Institutions: 90 Number of affected Families: 16986 Number of affected People: Hurt – 1084 and Dead - 131	Infrastructure, roads, barrages, domestic animals, farmlands, rice, salt, shrimp enclosure, various institutions, forestlands, affected families
1997	Earthquake	Number of various Institutions: 2 Number of affected Families: 124 Number of affected People: Hurt – 116 and Dead - 0	Various institutions and affected families
1998	Cyclone and Oceanic Tidal Waves	Roads and Barrages: 8 km Number of Domestic Animals: 2860 Farmlands, Rice, Salt and Shrimp farming:3800 Acres Forestland: 10 Acres Number of various Institutions: 28 Number of affected Families: 2140 Number of affected People: Hurt – 430 and Dead - 40	Infrastructure, roads, barrages, domestic animals, farmlands, rice, salt, shrimp enclosure, various institutions, forestlands, affected families
2007	Cyclone and Oceanic Tidal Waves	Roads and Barrages: 5 km Number of Domestic Animals: 1500 Farmlands, Rice, Salt and Shrimp farming:2000 Acres Forestland: 3 Acres Number of various Institutions: 15 Number of affected Families: 1540 Number of affected People: Hurt – 320 and Dead - ..	Infrastructure, roads, barrages, domestic animals, farmlands, rice, salt, shrimp enclosure, various institutions, forestlands, affected families
2007	Heavy Rain	Roads and Barrages: 8 km Number of Domestic Animals: 3150 Farmlands, Rice, Salt and Shrimp	Infrastructure, roads, barrages, domestic animals, farmlands, rice,

Year	Name of the Disaster	The extent of the damages	Which fields or productions are affected
		farming:330 Acres Forestland: 61 Acres Number of various Institutions: 20 Number of affected Families: 650 Number of affected People: Hurt – 517 and Dead - 29	salt, shrimp enclosure, various institutions, forestlands, affected families
2012	Heavy Rain and Water down the hills	Roads and Barrages: 74 km Number of Domestic Animals: 430 Farmlands, Rice, Salt and Shrimp farming:1890 Acres Forestland: 23 Acres Number of various Institutions: 7 Number of affected Families: 1550 Number of affected People: Hurt – 1740 and Dead - 4	Infrastructure, roads, barrages, domestic animals, farmlands, rice, salt, shrimp enclosure, various institutions, affected families

2.2 Hazards found in Districts/Sub-districts:

Serial No.	Hazards	Serial No.	Listed according to which causes most damage
1.	Tidal Surge	1.	Tidal Surge
2.	River Erosion	2.	Flash flood/ Water down the hills
3.	Flood	3.	Flash flood
4.	Inland Flooding during High Tides	4.	Inland Flooding during High Tides
5.	Water logging	5.	River Erosion
6.	Salinity	6.	Salinity
7.	Tornado/Cyclone	7.	Water logging
8.	Flash flood/ Water down the hills	8.	Tornado/Cyclone
9.	Mountain sliding	9.	Mountain sliding
10.	Cold Waves	10.	Cold Waves
11.	Drought	11.	Drought
12.	Earthquake	12.	Earthquake

A table on hazards based on the information from Union Parishad and Sub-district PIO Office as well as from the experiences of the local people:



2.3 Different types of Hazards and their current scenarios:

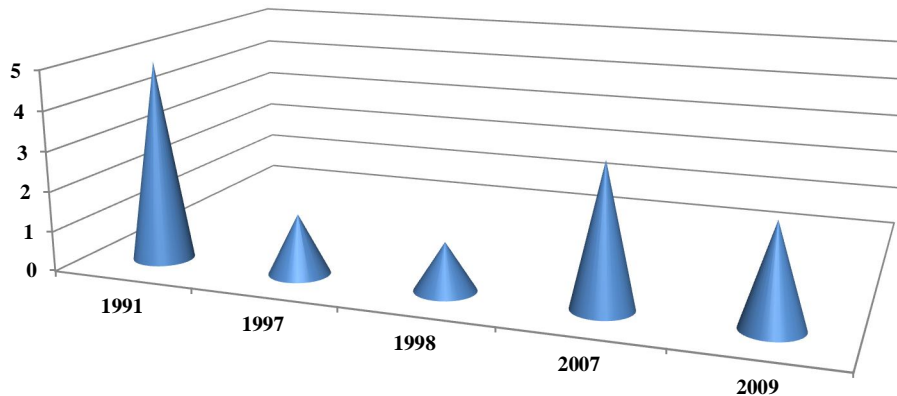
Moheshkhali a coastal island, situated in the south east of Bangladesh, and because of its geographical position is vulnerable to all types of hazards. During the monsoon season, the inhabitants of the island are devastated on a regular basis by sudden floods, river bank erosions, heavy rain, inland flooding during high tides, etc. But the inhabitants of Moheshkhali fear cyclones and oceanic tidal waves the most. On top of this the wretchedness of the people’s lives are increasing due to increased salinity, forest and parabon destruction, hill slides/cutting, attack and robbery of fishing boats, use of‘current’ fishing nets, etc. Drought and arsenic poisoning have yet to appear on large scale in the area.

Cyclone/Oceanic Tidal Waves:

The local people still become anguished with pain when they remember their loved ones who died in the 1991 cyclone. Out of the 40 % cyclones that have hit Bangladesh between the years 1960 to 2000, Moheshkhali has been the recipient of more than 90% damages of their impacts. In the last 10 years, Moheshkhali had been devastated by cyclones on 29th April – 1991, 2nd May – 1994, 15th May -1995, 19th May – 1997, 20th May – 1998, and 14th& 15thNovember – 2007. Many have become destitute as a result of these cyclones while others still cannot get over the loss of their loved ones. Shops, houses, infrastructures and other resources had also been severely damaged by these cyclones. The wind velocity of the different cyclones that hit Moheshkhali had been more than 173 km/hr. These high speed winds create colossal waves which drown the coastal and the low lying areas of Moheshkhali and sweep away people, lives, etc.The oceanic tidal waves reach a height between 3 feet to 20-30 feet and it is feared that in future the wind velocities of the cyclones may increase to 200-220 km/hrwhich will result

in extensive damages. The inhabitants of the island agree that the frequency of the cyclones have increased in the recent years.⁵

A table of past occurring Cyclone and Oceanic Tidal Waves based on the extent and frequency of hazards:



Inland Flooding during High Tides:

The sea and riverside areas of the east, south and west unions of Moheshkhali, especially Shonadia Chor are always submerged under 4-8 feet water during full moon, dark moon/new moon and monsoon season. Every year, once or twice, the houses of these areas are submerged 2-4 feet below water. All sides of Matarbari Union, all 3 sides apart from the northern side of Dholghata, the southern and western side of Hoanak, nearly all of Kutubjom, the channel banksides of Shaplapur Union, the southern, northern and eastern side of Choto Moheshkhali and the south eastern side of Pouroshova are the most affected areas.

Water logging:

Nearly all the unions of Moheshkhali suffer more or less from water logging. Among these, the south eastern side of the sub-district, from Telipara to Thakur Tola of Choto Moheshkhali, Mudirchora and the northern side of Shipahi Para, all the wards of Kalamarchora Union, the south western side of Kutubjom Union, the full area of Dholghata Union and the full area of Matarbari Union are most affected by water logging, especially in areas where there are shrimp farming enclosures.

Flood:

During the Bengali months of Joistha, Bhandro, Ashin and Kartik, the plane lands of Moheshkhali's Matarbari, Shaplapur and Dholghata Unions are subjected to annual flooding. This hampers the crop production and disrupts the lives of the people in those areas.

Forest and Parabon Destruction:

Due to the illegal deforestation and destruction of the parabon on the south, west, north and eastern side of the sub-district, there has been an increased frequency of natural disasters such as, cyclone, tornado, tidal waves, salinity, inland flooding during high tides, etc. which has resulted in increased sufferings of

⁵Source: PIO Office

the inhabitants of the island. If tree planting and other necessary programs are not undertaken then the extent of damages can increase in many folds.

Heat Waves and Drought:

The temperature of the Moheshkhali Island has risen a lot compared to the last 15 – 20 years. Since more and more trees are being cut down along the sea shores and river banks, the scorching heat of the sun is unbearable. Every year between the Bengali month of Choitra and Bhadra, the temperature ranges from 31° C to 41° C. If people keep on destroying the parabons and forests, cutting mountains, etc. then the temperature will keep on climbing in the future. Unlike the other parts of the country, Moheshkhali is not affected much by drought. But between the Bengali month of Magh and Boishakh there is a little scarcity of water which affects the irrigation system for some time. The water level goes down, canal, bills, rivers all dry up thus reducing the production level. Epidemic of various diseases breakout and the ecology becomes threatened. If this continues in the future, the environment will be in grave danger.

Mountain Slides:

Due to heavy rain during the monsoon season, there are many occurrences of mountain slides in the sub-district, especially in Kalamarchora, Hoanak, Shaplapur, Boro Moheshkhali and Choto Moheshkhali union. The core reasons behind mountain slides are, relentless cutting of trees on mountain top and sides and setting up illegal abodes dangerously close to the foot of the mountains. The inhabitants fear that if this tendency of tree cutting and setting up houses at the foot of the mountain increases then there will be even bigger landslides. If no appropriate steps are taken then mountain slides will occur.

River Bank Erosion and Flash flood/ Water down the Hills:

During the monsoon season, heavy rainfall on mountains result in water flowing down them especially in Shaplapur, Kalamarchora, Hoanak, Choto Moheshkhali and Boro Moheshkhali Unions which then flows into the Kuheli, Bakkhali and Bohoder River as well as the Moheshkhali Channel. The current of the flowing water causes river bank erosion as a result the farm lands, roads and houses near the hills and rivers face various forms of complications. To prevent serious damages in future tree planting and barrage construction plans should be undertaken immediately.

Salinity:

Being a coastal island, every year the 8500 families' crop and households of the Dholghata, Matarbari, Kutubjom, Hoanak, Shaplapur and Kalamarchora Unions of Moheshkhali suffer greatly due to salinity. The salinity level in the populated areas has been on the rise, due to illegal shrimp farming. If immediate steps are not taken to control the salinity level then there may be severe damages to the crops and lives of people in the future.

Tornado/Cyclone:

Tornado rarely appears in the Bengali months of Boishakh – Joistho but as of yet there are reliable information regarding tornadoes. The weak infrastructure and unplanned building constructions are not tornado/ Kalboishakhi resilient. If a strong tornado hits the island it will do great damages.

Earthquake:

In 1997, there was an earthquake in Chittagong. Moheshkhali experienced a moderate earthquake on the 22nd of 1999, where according to Government estimation only 7 people died, 100 got hurt and countless mud houses collapsed. On 25th December 2005, there was a mild earthquake in Moheshkhali.

Cold Waves:

Even 10-12 years ago, winter season used to start and end within its allotted months but at present it is not the case. According to the seasonal cycle winter comes in the Bengali months of Poush and Magh, but since 2001 a change in the cold waves pattern has been observed. After 2006, there is a prevalence of bone chilling cold waves which stays for 15-20 days which puts a halt to everyday life. The production of crops and vegetables are also hampered by heavy fog and cold weather.

Furthermore, different unions of the island are facing increased vulnerabilities due to shrimp farms which are slowly creating a new hazard.⁶

2.4 Vulnerability and Capacity:

Moheshkhali is an Island. This upazila is surrounded Bay of Bengal and Kutubdia pronali/Channe in South and west and Moheshkhali Pronali/Channelis in west and east. Vulnerability refers to the existing material, socio-economic and environmental statuses that hints or indicates loss during disasters which people are not capable of dealing with. Capacity refers to natural, social, economical, environmental, etc. consistent overall situation or procedure, through which the local population, institutions or organizations with the support of their existing resources fully deals with disaster and reduces the devastation associated with it. Hazards existing in the Upazilla, related vulnerabilities and the capacity to deal with them are below:

Hazards existing in the sub-district, related vulnerabilities and the capacity to deal with them:

Hazard	Vulnerability	Capacity
River Bank Erosion	<ul style="list-style-type: none">• The extent of damage is very high due to existence of farmlands, households, roads, trees, etc. on both sides of the river,• Lack of substantial initiatives on the Government's part in placing cement blocks and sand bags to prevent river bank erosion• Weak barrage• Lack of trees near the river banks• Heedless destructions of forests and parabon• Most parts of the barrages in different unions are broken• Most of the sluice gates are not working	<ul style="list-style-type: none">• There is sufficient area• Construction of barrages will stop river bank erosion• There is still an opportunity for land filling• Mainly most of the farmer are involved in salt farming thus cannot cover their losses• There are Government projects to place cement blocks and sand bags to protect river bank erosion• There are opportunities to move roads, households and trees away from river banks• There are opportunities to replant trees and parabon

⁶ Source:PIO Office, CPP, UP

Hazard	Vulnerability	Capacity
Flash Flood/ Water down the hills	<ul style="list-style-type: none"> • Farmlands and households adjacent to hills suffer great damages • Heedless illegal hill cutting makes it easier for the water to flow down the hills and flood the low lying lands 	<ul style="list-style-type: none"> • Since hilly area, when the rain stops the water goes down easily • The hilly choras can be improved/restored • The farmlands can be protected by barrages • Mainly most of the farmer are involved in salt farming thus cannot cover their losses
Flood	<ul style="list-style-type: none"> • The extent of damage toward crops is very high due to existence of farmlands, on both sides of the river, • Weak barrages and most o roads being dirt roads, all communication gets cut off very fast and the people facesgreat difficulty while travelling • Since the household are on low lying areas the extent of damages is higher • Safe drinking water crisis • Most parts of the barrages in different unions are broken • Floods increases the risks for pregnant women, children and thedisabledpeople • The education institutions remain closed • Most of the sluiceways are not working 	<ul style="list-style-type: none"> • There are opportunities to strengthen the barrages • There are opportunities to build houses or roads or plant trees on both sides of the barrage • There are shelters in the unions • There are opportunities to establish households and tube-wells on higher grounds
Water logging	<ul style="list-style-type: none"> • Exists in areas near sea shores and river banks • Since the households, tube-wells and roads are on comparatively low lying areas the extent of damages is higher • Lack of water drainage system causes water logging • Water logging increases the risks for pregnant women, children and disabled people • Increase in the outbreak of water borne diseases as well as flies and mosquitoes • Illegal shrimp and salt farming • Heedless destructions of forests and paragon 	<ul style="list-style-type: none"> • There are opportunities to establish households and tube-wells on higher grounds • There is still an opportunity for land filling • There are government drainage systems • There are opportunities to take legal actions in order to control shrimp and salt farming • There are shelters in the unions
Oceanic Tidal Waves	<ul style="list-style-type: none"> • Losses resulting from weak infrastructure and unplanned building construction • Heedless destructions of forests and paragon • The sub-district being located near the sea 	<ul style="list-style-type: none"> • There is still an opportunity for land filling • There are opportunities to build durable households and infrastructures • Undertake both government and non-government programs to prepare the people from beforehand and conduct mass awareness programs • There are opportunities to plant trees on both sides of canals and rivers • There are shelters in the unions
Salinity	<ul style="list-style-type: none"> • Being coastal regions, the salinity level in the 	<ul style="list-style-type: none"> • There are opportunities to build new

Hazard	Vulnerability	Capacity
	<p>soil has increased, affecting crop production and leading to safe drinking water scarcity</p> <ul style="list-style-type: none"> • Weak and lack of sufficient barrage causes water to enter farmlands and households • Illegal shrimp and salt farming 	<p>barrages</p> <ul style="list-style-type: none"> • There are opportunities to strengthen barrages • Plant trees on both sides of canals • There are opportunities to take legal actions in order to control shrimp and salt farming • There is an increase in demand among the farmer to plant crops compatible in soils with high salinity under the recommendations of agriculture department • There is an increase in usage of tube wells in most households
Mount Slides	<ul style="list-style-type: none"> • Increase in heedless cutting of mountains and trees • Increased tendency to settle on and at the base of mountains 	<ul style="list-style-type: none"> • There are still opportunities to create forests or plant trees on and around mountains • There are opportunities to take legal actions to prevent mountain and tree cutting • There are opportunities to take and implement legal actions in order to prevent people from settling on and at the base of mountains.
Tornado/ Cyclone	<ul style="list-style-type: none"> • Losses resulting from weak infrastructure and unplanned building construction • Increased frequency of heedless illegal mountaintcutting 	<ul style="list-style-type: none"> • There are opportunities to build durable households on comparatively higher lands • There are opportunities to plant trees around houses and beside canals • Undertake both government and non-government programs to prepare the people from beforehand and conduct mass awareness programs • There are shelters in the unions
Tide	<ul style="list-style-type: none"> • Being a coastal area, water during high tides enter easily enter the area and cause many damages including damages to crops • There are weak and few barrages compared to local demand 	<ul style="list-style-type: none"> • There are opportunities to plant trees around houses and beside canals • During full moon and dark/ new moon the local people should evacuate to higher or surrounding villages before high tides starts

2.5 The most Vulnerable Areas:

Since the Moheshkhali sub-district is a coastal region, it is always vulnerable to different types of hazards and disasters. The table below provides information on hazards and the areas where a particular hazard may attack and how:

Hazard	Most Vulnerable Area	Reason of Vulnerability	Number of Vulnerable People/Families
Oceanic Tidal Waves	Nearly all the Unions are hit by oceanic tidal waves but the following areas are affected the most: Pouroshova's ward no. 7, 8 and 9, Matarbari's ward no. 6, 7, 8, 1 and 3, Dholghata's ward no. 2, 4, 6, 7, 8 and 5, Hoanak's ward no. 8, 9 5 and 6, Kutubjom's ward no. 3, 4, 2, 6 and 7 where ward no. 3 is the most vulnerable, Boro Moheshkhali's ward no. 4 and 5, Kalamarchora's ward no. 7, 8, 1, and 9, the eastern side of all the wards of Shaplapur and the southern side of Choto Moheshkhali.	<ul style="list-style-type: none"> • Due to the sub-district's location beside the Bay of Bengal • Weak infrastructure and unplanned constructions • Due to settling on comparatively low lying lands • Illegal mountain and tree cutting 	Nearly 7000 families
River Bank Erosion, Flood and Flash flood/ Water down the hills	Boro Moheshkhali Pahartoli, Dash Para, Nijtaluk Para, Kulal Para, Pahartoli Para, Majher Dale, Matarbari, eastern side of Dholghata and Shaplapur, Kalamarchora, Choto Moheshkhali and Kutubjom.	<ul style="list-style-type: none"> • Construction of houses and buildings near river banks and on low lying areas • Weak houses and infrastructure • Illegal destruction of forests and paragon and mounting cutting • Broken barrages • Not increasing the levels of roads • Filling up of the canals • Out of order sluice gates 	Nearly 10000 families
Water Logging	Nearly all the areas of Moheshkhali suffer from water logging but the following areas suffer the most: South eastern sides of the sub-district, from Choto Moheshkhali's Telipara to Thakur Tola, northern side of Shipahi Para and Mudir Chora, all wards of Kalamarchora union's, south western sides of Kutubjom, all of Dholghata, all of Matarbari and especially all the areas where there are shrimp enclosures.	<ul style="list-style-type: none"> • Construction of houses and buildings as well as installation of tube wells near river banks and on low lying areas • Illegal destruction of forests and paragon and mounting cutting • Heedless illegal shrimp farming 	Nearly 5000 families
Tide	All around Matarbari union, all three part of Dholghata apart from	<ul style="list-style-type: none"> • Due to the island's situation beside 	Nearly 5000 families

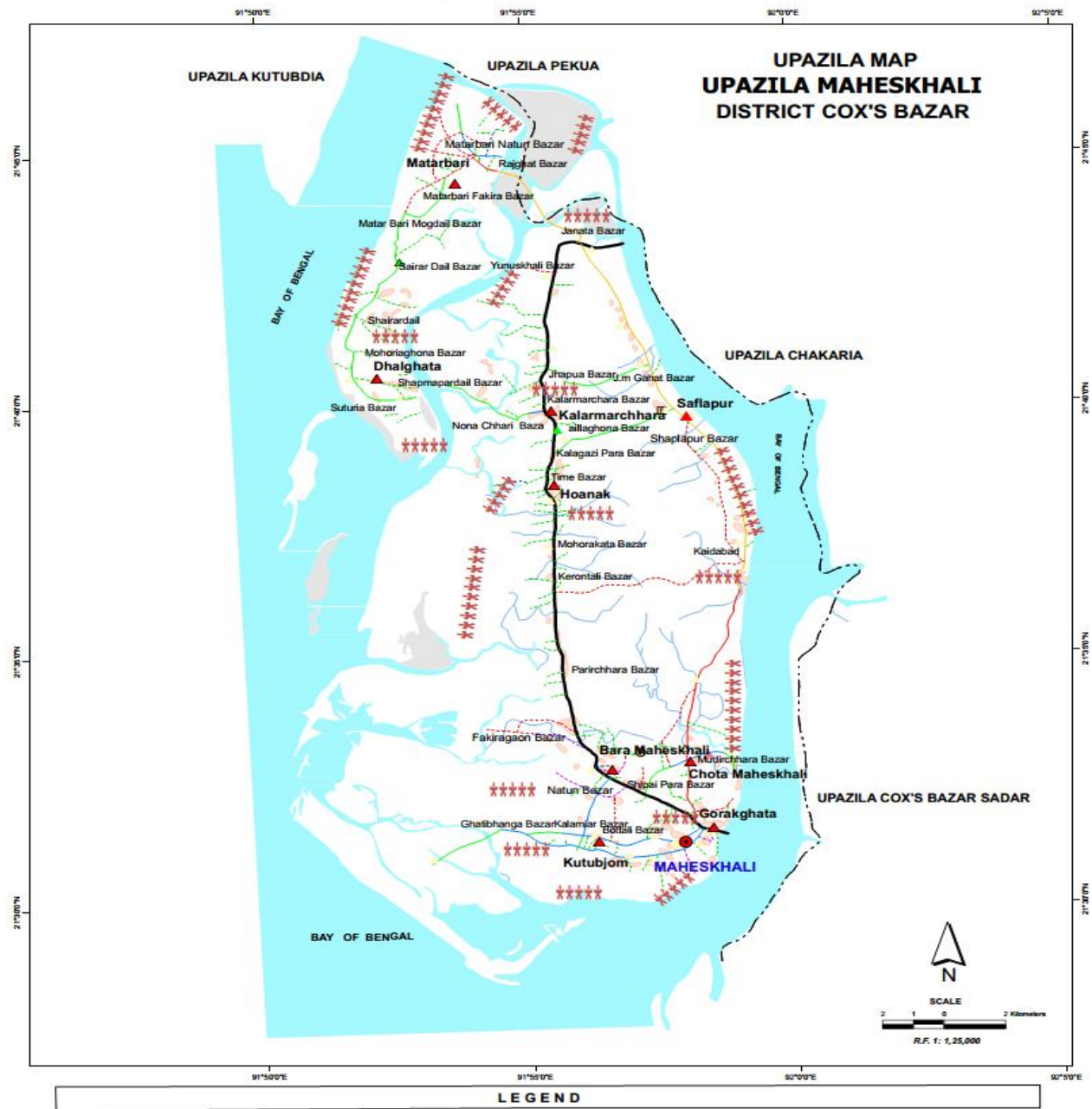
Hazard	Most Vulnerable Area	Reason of Vulnerability	Number of Vulnerable People/Families
	the northern side, the south and western side of Hoanak, nearly all of Kutubjom, all the areas on the eastern side of the channel, the south and eastern sides of Choto Moheshkhali and the south eastern side of Pouroshova is most affected	<p>the Bay of Bengal</p> <ul style="list-style-type: none"> • The no. 70 folder barrage of Matarbari and Dholghata was damaged and broken by the heavy rainfall and water coming down the mountains in 2012 • Setting up of shrimp enclosures by cutting down parabon • Illegal destruction of the parabon causes the coastal villages to be flooded 	
Salinity	Being a coastal area and suffering from water logging, early all the areas of Moheshkhali experiences salinity. Among these the south eastern side of Boro Moheshkhali, from Teli Para to Thakur Tola of Choto Moheshkhali, northern side of Shipahi Para and Mudir Chora, all the wards of Kalamarchora Union, south western side of Kutubjom and the entire Matarbari and Dholghata are affected the most	<ul style="list-style-type: none"> • Being a coastal region • Increased number of salt fields in populated areas • Setup of illegal shrimp enclosures on Government lands • Reserving salts by using local mediocre procedure • Reserving brine water for shrimp farming 	Nearly 3500 families
Tornadoes/ Cyclone	<p>All over the sub-district</p> <p>The cyclone hits more or less all the unions but the following unions are most affected: Pouroshova's ward no. 7, 8, and 9, Matarbari's ward no. 6, 7, 8, 1 and 3, Dholghata's ward no. 2, 4, 6, 7, 8 and 5, Hoanak's ward no. 8, 9, 5 and 6 and wardno. 3 of Kutubjom is most vulnerable. Also Boro Moheshkhali's ward no. 4 and 5, Kalamarchora's ward no. 7, 8, 1 and 9, eastern sides of all the wards of Shaplapur and Choto Moheshkhali's southern sides are affected the most</p>	<ul style="list-style-type: none"> • Weak houses and infrastructure • No cyclone resilient buildings are built • Illegal deforestation and destruction of parabon 	The entire population of the sub-district
Earthquake	Earthquake affects more or less all the unions of the Sub-district, but Kalamarchora, Shaplapur, Choto Moheshkhali and Hoanak union are the most affected areas.	<ul style="list-style-type: none"> • Due to the island's situation beside the Bay of Bengal • Weak buildings and infrastructure • No earthquake resilient buildings are built 	The entire population of the sub-district
Mountain	Nearly all the unions of the sub-	<ul style="list-style-type: none"> • Cutting down mountains to build 	Nearly 5000

Hazard	Most Vulnerable Area	Reason of Vulnerability	Number of Vulnerable People/Families
Slide	district are affected, though Dholghata, Shaplapur, Kalamarchora, Hoanak, Choto Moheshkhali and Boro Moheshkhali are affected the most	settlements <ul style="list-style-type: none"> • Building settlements at the base of risky mountains • Illegal tree cutting on mountains • Lack of legal actions against illegal deforestation and parabon destruction • Carelessness 	families

7

Map of the Most Vulnerable Areas

Map of the Most Vulnerable Areas



2.6 The Principle Areas under the Developing Plan:

The principle areas of the Upazilla under the Developing Plan are agriculture, infrastructure, communication system, health, human resources, and environment and fishes. Due to disaster prone upazila mentionable areas are facing various threats. As a result development activities are being obstructing.. For sustainable of the development activities need to implement the disaster risk reduction strategy and include such areas under the development planning.

Detailed description of the areas/ fields:

Area	Detailed Descriptions	Consistency with Disaster Reduction Plans
Households	<ul style="list-style-type: none"> • If there is an oceanic tidal wave similar to 1991's then 45000 families may lose their households and losses may amount to Tk. 300 crore. If there are tidal surges like that of 1991 then 50000 families may lose their household and the loss may amount to Tk.350 crore. • River erosions similar to the 2007 one's may cause 550 houses in Shaplapur, Matarbari and Dholghata to collapse, resulting in Tk. 6.5 crore losses. • If the salinity level keep on increasing like the last 4/ 5 years then every year 8500 houses of Dholghata, Matarbari, Kutubjom, Hoanak, Shaplapur and Kalamarchora may get destroyed, amounting to a loss of Tk. 1 crore, 35 lacs . • If there is an earthquake similar to the one in 1999 then 13660 houses may collapse amounting to Tk. 10, 92, 80000 losses. • If there is a kalboishakhi storm similar to that of 2008's then 15915 houses may get partially or fully destroyed resulting in Tk. 7,95,75,000 losses. • If tornadoes occur every year then 688 houses of Kutubjom, Dholghata and Matarbari Union's may get destroyed, leading to losses of Tk. 55 lacs. 	<ul style="list-style-type: none"> • Build lasting houses and institutions far away from coastal and low lying areas • Construction and repairment of barrages • Planting of tress around houses, on both sides of roads and canals • Need of sufficient cyclone shelters
Domestic Animals and Poultry	<ul style="list-style-type: none"> • If there is an oceanic tidal wave similar to 1991's then 23520 cows, 77950 goats, 16627 buffalos, 398300 ducks and chickens may die and losses may amount to Tk. 450 crore. If there are tidal surges like that of 1991 then 23520 cows, 77950 goats, 16627 buffalos, 398300 ducks and chickens may die and losses may amount to Tk. 450 crore. • If the salinity level keeps on increasing like the last 4/ 5 years then there may be a scarcity of for 48580 domestic animals, amounting to a loss of Tk. 50 crore. • High tides similar to the 2007 ones may cause food scarcity of 13332 domestic animals, resulting in Tk. 10 crore losses. 	<ul style="list-style-type: none"> • Build lasting shelters for domestic animals and poultries far away from coastal and low lying areas • Planting of tress around houses, on both sides of roads and canals • Need of sufficient cyclone shelters
Infrastructure and	<ul style="list-style-type: none"> • If there are tidal surges and kalboishakhis similar to 	<ul style="list-style-type: none"> • Increase the levels of roads and

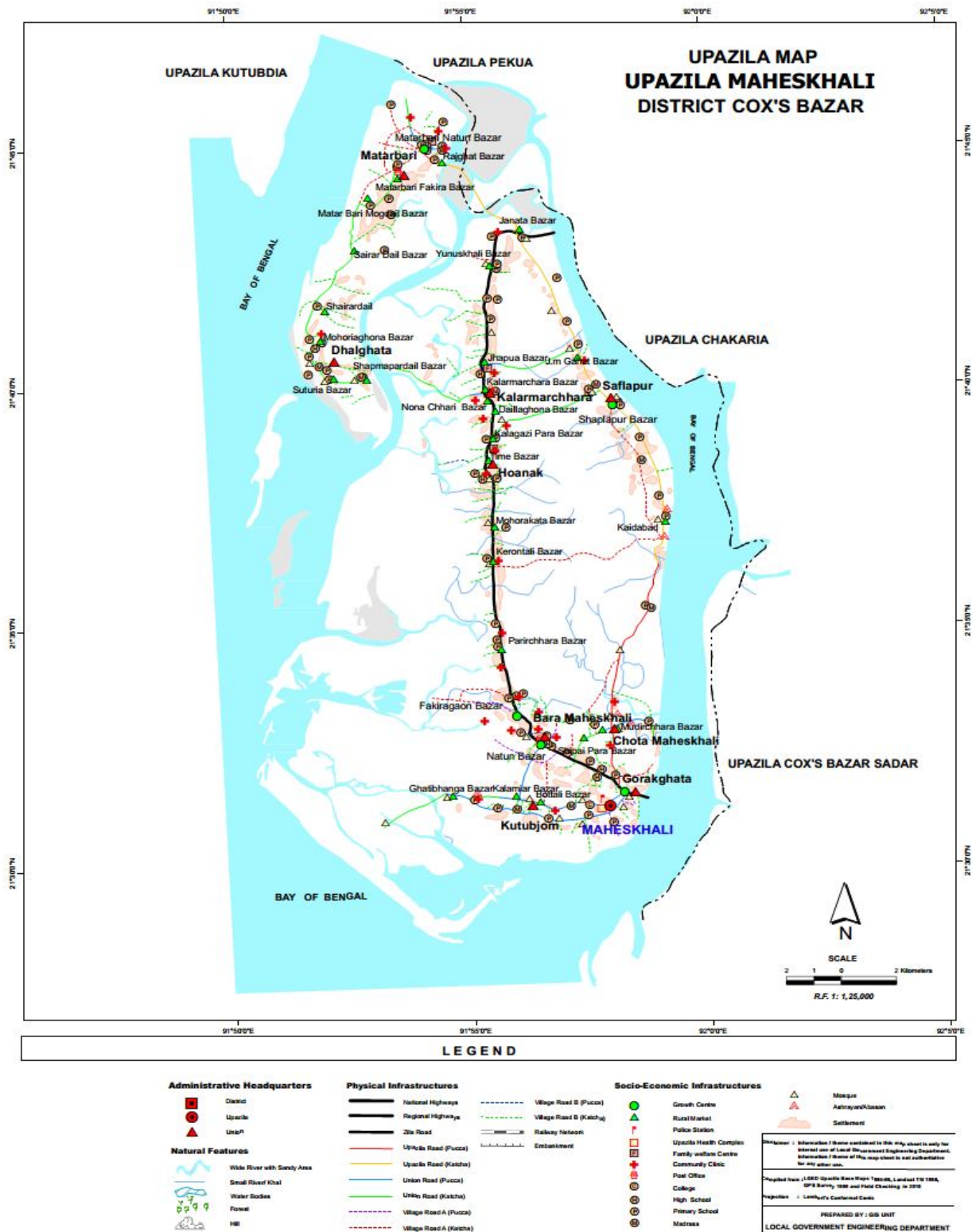
Area	Detailed Descriptions	Consistency with Disaster Reduction Plans
Communication system	<p>that of 1991's then 76 km of barrages, 81 km of roads may be destroyed of Kalamarchora, Hoanak, Kutubjom, Dholghata and Matarbari unions' resulting to losses of Tk. 2000 crore. 235 mosques, 50 temples, 10 Buddhist temples, 90 educational institutions, 225 madrasas, 5 crematorium, 30 graveyards, 17 bazaars, 18 shelters and 120 culverts may be destroyed amounting to Tk. 30,000 crore losses.</p> <ul style="list-style-type: none"> • If the water logging from the last 8 years continues, then 30180 people may be cut off and there may be a loss of Tk. 12 lacs. If the water logging in Hoanak, Kutubjom, Choto Moheshkhali's west northern sides of Shipahipara, Matarbari, partial areas of Dholghata unions, continues then there may be a loss of Tk. 5 crore. The barrages, roads, 4 bridges, 2 jetties and communicating bridges on the north eastern sides of Matarbari, eastern sides of Dholghata and Shaplapur and Mudirchora of Choto Moheshkhali unions may get destroyed amounting to Tk. 10 crore losses. • If there is an earthquake similar to that of the 1991's then 2 bazaars, jetties, 52 km of barrages, 78 culverts and connecting bridges and 23 shelters may collapse amounting to Tk. 1000 crore losses. 	<p>provide guide walls</p> <ul style="list-style-type: none"> • Construction of necessary culverts and bridges • Construction of sufficient cyclone centers
Health	<ul style="list-style-type: none"> • If there is a cyclone similar to that of 1991's then 75830 people maybe hurt, amounting to Tk. 10 crore losses. 1 lac people may be infected with various diseases which may amount to Tk. 15 crore losses. • If there are high tides similar to that of 2007's then 8020 people may suffer from various diseases as well as malnutrition resulting in Tk. 1 crore losses. 12796 children and women may suffer from malnutrition. 37800 people may face food scarcity in Matarbari, Kutubjom and Hoanak union and the communication system may be cutoff temporarily. There may also be children health related crisis. 	<ul style="list-style-type: none"> • Increase awareness regarding sanitation • Construction of sufficient cyclone centers • Undertake mass preparatory programs to reduce disaster risks
Human Resources	<ul style="list-style-type: none"> • 80,000 people may lose their lives to cyclones and tidal waves similar to that of 1991's. • 1857 children may lose their lives due to water logging. 692 women and disabled people may die from different types of diseases. • 15000 women and children may suffer from malnutrition due to salinity • 3310 people may die if there is an earthquake similar to that of 1991's. • If there is a kalboishakhi similar to that of 2004's then 1036 people may die. If tornadoes occur every year then 1420 people will die. • Every year 170 people may die due to landslides and water coming down the hills. 	<ul style="list-style-type: none"> • There is a need for sufficient number of trained volunteers • Increase awareness regarding natural disaster • Construction of sufficient cyclone centers

Area	Detailed Descriptions	Consistency with Disaster Reduction Plans
Education	<ul style="list-style-type: none"> • 43709 students' education may temporarily cease and 30 % of the education system may be hampered if there is a cyclone similar to that of 1991's. • 9075 students' education may temporarily cease in Choto Moheshkhali, Dholghata, Matarbari and Kutubjom's unions if high tides similar to that of 2007's occur. • 7791 student may not be able to go to school temporarily in Pouroshova, Matarbari, Kutubjom and Dholghata union if the water logging from the last 8 years still continues. 11100 students' education in Choto Moheshkhali, Shaplapur, Hoanak, Boro Moheshkhali and Kalamarchora may temporarily cease. 	<ul style="list-style-type: none"> • Build educational institutions far away from coastal and low lying areas • Construct barrages • Expand canals • Increase the levels of the roads • Provide guide walls • Construct necessary culverts and bridges
Agriculture	<ul style="list-style-type: none"> • If there are cyclones and tidal waves similar to that of 1991's then 13112 acres' 1892100 maunds of Irri rice may get destroyed amounting to loss of Tk. 5393000 losses. 66819 acres' 1, 11, 19, 200 maunds of salt will be destroyed amounting to a loss of Tk. 69 crore and 55 lacs. 26649 acres' 268 shrimp enclosures may get destroyed amounting to Tk. 395 crore and 87 lacs losses. 6555 acres' of betel leaf crop may get destroyed of Choto Moheshkhali, Shaplapur, Hoanak, Kalamarchora and Boro Moheshkhali unions, amounting to a loss of Tk. 135 crore and 14 lacs. • If high waves similar to that of 2005 and 2007 occur then apart from Dholghata the other 7 unions' and the Pouroshova's 2084 acres' crops may get destroyed, amounting to a loss of Tk. 4 crore, 77 lacs and 50 thousand. Hoanak, Matarbari, Shaplapur, Kalamarchora, Kutubjom, Pouroshova and Dholghata unions' 66819 acres' partial salt may get destroyed amounting to a loss of Tk. 24 lacs. Obstruction of 28 shrimp enclosures' production on 26649 acres may amount to nearly a loss of Tk. 815 crore 62 lacs. There may be a loss Tk. 100 crore due to partial damages in 13112 acres' rice, 66819 acres' salt and 26649 acres' shrimp enclosures. • If the salinity level continues to rise like last 2/3 years, then every year especially in Dholghata, Matarbari, Kutubjom and other unions' nearly 14 acres' crop production may fall amounting to Tk. 200 crore losses. • If landslides and water keep on coming down the hills every year then Shaplapur, Kalamarchora, Hoanak, Choto Moheshkhali and Boro Moheshkhali unions' 1000 acres' rice and 1400 acres betel leaf crop may get destroyed amounting to a loss of Tk. 150 crore. 	<ul style="list-style-type: none"> • Construct of sunken barrages on the western side in the sea • Strengthen the barrages • Preserving the hilly chora and protecting the farmlands from the water coming down the hills • Create drains and guide walls beside the choras
Environment and Forests	<ul style="list-style-type: none"> • If there are cyclones and tidal waves similar to that of 1991's then Moheshkhali sub-district's nearly 38 crore 	<ul style="list-style-type: none"> • Plant trees on both sides of the roads and canals

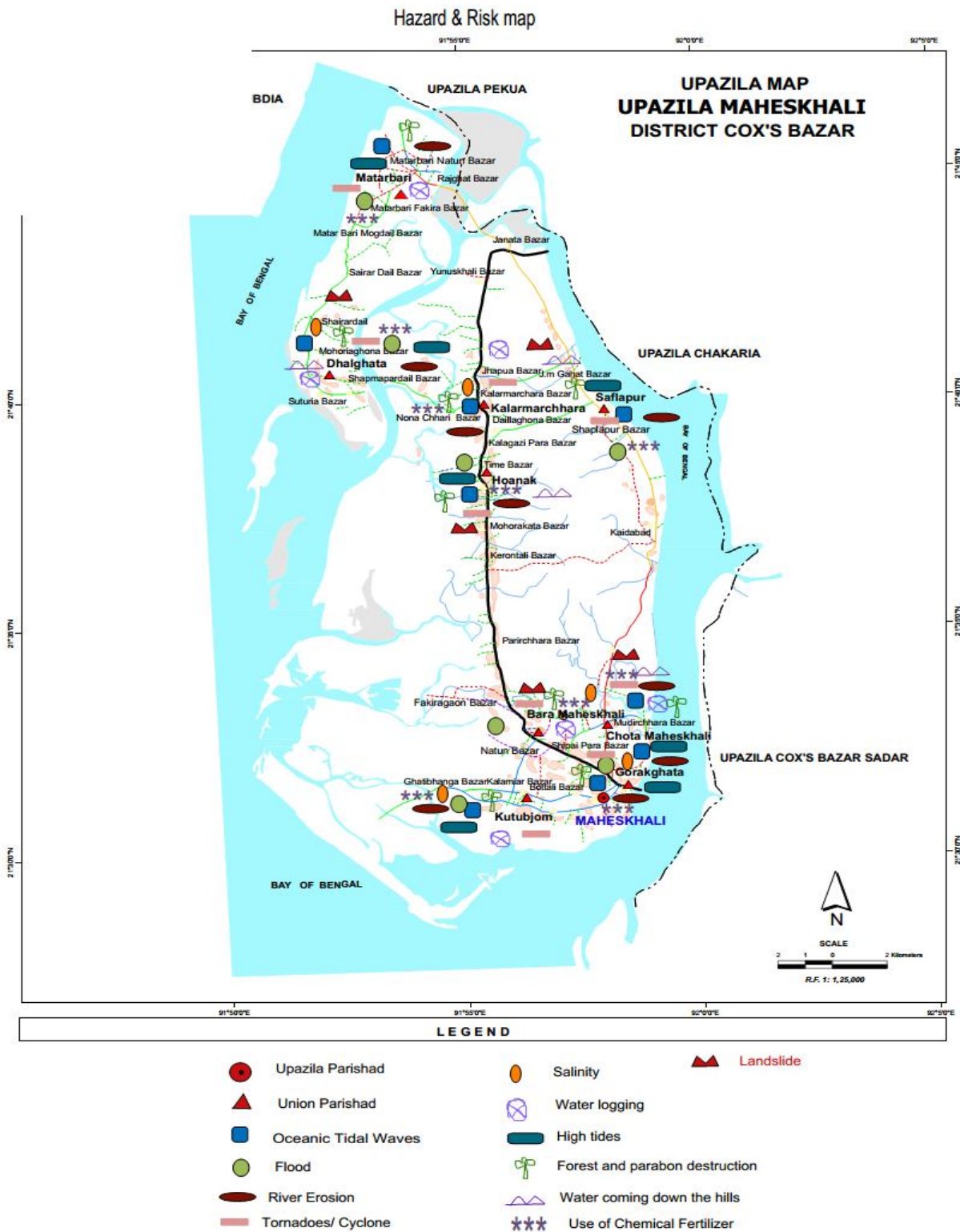
Area	Detailed Descriptions	Consistency with Disaster Reduction Plans
	<p>and 87 lac trees may get partially damaged or fully destroyed amounting to a loss of Tk. 220 crore.</p> <ul style="list-style-type: none"> • If high tides similar to that of 2007's occur then 124325 trees may die resulting to a loss of Tk. 2 crore. • If a kalboishakhi occurs similar to that of 2004's then 187010 trees may get uprooted resulting in a loss of Tk. 10 crore and 52 lacs. • If the salinity level continues to increase like the last 2/3 years then the trees will bear less and less fruits and some tree species may become extinct in Matarbari, Dholghata, Kutubjom, Shaplapur, Choto Moheshkhali and Hoanak area which may amount to a loss of Tk. 50 crore. • Due to river erosion, 5500 trees of Matarbari, Shaplapur and Dholghata area may get uprooted and die resulting in a loss of Tk. 25 lacs. • If there is river erosion like 2007 then the environment might lose its balance and soil erosion may increase which may amount to a loss of Tk. 2 crore. • Landslides and water coming down the hills every year may destroy many different species of trees which may lead them to extinction and amount to a loss of Tk. 200 crore. • If tornadoes occur every year then 12533390 trees may get uprooted leading to a loss of Tk. 20 crore. 	<ul style="list-style-type: none"> • Inspire and motivate people to plant different types of trees around their houses. • Parabon formation • Increase awareness regarding the environment • Control and take legal actions against illegal deforestation.
Fishes	<ul style="list-style-type: none"> • If there are cyclones similar to that of 1991's then 2082 big and small boats may get destroyed resulting in a loss of Tk. 104 crore. 6111 fishing nets may get damaged which will amount to a loss of Tk. 30 crore. 650 fishes in small and big ponds may get destroyed resulting in a loss of Tk. 2 crore. • If the water logging from the last 8 years still continues then sweet water fishes' production of 650 ponds will fall causing an annual loss of Tk. 1 crore • If kalboishakhis like the 2004's occur then 305 boats of Choto Moheshkhali, Pouroshova and Matarbari may sink with their fishing nets resulting in a loss of Tk. 3 crore and 50 lacs. 	<ul style="list-style-type: none"> • Construct strong shelters for fishing boats and nets and expatiate fish production • Increase the heights of the banks along the ponds and make improvements to the ponds. • Install 'Bihingi' nets at least 1 km away from sea shore or river banks
Safe water and Sanitation	<ul style="list-style-type: none"> • If cyclones and tidal waves similar to that of 1991's occur then 51450 people may suffer from different diseases due to water scarcity in Dholghata, Matarbari, Kutubjom, Shaplapur, and Pouroshova resulting in a loss of Tk. 5 crore. • 30% of the sanitary latrines of the 8 unions and 1 Pouroshova of the sub-district may become out of order and result in a loss of Tk. 5 crore. • If the water logging from the last 8 years still continues then 2350 tube-wells of Shaplapur, Dholghata and Matarbari may become out of order causing a loss of 	<ul style="list-style-type: none"> • Establish tube-wells and latrines on high areas and pour concrete on their foundation • Installation of deep tube wells by the Government.

Area	Detailed Descriptions	Consistency with Disaster Reduction Plans
	<p>Tk. 1 crore and 20 lacs.</p> <ul style="list-style-type: none"> • If high tides similar to that of 2007's still continue then 2600 tube-wells of Matarbari, Dholghata and Kutubjom may become out of order resulting in a loss of Tk. 1 crore 30 lacs. • If the salinity level continues to increase in the recent years then 1820 tube-wells of Matarbari, Dholghata and Kutubjom may become out of order or be contaminated by salt water which may amount to a loss of Tk. 1 crore and 50 lacs. 	

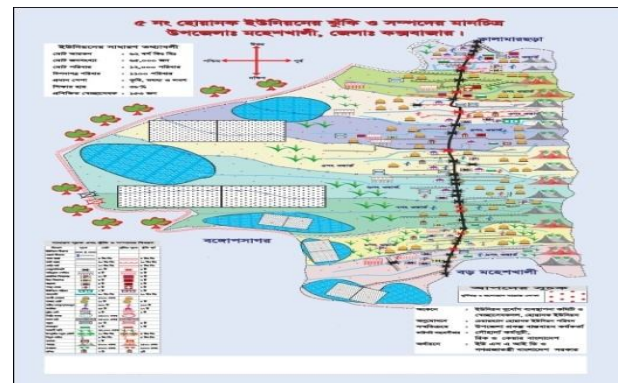
2.7 The Social Mapping:



2.8 Risks and Hazards Mapping:



Risks and Hazards mapping of the 8 unions of Moheshkhali Sub-district



2.9 Calendar of Seasonal Hazards:

Serial No.	Hazards	Boishakh	Joistho	Ashar	Srabon	Bhadro	Ashin	Kartik	Augrahayon	Poush	Magh	Falgun	Chaitra
1.	Tidal surge	■					■						
2.	Flash Flood		■										
3.	Flood		■										
4.	River Erosion		■										
5.	High Tides		■										
6.	Water logging		■										
7.	Cyclone/ Tornado	■						■				■	
8.	Mountain slides		■										
9.	Salinity	■											

Calendar Analysis

These hazards occur all year round in the Moheshkhali sub-district. The hazards are marked in the above table by colourful line, indicating the specific months they occur in. Through discussions with participants of different unions, arranged by FGD; we came to know:

- The most devastating and dangerous hazard of the sub-district is cyclone/ oceanic tidal waves. There have been a total of 70 big and small cyclone/ oceanic tidal waves since 1970, to hit the sub-district. They have severely affected thousands of lives, domestic animals and poultry as well as different institutions and various resources. This hazard usually: hit between the months of Boishakh, Joistha and Vadro to the months of Agrohayon. Over the years, there has been an increase in the frequency of cyclone occurrence.
- Mountain sliding, flood and river bank erosions are prominent hazards of this area. The three hazards are correspondingly connected with each other and occur between the months of Ashar to

Asshin. Heavy rain falls on different mountains cause large volume of water to come down the mountain sides, which then flows into the rivers and cause river bank erosion. Every year the planes of Matarbari, Shaplapur and Dholghata Unions are flooded which hampers the everyday life of the inhabitants and cause damages to the crop production of the areas.

- High tide is another prominent hazard of Moheshkhali. The unions on the east, south and western sides, situated near the river banks and sea shores, especially Shonadia Chor experiences high tides as high as 2-4 feet during depressions, new moon and full moon. Once or twice a year the households in these areas get flooded to 2-4 feet. This hazard usually occurs from the middle of Ashar till the middle of Agrohayon .
- Water logging is one of the hazards of the sub-district; since there are no proper drainage systems flood water and water from the mountains get trapped causing water logging. The south eastern side of the sub-district, from Teli Para to Thakur Tola of Choto Moheshkhali, the northern side of Shipahipara and Mudir Chora, all the wards of Kalamarchora Union's, south western side of Kutubjom Union, all of Dholghata Union and whole of Matarbari Union are the most affected regions especially in areas where shrimps are farmed. Water logging starts from the month of Ashar and continuing to Magh month.
- **Tornado** is another hazzards. Tarnado generally destroyshouseholds, damage corops and interrrupt communication and casuses losses tofishcultivation. Generally these are happend from Boishakh and Joistha month, Kartik and Agohayon, Chaitro month.
- Mountain slide is another hazard that is making the life of the inhabitants difficult. It usually occurs during the monsoon season when there are heavy rain falls. Shaplapur, Kalamarchora, Hoanak, Choto Moheshkhali and Boro Moheshkhali unions are most affected. Especially it happens due to over rainfall and mountain sliding between in the month of Ashar to Kartik month.
- Another extremely harmful hazard is salinity. High concentration of salinity has been observed from the middle of Boishakh to the end of Choitra. The salinity level of land and water and is on the rise since there has been an increase in salt and shrimp farming by the inhabitants, desiring high returns. This is harming and reducing the productivity of the faming lands. The trees and families of sweet water fishes are dying off due to high level of salinity in the water. There are also safe drinking water crisis.

• 2.10 Calendar of Seasonal Livelihoods:

Sources of livelihoods in the sub-district: Farming, small businesses, construction workers, carpenters, daily laborers, tribal farming, tailors, salary men, etc. below is a job classification of the local inhabitants:

Serial No.	Sources of livelihoods	Boishkakh	Joistho	Ashar	Srabon	Bhadro	Ashin	Kartik	Augrahayon	Poush	Magh	Falgun	Choitra	
1	Salt farming	■						■						
2	Shrimp farming	■												
3	Agriculture	■												
4	Betel Leaf cultivation		■											
5	Dry fish trade	■					■							
6	Salary men/ small business	■												
7	Fishermen	■												
8	Barber, Shil and Lauderer	■												
9	Construction workers, carpenters and tailors	■												

Salt Farming:

Being a coastal region, salt farming is a very lucrative business in Moheshkhali sub-district. Salt is farmed mainly from the middle of the month of September till the month of May; basically the salt farmers abstain from salt farming during monsoon season.

Shrimp Farming:

Being a coastal region, shrimp farming is a very lucrative business in Moheshkhali sub-district. Shrimps are usually farmed from mid April to mid December.

Betel Leaf Farming:

Cultivation is also one of the prominent sources of earning a living in Moheshkhali sub-district. Betel Leaf is cultivated all year round.

Dry Fish/Dry Fish Trading:

Being a coastal region, different types of fishes can be found in the Moheshkhali sub-district such as Laitta, Rup Chanda, Churi, etc. which are dried by the island inhabitants and sold in markets. This is a very lucrative business and is conducted from the middle of September till May. The dry fish making procedure remains dormant during monsoon season.

Apart from the above mentioned professions the inhabitants of the island are also engaged in small businesses or employments, fishing, barbering, laundering, carpentering, tailoring, daily labor, etc. throughout the year.

2.11 Vulnerability relating to Life and Livelihoods:

The livelihoods of the inhabitants of the Moheshkhali sub-district are becoming risky due to various natural disasters. The development of the sub-district is being severely affected by various disasters, ruining the agricultural and industrial sector, infrastructure, health, fishing sector, education sector, human resource, etc. These existing and incremental risks or disasters are making the different production sectors, natural resources and areas extremely vulnerable. In the table below the vulnerabilities have been classified:

Serial no.	Livelihoods	Hazards/ disasters									
		River Erosion	Flood and water coming down the hills	Flood	High tides	Oceanic Tidal Waves	Water Logging	Salinity	Tornadoes/ Cyclones	Mountain Slides	Forest and paragon destructions
1	Agriculture	■	■	■	■	■	■	■	■		■
2	Fishing	■	■	■	■	■	■	■	■		
3	Health	■		■		■	■	■	■		
4	Education		■	■		■			■		
5	Environment	■			■	■	■	■	■		■
6	Economy	■	■	■	■	■	■	■	■		■
7	Infrastructure	■		■		■			■		
8	Communication	■		■	■	■			■		
9	Human Resources	■	■	■		■		■	■		■
10	Forestation	■	■	■		■		■	■		■

2.12 Description of Risks and Hazards according to the related fields:

The development of the sub-district is being severely affected by various disasters, ruining the agricultural and industrial sector, infrastructure, health, fishing sector, education sector, human resource, etc. These existing and incremental risks or disasters are making the different production sectors, natural resources and areas extremely vulnerable. In the table below the vulnerabilities has been classified:

Hazards	Vulnerable Social Resources													
	Households	Roads	Forests	Crops	Environment	Poultry	Domestic Animals	Safe Drinking Water	Haat and Bazaars	Rivers	Fishes	Health	Education	Shelters
River Erosion	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Flood and water coming down the hills	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Flood	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Water Logging		■		■	■						■			
High Tides	■	■		■				■			■			
Oceanic Tidal Waves	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Mountain slides	■		■		■							■		
Tornadoes/ Cyclones	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Forest and parabon Destruction			■		■									
Salinity				■	■			■			■	■		
Usage of Chemical Fertilizers				■	■						■	■		

Detailed descriptions of the vulnerabilities of every fields/housholds:

Field/ Institution/Building	How are they Vulnerable	Prevention/ Reduction of Vulnerabilities
Households	<ul style="list-style-type: none"> Because they are situated near the coastal regions or on low lying regions Unplanned housing building Weak Infrastructure 	<ul style="list-style-type: none"> Situate housing buildings away from coastal and low lying areas Build houses with useful and strong material so they are durable Plant trees around households
Roads	<ul style="list-style-type: none"> Coastal region The roadsides have become weak due to heedless cutting of trees 	<ul style="list-style-type: none"> Plant a lot of trees on both sides of roads and barrages Inspire local people to plant trees

Field/ Institution/Building	How are they Vulnerable	Prevention/ Reduction of Vulnerabilities
	<ul style="list-style-type: none"> • Lack of necessary bridges or culverts 	<ul style="list-style-type: none"> • Construct necessary bridges and culverts
Forests	<ul style="list-style-type: none"> • Heedless cutting of trees and lack of tree planting • Destruction of parabon • Saline water enters the tree roots due to illegal salt and shrimp farming • Illegal hill cutting 	<ul style="list-style-type: none"> • The administration needs to take strict legal action against illegal deforestation and parabon destruction • Plant a lot of trees on both sides of roads, barrages as well as around households • Inspire local people to plant trees • Take strict legal action against illegal salt and shrimp farming and conduct regular inspection
Crops	<ul style="list-style-type: none"> • The farmlands are located on coastal and low lying regions • Lack of necessary barrages • Failure to maintain and repair barrages on time • Illegal salt and shrimp farming causes brine to enter crop lands 	<ul style="list-style-type: none"> • Construct necessary barrages • Repairment and renovation of broken barrages need to be undertaken immediately • Take strict legal action against illegal salt and shrimp farming and conduct regular inspection
Poultry and Domestic Animals	<ul style="list-style-type: none"> • Poultries and domestic animals are raised on coastal and low lying regions • Weak and unplanned infrastructure 	<ul style="list-style-type: none"> • The poultries and domestic animals need to be raised on areas far away from coastal and low lying regions • The animal shelters need to be construct of strong and durable materials • The administration needs to make provision for safe shelters for them during disasters
Safe Drinking Water	<ul style="list-style-type: none"> • The tube-wells are situated in low lying and coastal regions • Lack of concrete foundations of tube wells • Unrestricted entrance of salt water 	<ul style="list-style-type: none"> • The tube-wells need to be situated on high grounds • Pour concrete at the base and foundation of the tube-wells
Health	<ul style="list-style-type: none"> • Unhealthy latrine • Increased level of salinity in water • Water logging • Health centers situated in faraway locations • Lack of awareness regarding health 	<ul style="list-style-type: none"> • Installation of healthy latrines on higher grounds • The administration and the society both should spread awareness regarding use of healthy latrine • Pour concrete on the foundations of the tube-wells • Take initiative to spread the need for receiving healthcare services • Increase the number of community clinics in different

Field/ Institution/Building	How are they Vulnerable	Prevention/ Reduction of Vulnerabilities
		wards of the unions
Education	<ul style="list-style-type: none"> • The education institutions are situated on low lying and coastal regions • Weak infrastructure of the schools • Lack of necessary barrages • Water logging 	<ul style="list-style-type: none"> • Construction of schools on higher grounds • Administration should take necessary steps to run schools during disasters
Fishes	<ul style="list-style-type: none"> • The ponds are situated in low lying and coastal regions • Low banks of ponds • Lack of trees along the pond banks • Saline water easily enters ponds 	<ul style="list-style-type: none"> • Construct durable and resilient shelters for fishing boats and nets during disasters • Repair and increase the heights of pond banks • Plant trees around ponds • Install 'Bihingi' nets at least 1 km away from sea shores or river banks
Haat Bazaars	<ul style="list-style-type: none"> • The haat bazaars are situated on low lying and coastal regions • Weak and disaster intolerant structure 	<ul style="list-style-type: none"> • Set up haat and bazaars on higher grounds • Plant leafy and fruit trees in the surrounding areas.

2.13 Climate Change and its expected impact:

Maheskhali is a highly disasterous area. A municipal and 8 union of this Upazila is attacked by sea flood, over flow tide, salinity, Breaking River, flood, hill sliding, cyclone and various disasters. Illegal cutting tree, cutting soil from hill, these disaster is become dangerous movement Areas affected by climate change: agriculture, fishes, environment/forests, livelihoods, water, health, infrastructure, etc. The table below provides description of climate changes' effect on the different fields:

Areas	Descriptions
Agriculture	The farming or agriculture sector is in great danger due to increased frequency and intensity of high tides and oceanic tidal waves. The production rate of agriculture production has more decreased 20-25 part before the time. People will be forced to change their professions, will migrate to cities and become factory workers. 80 percent of crops will be destroyed all the union of this upazila, if do not take necessary steps to save agriculture crops from uncertain mountain flood, inland flood. This will hamper agriculture production and may lead to food scarcity.
Fishes	Changes in currents and increased level of salinity in river may lead to extinction of many fish species, destruction of fish breeding grounds and cause food scarcity for fishes. This may create a shortage of fish supply in the market and may cause fishermen to change their professions. Having less skill of new profession measurable condition create to get new job and is shown financial scarcity. To continue this condition poverty is increased with time.
Environment/	The coastal regions may get flooded and many fruit and leafy trees and other tree

forests	species may become extinct due to rise in the sea level. 20 parts trees and para forest has been destroyed bfore the tome. This will bring heavy rain and adversely affect the ecology.
Livelihood	Excessive rise in the intensity and frequency of high tides and oceanic tidal waves and other hazards has put farming, fishing and other professions in danger. The local people will be forced change their profession to survive and since they have little or no skill for the new professions they may face financial crises.
Education	Financial crises may cause children to seek jobs rather than go to school.
Water	Falling water level will cause severe water crises, water pollution level will also increase. 15-20 years ago where could get water from 40-50 feet ground level of soil but is now going to 100-150 ground level of soil will not get water. At present the normal level of water is lowest 100-150 fit and highest is 800 fit. The situation will go down/deteriorate if the alternative arrangement would not be taken for future. In future severe water crisis will come if this condition is continuing and leading to outbreaks of various water borne diseases.
Health	There will be increase in illness, newer diseases will be discovered. Lack of access to proper treatment by the underprivileged may make them more ill and so they will be unable to earn a living thus worsening the poverty situation of the villages.
Infrastructure	Increased water logging may cause a large part of coastal region to become submerged under the sea thus making it difficult to preserve to roads. Furthermore during full moon and dark moon, the areas get flooded all time causing the local people to abandon the region and move to other areas.

Third Phase

Risk Reduction

3. 1 Identify the causes behind Risks:

Being a coastal area, the Moheshkhali sub-district is vulnerable to natural disaster as well as from manmade disasters. There many reasons as behind the regions vulnerability and the table below classified the reason into immediate, intermediate and final according to the risks:

Description of risks	Causes		
	Immediate	Intermediate	Final
<p>Oceanic Tidal Waves:</p> <ul style="list-style-type: none"> - 20000 people might lose their lives in a tidal wave similar to that of 1991's. - Roughly 40000 people may lose their households if there is a tidal wave similar to that of 1991's, which may amount to a loss of nearly Tk. 35 crore. - Roughly 25000 cows, 70000 goats, 17000 buffaloes and 4000000 poultries may die in tidal waves similar to that to 1991's which may cause a loss of nearly Tk. 450 crore. - If there is a tidal wave similar to that of 1991, then nearly 80 km of barrages and 85 km of roads of, Hoanak, Kutubjom Kalamarchora, Dholghata and Matarbari unions get destroyed and mount to a loss of Tk. 2000 crore. - If there is a tidal wave similar to that of 1991 then, 250 mosques, 50 temples, 10 Buddhist temples, 90 education institutions, 225 madrasas, 30 grave yards, 5 crematoriums, 20 haat bazaars and 18 shelters may get destroyed amounting to a loss of Tk. 25000 crore. - If there is a tidal wave similar to that of 1991 then nearly 75000 people may get hurt and cause losses of 	<ul style="list-style-type: none"> - Seasonal weather changes cause depression - Disinterest in undertaking risk reduction programs - Lack of preparation before disaster - Absence of awareness 	<ul style="list-style-type: none"> - The barrages are broken in many places - Diminished existence of parabon - No direct roads from populated areas and barrages to shelters - Absence of trees around or on the sides of the barrages - lack of separate arrangement for women in the shelters - absence of necessary services in the shelters 	<ul style="list-style-type: none"> - Lack of initiatives to repair or maintain the barrages

Description of risks	Causes		
	Immediate	Intermediate	Final
<p>nearly Tk. 10 crore.</p> <ul style="list-style-type: none"> - If there is a tidal wave similar to that of 1991, then nearly 40000 students' education may cease temporarily. - If there is a tidal wave similar to that of 1991: <p>Nearly all 8 unions and Pouroshova's 14000 acres' 1500000 maunds of Irri rice will get destroyed and cause a loss of Tk. 5000000. Nearly 10000000 maunds of salt of roughly 66000 acres' land may get destroyed amounting to a loss of Tk. 68 crore.</p> <p>In Choto Moheshkhali, Kalamarchora, Hoanak, Shaplapur and Boro Moheshkhali nearly 7000 acres' of betel leaf crop may get destroyed, which may amount to a loss of Tk. 135 crore.</p> <p>Nearly 270 shrimp enclosures of 27000 acres of land may be destroyed amounting to a loss of Tk. 400 crore.</p> <ul style="list-style-type: none"> - If there is a tidal wave similar to that of 1991, then nearly 35 crore trees may get uprooted or damaged which may amount to a loss of Tk. 250 crore. - If there is a tidal wave similar to that of 1991, then 55000 people of Kutubjom, Dholghata, Matarbari, Shaplapur and Pouroshova may face water scarcity and suffer from various diseases and result in a loss of Tk. 5 crore. - If there is a tidal wave similar to that of 1991, then 2500 big and small fishing boats and 7000 fishing nets may get destroyed which may amount to a loss of Tk. 140 crore. It may also destroy 650 types of big and small fishes in the pond which may amount to a loss of Tk. 2 crore. 			

Description of risks	Causes		
	Immediate	Intermediate	Final
<p>Water Logging:</p> <ul style="list-style-type: none"> - If the water logging from the last 7/8 years continues, then all communication of nearly 30000 people will be cutoff and this might result in a loss of 30 lacs. - If the water logging from the last 5/6 years continues, then unions, Kalamarchora, Kutubjom, Hoanak, Matarbari, Dholghata and the west northern side of Choto Moheshkhali's Shipahi Para may get partially cut off from communication and amount to an annual loss of Tk. 5 crore. - Women and children may suffer from malnutrition and water logging may lead to some children losing their lives. - If the water logging from the last 5 years continues, then Pouroshova, Matarbari, Kutubjom and Dholghata Union's 8000 students' education may cease temporarily for some time. - If the water logging from the last 5 years continues, then nearly 2500 tube-wells of Shaplapur, Dholghata and Matarbari may become out of order which will amount to a loss of Tk. 1 crore and 50 lacs. - If the water logging from the last 5 years continues, then the production of sweet water fish farming of 400 ponds will fall. 	<ul style="list-style-type: none"> - Heavy Rainfall - High Tides 	<ul style="list-style-type: none"> - No drainage system was built while constructing roads in the villages - Water reserved in populated area for shrimp enclosures 	<ul style="list-style-type: none"> - Unplanned roadconstructions - Absence of sluice gates on the barrages
<p>Salinity:</p> <ul style="list-style-type: none"> - Nearly 15000 women and children will suffer from malnutrition due to salinity - If the salinity level from the last 2/3 years continues to rise, then nearly 8500 houses of Kutubjom, 	<ul style="list-style-type: none"> - Saline water reserved for shrimp production - Absence of awareness regarding the harmful effects of 	<ul style="list-style-type: none"> - The barrages are broken in many places - Diminished existence of paraban - Shortage of trees around the barrages 	<ul style="list-style-type: none"> - Illegal and unplanned salt and shrimp cultivation - Lack of strict legal actions against illegal

Description of risks	Causes		
	Immediate	Intermediate	Final
<p>Kalamarchora, Hoanak, Dholghata, Matarbari and Shaplapur may get damaged.</p> <ul style="list-style-type: none"> - If the salinity level from the last 2/3 years continues to rise, then food scarcity of 50000 domestic animals may arise. - Nearly 40000 people of Matarbari, Dholghata, Kutubjom.Kalamarchora and Hoanak may face food scarcity and maybe cut off from all communication temporarily. Children may also become ill. - If the salinity level from the last 2/3 years continues to rise, then every year especially in Dholghata, Matarbari and Kutubjom Union and other unions then crop of nearly 15 acres of farmland may get destroyed and amount to a loss of Tk. 200crore. - If the salinity level from the last 2/3 years continues to rise, then the fruit bearing trees will bear less and less fruits and many tree species will become extinct in Matarbari, Dholghata, Kutubjom, Shaplapur, Choto Moheshkhali and Hoanak region amounting to a loss of Tk. 50 crore. - If the salinity level from the last 2/3 years continues to rise, then 2000 tube-wells may become out of order or their water may get contaminated by salt water leading to a loss of Tk. 2 crore. 	salinity		shrimp and salt cultivation
<p>High Tides:</p> <ul style="list-style-type: none"> - If high tides that of 2007's occur especially in Kutubjom, Matarbari and Dholghata then, nearly 15000 domestic animals may face food scarcity giving rise to a loss of Tk. 	<ul style="list-style-type: none"> - River Erosion - Forests and parabon destructions 	<ul style="list-style-type: none"> - The barrages are broken in many places - There are no provisions for barrage maintenance or repairing - No well planned drainage 	<ul style="list-style-type: none"> - Absence of strict legal actions against parabon and forests destruction

Description of risks	Causes		
	Immediate	Intermediate	Final
<p>10 crore.</p> <ul style="list-style-type: none"> - If high tides that of 2007's occur then, 8000 people will suffer from malnutrition and various diseases. - If high tides that of 2007's occur then, 9000 students of Dholghata, Matarbari, Choto Moheshkhali and Kutubjom unions' will temporarily stop going to schools and colleges. - If high tides that of 2005 and 2007's occur then, all the unions and Pouroshova's 2500 acres' rice may get destroyed, amounting to a loss of Tk. 5 crore. Nearly 70000 acres' of salt of Hoanak, Shaplapur, Kalamarchora. Matarbari, Kutubjom, Dholghata and Pouroshova may get partially or fully destroyed amounting to a loss of Tk. 30 crore. And nearly 26000 acres' 35 shrimp enclosures' production may fall leading to a loss of Tk. 420 crore. - If high tides that of 2007's occur then, nearly 150000 trees may get uprooted and amount to a loss of Tk. 3 crore. - If high tides that of 2007's occur then, 3000 tube-wells of Kutubjom, Dholghata, Matarbari and other unions may become out of order leading to a loss of Tk. 2 crore. 		<p>system</p> <ul style="list-style-type: none"> - Lack of awareness 	
<p>River Erosion:</p> <ul style="list-style-type: none"> - If there are river erosions of the likes of 2007's, then 600 houses of Shaplapur, Dholghata and Matarbari will collapse amounting to a loss of Tk. 7 crore. - If there are river erosions of the likes of 2007's, then the roads, barrages, bazaars, 2 jetties and connecting bridges of north eastern sides of 	<ul style="list-style-type: none"> - Change in the river currents - River grabbing - Mooring boats and other nautical vehicles beside the barrages. 	<ul style="list-style-type: none"> - Destroying barrages in different areas so as to bring in water for shrimp enclosures - Due to installation of 'Bihingi' nets the river current changes and moves towards river banks thus leading to river erosions 	<ul style="list-style-type: none"> - Destruction of parabon - Lack of river excavation - Lack of strict legal actions against forests and parabon destruction

Description of risks	Causes		
	Immediate	Intermediate	Final
<p>Matarbari, eastern sides of Dholghata, eastern sides of Shaplapur and Choto Moheshkhali's Mudir Chora may get destroyed amounting to a loss of Tk. 20 crore.</p> <ul style="list-style-type: none"> - 6000 trees of Matarbari, Shaplapur and Dholghata may get damaged, amounting to a loss of Tk. 50 crore. - If there are river erosions of the likes of 2007's, then there will be ecological disbalance and soil erosion will increase leading to a loss of Tk. 2 crore. 			
<p>Earthquake:</p> <ul style="list-style-type: none"> - If there is an earthquake of the likes of 1999, then many people may die. Nearly 15000 houses may collapse and amount to a loss of Tk. 12 crore. - If there is an earthquake of the likes of 1999, then bazaars, jetties, barrages, culverts, communication bridges and shelters may get damaged and amount to a loss of Tk. 1500 crore. 	<ul style="list-style-type: none"> - Changes of climate, earth's core, etc. - Lack of awareness - Absence of earthquake warnings 	<ul style="list-style-type: none"> - Weak infrastructure - Unplanned houses, roads, bazaars, etc. 	<ul style="list-style-type: none"> - Not following the building codes when building houses
<p>Cyclones/ Kalboishakhi:</p> <ul style="list-style-type: none"> - If there are cyclones/ kalboishakhis of the likes of 2004, then many people may lose their lives. - Nearly 20000 houses may get destroyed amounting to a loss of Tk. 10 crore. - Nearly 13000 acres' rice, 66000 acres' salt and 26000 shrimp enclosures may get fully or partially damaged amounting to a loss of Tk. 120 crore. - If there are cyclones/ kalboishakhis of the likes of 2004, then 2 lac trees may get uprooted or damaged amounting to a loss of Tk. 11 crore. - If there are cyclones/ kalboishakhis of the likes of 2004, then nearly 400 	<ul style="list-style-type: none"> - Seasonal weather change - Lack of pruning - Not building houses with strong materials 	<ul style="list-style-type: none"> - Lack of strong trees, especially wood trees around the houses - Parabon destruction - Not building durable and strong houses 	<ul style="list-style-type: none"> - Absence of strict legal actions against illegal parabon and forests destruction.

Description of risks	Causes		
	Immediate	Intermediate	Final
fishing boats along with fishing nets may sink in the sea amounting to a loss of Tk. 4 crore.			
<p>Water coming down the hills:</p> <ul style="list-style-type: none"> - Every year many people may die as a result of landslides and water coming down the hills. - Most of the students of Choto Moheshkhali, Shaplapur, Hoanak, Boro Moheshkhali and Kalamarchora unions' may not be able to go to school for some time. - Every year many different types of tree species of Shaplapur, Kalamarchora, Hoanak, Choto Moheshkhali and Boro Moheshkhali may become extinct as a result of water coming down the hills amounting to a loss Tk. 200 crore. - Every year nearly 1000 acres' rice and 1400 acres' betel leaves of Shaplapur, Kalamarchora, Hoanak, Choto Moheshkhali and Boro Moheshkhali may get destroyed as a result of water coming down the hills, amounting to a loss Tk. 150 crore. 	<ul style="list-style-type: none"> - Heavy rainfall 	<ul style="list-style-type: none"> - Hill cutting - Chora filling - Tree cutting - Unplanned housing construction - Lack of awareness 	<ul style="list-style-type: none"> - Lack of strict legal actions against hill cutting and deforestation.

3.2 Identify ways to eliminate/reduce Risks:

Various ways have been identified to prevent and free the sub districts from the multitude of disasters. The methods are ranked as immediate, intermediate and final and are classified according to respective fields in the table below:

Description of risks	Causes		
	Immediate	Intermediate	Final
<p>Oceanic Tidal Waves: If a tidal wave similar to that of 1991 occurs:</p> <ul style="list-style-type: none"> - 20000 people might lose their lives; roughly 40000 families may lose their households amounting to a loss of nearly Tk. 35 crore. - Roughly 25000 cows, 70000 goats, 17000 buffaloes and 4000000 poultries may die leading to a loss of nearly Tk. 450 crore. - Nearly 80 km of barrages and 85 km of roads may get destroyed and amount to a loss of Tk. 2000 crore. - 250 mosques, 50 temples, 10 Buddhist temples, 90 education institutions, 225 madrasas, 30 grave yards, 5 crematoriums, 20 haat bazaars and 18 shelters may get destroyed amounting to a loss of Tk. 25000 crore. - 75000 people may get hurt and cause nearly Tk. 10 crore loss. - Nearly 40000 students' education may cease temporarily. - Nearly 14000 acres' 1500000 mounds of Irri rice will get destroyed, if there is a tidal wave similar to that of 1991 and cause a loss of Tk. 5000000. Nearly 10000000 maunds of salt of roughly 	<ul style="list-style-type: none"> - Spread danger warnings with descriptions - Repair shelters - Take social and individual initiatives to reduce disaster related risks - Encourage local people to prepare before hand for disasters - Spread public awareness. 	<ul style="list-style-type: none"> - Reformation of parabon - Repair barrages - Repair the roads leading to shelters - Make separate arrangements for women in the shelters as well as for safe drinking water and sanitations - Plant strong wood trees on the barrages 	<ul style="list-style-type: none"> - Construct new shelters - Construct only 2 storied shelters - Undertake regular maintenance and repairing of the barrages - Make administrative monitoring more effective - Create barrage preservation committee consisting of local people, BWDB and UP and conduct regular monitoring.

<p>66000 acres' land may get destroyed amounting to a loss of Tk. 68 crore.</p> <ul style="list-style-type: none"> - Nearly 270 shrimp enclosures of 27000 acres of land may be destroyed amounting to a loss of Tk. 400 crore - In Choto Moheshkhali, Kalamarchora, Hoanak, Shaplapur and Boro Moheshkhali nearly 7000 acres' of betel leaf crop may get destroyed, which may amount to a loss of Tk. 135 crore. - Nearly 35 crore trees may get uprooted or damaged which may amount to a loss of Tk. 250 crore. - 55000 people may face water scarcity and suffer from various diseases and result in a loss of Tk. 5 crore. - 2500 big and small fishing boats and 7000 fishing nets may get destroyed which may amount to a loss of Tk. 140crore. It may also destroy 650 types of big and small fishes in the pond which may amount to a loss of Tk. 2 crore. 			
<p>Water Logging:</p> <ul style="list-style-type: none"> - If the water logging from the last 7/ 8 years continues, then all communication of nearly 30000 people will be cutoff and this might result in a loss of 30 lacs. - If the water logging from the last 5/6 years continues, then unions Kutubjom, Hoanak, Kalamarchora, Dholghata Matarbari, and the west northern side of Choto Moheshkhali's Shipahi Para may get partially cut off from communication and 	<ul style="list-style-type: none"> - Make arrangements to remove water with RCC pipes 	<ul style="list-style-type: none"> - Proper usage of sluice gates for water draining - Providing or connecting the sluice gate to canals or tributaries. - Re-excavation of canals - Constructing water drainage system alongside roads in the villages 	<ul style="list-style-type: none"> - Take strict legal actions against shrimp enclosures in populated areas and those who lease out their areas for shrimp farming. - Build planned roadways - Providing sluice gates with barrages

<p>amount to an annual loss of Tk. 5 crore.</p> <ul style="list-style-type: none"> - Women and children may suffer from malnutrition and water logging may lead to some children losing their lives. - If the water logging from the last 5 years continues, then Pouroshova, Matarbari, Kutubjom and Dholghata Union's 8000 students' education may cease temporarily for some time. - If the water logging from the last 5 years continues, then nearly 2500 tube-wells of Shaplapur, Dholghata and Matarbari may become out of order which will amount to a loss of Tk. 1 crore and 50 lacs. - If the water logging from the last 5 years continues, then the production of sweet water fish farming of 400 ponds will fall. 		<ul style="list-style-type: none"> - Preventing shrimp enclosure set ups in populated areas 	
<p>Salinity:</p> <ul style="list-style-type: none"> - Nearly 15000 women and children will suffer from malnutrition due to salinity - If the salinity level from the last 2/3 years continues to rise, then nearly 8500 houses of Kutubjom, Kalamarchora, Hoanak, Dholghata, Matarbari and Shaplapur may get damaged. - If the salinity level from the last 2/3 years continues to rise, then food scarcity of 50000 domestic animals may arise. - Nearly 40000 people of Matarbari, Kalamarchora, Dholghata, Kutubjom and Hoanak may face food scarcity and maybe cut off from all 	<ul style="list-style-type: none"> - Undertake social steps to prevent shrimp farming in populated areas - Spread awareness about the harmful effects of increased salinity 	<ul style="list-style-type: none"> - Immediate repair of the barrage - Plant trees on both side of the barrages - Recreate the parabon 	<ul style="list-style-type: none"> - Provide seeds and aid for cultivating saline water compatible crops - Put a stop to illegal and unplanned salt and shrimp farming - Take strict legal actions against illegal shrimp and salt farming

<p>communication temporarily. Children may also become ill.</p> <ul style="list-style-type: none"> - If the salinity level from the last 2/3 years continues to rise, then every year especially in Dholghata, Matarbari and Kutubjom and other unions then crop of nearly 15 acres farmlands' may get destroyed and amount to a loss of Tk. 200crore. - If the salinity level from the last 2/3 years continues to rise, then the fruit bearing trees will bear less and less fruits and many tree species will become extinct in Matarbari, Dholghata, Kutubjom, Shaplapur, Choto Moheshkhali and Hoanak region amounting to a loss of Tk. 50 crore. - If the salinity level from the last 2/3 years continues to rise, then 2000 tube-wells may become out of order or their water may get contaminated by salt water leading to a loss of Tk. 2 crore. 			
<p>High Tides:</p> <ul style="list-style-type: none"> - If high tides that of 2007's occur especially in Kutubjom, Matarbari and Dholghata then, nearly 15000 domestic animals may face food scarcity giving rise to a loss of Tk. 10 crore. - If high tides that of 2007's occur then, 8000 people will suffer from malnutrition and various diseases. - If high tides that of 2007's occur then, 9000 students of Dholghata, Matarbari, Choto Moheshkhali and Kutubjom unions' will temporarily stop going to schools and colleges. 	<ul style="list-style-type: none"> - Undertake social initiatives at local level to prevent deforestation and parabon destruction - Increase awareness 	<ul style="list-style-type: none"> - Repair Barrages - Plant sufficient trees on both sides of the barrages - Recreate the parabon - Build well planned sluice gates for water drainage and carry regular maintenance work on them - Increase awareness 	<ul style="list-style-type: none"> - Take strict legal actions against deforestation and parabon destruction - Undertake and implement repair work of the barrages - Create barrage preservation committee consisting of local people, BWDB and UP and conduct regular monitoring.

<ul style="list-style-type: none"> - If high tides that of 2005 and 2007's occur then, all the unions and Pouroshova's 2500 acres' rice may get destroyed, amounting to a loss of Tk. 5 crore. Nearly 70000 acres' salt of Hoanak, Shaplapur, Kalamarchora. Matarbari, Kutubjom, Dholghata and Pouroshova may get partially or fully destroyed amounting to a loss of Tk. 30 crore. And nearly 26000 acres' 35 shrimp enclosures' production may fall leading to a loss of Tk. 420 crore. - If high tides that of 2007's occur then, nearly 150000 trees may get uprooted and amount to a loss of Tk. 3 crore. - If high tides that of 2007's occur then, 3000 tube-wells of Kutubjom, Dholghata, Matarbari and other unions may become out of order leading to a loss of Tk. 2 crore. 			
<p>River Erosion:</p> <ul style="list-style-type: none"> - If there are river erosions of the likes of 2007's, then 600 houses of Shaplapur, Dholghata and Matarbari will collapse amounting to a loss of Tk. 7 crore. - If there are river erosions of the likes of 2007's, then the roads, barrages, bazaars, 2 jetties and connecting bridges of north eastern sides of Matarbari, eastern sides of Dholghata, eastern sides of Shaplapur and Choto Moheshkhali's Mudir Chora may get destroyed amounting to a loss of Tk. 20 crore. 	<ul style="list-style-type: none"> - Stop mooring of boats beside the barrages - Construct landing stages at fixed places for mooring boats 	<ul style="list-style-type: none"> - To drain shrimp enclosure water through sluice gates into canals - Make the fishermen aware of the harmful effects of 'Bihingi' nets and convince them not to use the net - Lay stone foundation in places where the banks have eroded away - Place cement blocks - Place sand or cement bags 	<ul style="list-style-type: none"> - Create parabon on the riversides - Take strict legal actions against parabon destruction and fishing using 'Bihingi' nets - Create barrage preservation committee consisting of local people, BWDB and UP and conduct regular monitoring.

<ul style="list-style-type: none"> - 6000 trees of Matarbari, Shaplapur and Dholghata may get damaged, amounting to a loss of Tk. 50 crore. - If there are river erosions of the likes of 2007's, then there will be ecological disbalanced and soil erosion will increase leading to a loss of Tk. 2 crore. 			
<p>Earthquake:</p> <ul style="list-style-type: none"> - If there is an earthquake of the likes of 1999, then many people may die. Nearly 15000 houses may collapse and amount to a loss of Tk. 12 crore. - If there is an earthquake of the likes of 1999, then bazaars, jetties, barrages, culverts, communication bridges and shelters may get damaged and amount to a loss of Tk. 1500 crore. 	<ul style="list-style-type: none"> - Increase awareness for preparation beforehand. 	<ul style="list-style-type: none"> - Make provision to make the people knowledgeable about the plans and procedures to build earthquake resistant homes and buildings 	<ul style="list-style-type: none"> - Build houses according to building codes
<p>Cyclones/ Kalboishakhi:</p> <ul style="list-style-type: none"> - If there are cyclones/ kalboishakhis of the likes of 2004, then many people may lose their lives. - Nearly 20000 houses may get destroyed amounting to a loss of Tk. 10 crore. - Nearly 13000 acres' rice, 66000 acres' salt and 26000 shrimp enclosures may get fully or partially damaged amounting to a loss of Tk. 120 crore. - If there are cyclones/ kalboishakhis of the likes of 2004, then 2 lac trees may get uprooted or damaged amounting to a loss of Tk. 11 crore. - If there are cyclones/ kalboishakhis of the likes of 2004, then nearly 400 fishing boats along with fishing nets 	<ul style="list-style-type: none"> - Prune the tree branches at least once a year 	<ul style="list-style-type: none"> - Plant strong wood trees around the houses - Build strong durable houses 	<ul style="list-style-type: none"> - Build a permanent nursery of strong wood trees - Build two layers of forests (outside the barraged on the sea shores) - Take strict legal actions against deforestation and parabon destruction

<p>may sink in the sea amounting to a loss of Tk. 4 crore.</p>			
<p>Water coming down the hills:</p> <ul style="list-style-type: none"> - Every year many people may die as a result of landslides and water coming down the hills. - Most of the students of Choto Moheshkhali, Shaplapur, Hoanak, Boro Moheshkhali and Kalamarchora unions' may not be able to go to school for some time. - Every year many different types of tree species of Shaplapur, Kalamarchora, Hoanak, Choto Moheshkhali and Boro Moheshkhali may become extinct as a result of water coming down the hills amounting to a loss Tk. 200 crore. - Every year nearly 1000 acres' rice and 1400 acres' betel leaves of Shaplapur, Kalamarchora, Hoanak, Choto Moheshkhali and Boro Moheshkhali may get destroyed as a result of water coming down the hills, amounting to a loss Tk. 150 crore. 	<ul style="list-style-type: none"> - Take individual initiatives to encourage people to re-excavate chora and plant trees on the hills - Increase awareness 	<ul style="list-style-type: none"> - Hills preservation and maintenance - Prevent hill cutting and tree cutting on hills and encourage tree planting 	<ul style="list-style-type: none"> - Take strict legal actions against deforestation and paragon destruction - Undertake programs to make the general public aware about the environment

3.3 The Development Plans of the NGOs:

Serial No.	NGO	Disaster related work	No. of Beneficiaries	Amount	Duration of the programs
1.	RIC	Implementation of Disaster Management Plan	Everyone of the sub-district	8 unions, 1 Pouroshova and 1 sub-district	February 2014 –
2.	Poush	Recreation of Parabon, Keya forestation	All the members of ward no. 1 and 2	Dholghata and Kutubjom Union	2007-2013
3.	Sukhi Bangladesh	Recreation of Parabon, Keya forestation and conservation turtle eggs	All the members of ward no. 1 and 2	Kutubjom Union	2010-2014

Even though the sub-district is ravaged by disasters all year round, till now no initiatives have been taken to prevent or reduce the risks of the disaster or reduce damages towards the inhabitants and their resources. And on that thought RIC implemented the Disaster Management Program using information regarding the disaster scenario and socio economic conditions, effects of climate change, vulnerability of all the unions in order to reduce disaster risks and damages to the inhabitants and their properties.

3.4 Disaster Management Plan:

3.4.1 Pre-Disaster Preparation:

Serial no.	Programs	Goals	Expected Budget	Where	Expected date of implementation	Who and how much will be implemented				Consistency with developing programs
						Sub-district Administration %	Community %	UP %	NGO %	
1	Formation of teams at ward or village level	27	4500	UP, Pouroshova	March	35%	15%	30%	20%	<p>The programs and plans will make the local inhabitants aware and prepared for immediate risk reduction. As a result the level or degree of damages to people's properties will be reduced.</p> <p>If the plans are properly and correctly implemented then it will contribute to the general socio economic and national development.</p>
2	Determine areas at local level for message broadcast	45	-	UP, Wards and villages, Pouroshova	March	Everyone will work together	Everyone will work together			
3	Improve the flag warning system for flood hazards	60	18000	UP, Wards and villages, Pouroshova	March	35%	10%	40%	15%	
4	Implementation of pre disaster warning system	1 Pouroshova and in 1 in each of the 8 unions	-	UP, Pouroshova	March		Everyone will work together			
5	Determining local danger boundaries	1 Pouroshova and 8 unions	-	UP, Pouroshova	March		Everyone will work together			
6	Create awareness at social and family level	1 Pouroshova and in 10 in each of the 8 unions	-	UP, Wards and villages	March		Everyone will work together			
7	Arrange disaster drills	27	30000	UP, Pouroshova	March	40%	5%	40%	15%	
8	Training on Disasters and First Aid	18 batches	90000	UP, Pouroshova	March	50%	00%	10%	40%	
9	Stocking and keeping dry food and necessary medicines near hand	Nearly 60000 families	-	UP, Wards and villages, Pouroshova	March		Everyone will work together			
10	Provide disaster related training to students at school	1 Pouroshova and all the schools of the 8 wards			March		Everyone will work together			
11	Collecting the phone no. of related individual or institutions	1 Pouroshova and 8 unions	-	UP	March		Everyone will work together			

3.4.2. During the time of Disaster:

Serial no.	Programs	Goals	Expected Budget	Where	Expected date of implementation	Who and how much will be implemented				Consistency with developing programs
						Sub-district Administration	Community %	UP %	NGO %	
1.	Constant communication with sub-district administration and Union Parishad	8 UP and Pouroshova	-	UP and sub-district, Pouroshova	April, May, October and November		Everyone will work together			The programs and plans will aid in protecting the lives of the local inhabitants and reduce the level or degree of damages to people's properties. If the plans are properly and correctly implemented then it will contribute to the general socio economic and national development.
2.	Monitor situation everyday	8 UP and Pouroshova	100%	UP, Pouroshova	April, May, October and November		Everyone will work together			
3.	Whenever the river water flows over the danger level or there is storm forecast, immediately arrange meetings and sound warnings.	8 UP and Pouroshova	100%	UP, Pouroshova	April, May, October and November	40%	5%	35%	20%	
4.	Announce warnings the moment danger level is crossed according to the plan	8 UP and Pouroshova	100%	UP, Pouroshova	April, May, October and November		Everyone will work together			
5.	Make arrangements to remove women, children, old people and the disabled to shelters	8 UP and Pouroshova		UP, Pouroshova	April, May, October and November		Everyone will work together			

3.4.3. Post Disaster:

Serial no.	Programs	Goals	Expected Budget	Where	Expected date of implementation	Who and how much will be implemented				Consistency with developing programs
						Sub-district Administration	Community %	UP %	NGO %	
1.	Start rapid rescue program	8 UP and Pouroshova	-	UP, Pouroshova	April, May, October and November		Everyone will work together			If the programs and plans are implemented in the aftermath of the disasters, then it will aid the local inhabitants and reduce the level or degree of damages to people's properties. If the plans are properly and correctly implemented then it will contribute to the general socio economic and national development.
2.	Rescue and give first aid to those who are hurt	8 UP and Pouroshova	50000	UP, Pouroshova	April, May, October and November	60%	05%	20%	15%	
3.	Burying the dead people and removal of the domestic animals to another area	8 UP and Pouroshova	-	UP, Pouroshova	April, May, October and November		Everyone will work together			
4.	Make and fill claim forms for damages within 72 hours	8 UP and Pouroshova	-	UP, Pouroshova	April, May, October and November		Everyone will work together			
5.	Re-establishment of the communication system	8 UP and Pouroshova	-	UP, Pouroshova	April, May, October and November		Everyone will work together			
6.	Clearing away of debris	8 UP and Pouroshova	-	UP, Pouroshova	April, May, October and November		Everyone will work together			
7.	Re-establishment of administration	8 UP and Pouroshova	-	UP, Pouroshova	April, May, October and November	40%	05%	35%	20%	
8.	Emergency rehabilitation and financial aid	8 UP and Pouroshova	-	UP, Pouroshova	April, May, October and November		Everyone will work together			

3.4.4. During normal / risk reduction period:

Serial no.	Programs	Goals	Expected Budget	Where	Expected date of implementation	Who and how much will be implemented				Consistency with developing programs
						Sub-district Administration	Community %	UP %	NGO %	
1.	Communicate with the sub-district disaster management committee	8 UP and Pouroshova	-	Sub-district and Pouroshova	March	Everyone will work together				<p>The programs and plans will make the local inhabitants take permanent initiatives for pre-disaster preparations in order to reduce risks.</p> <p>As a result the level or degree of damages to people's properties will be reduced.</p> <p>If the plans are properly and correctly implemented then it will contribute to the general socio economic and national development.</p>
2.	Observe disaster days through various programs as per Government determined days	8 UP and Pouroshova	-	UP and sub-district, Pouroshova	March	Everyone will work together				
3.	Encourage the local people to take up risk reduction and disaster dealing programs with the aid of volunteer groups	8 UP and Pouroshova	-	UP, Pouroshova	March	Everyone will work together				
4.	Arrange Disaster management committee meetings every 2 months	8 UP and Pouroshova	-	UP and sub-district, Pouroshova	March	Everyone will work together				
5.	Establish or re-establishment of local disaster management committee	8 UP and Pouroshova	-	UP, Pouroshova	March	Everyone will work together				
6.	Agree upon a final disaster related plan and put in on trial	8 UP and Pouroshova	-	UP, Pouroshova	March	Everyone will work together				
7.	Create Risk Maps	8 UP and Pouroshova	10000	UP, Pouroshova	March	40%	05%	30%	20%	
8.	Create local 'Emergency Response Team' during disasters	8 UP and Pouroshova	-	UP, Pouroshova	March	Everyone will work together				
9.	Build high and strong and durable houses and institutions	8 UP and Pouroshova	-	UP, wards and villages, Pouroshova	March	Everyone will work together				

Fourth Phase

Emergency Response System

4.1 Emergency Operation Center (EOC):

During Disaster an Emergency Operation Centre has been established at Moheshkhali upazila. In order to emergency response this centre is working actively during disaster and also coordinating the all jobs. It is mentionable that this Emergency Operation Centre would be opened for 24 hours for providing the support for community people during disaster. At that time this centre manage the information, collecting data, monitoring, visiting and wealth. This center is usually open by the Upazila Project implementing officer. A telephone are used for providing field level various information to the centre. There is a control room and a communication cell in the operation centre. The name, designation and cell number of responsible persons of emergency operation centre are given below.

Serial No.	Name	Designation	Cell Phone No.
1.	Md. Hossain Ibrahim	Upazilla Chairman	01819171290
2.	Moulavi Jahir	Upazilla Male Vice Chairman	
3.	Jahanara Jahangir	Upazilla Female Vice Chairman	
4.	Md. Anawarul Naser	Upazilla Executive Director	01732592321
5.	.Md. Shofiul Alam	Upazilla Program Implementation Officer	01834379277
6.	Hafiz Ahmed	Co Director CPP Moheshkhali	01712026304
7.	Md. Siddique Ahmed	Upazilla Team Leader CPP	01815681886
8.	Mofizur Rahman Masud	EGPP	

4.1.1 Emergency Control Room Operator:

- Emergency control room needs to be established the moment disaster strikes.
- At least 4 volunteers and 1 watchman must be present at all time routine wise.
- Communication must be maintained at all time with Upazilla Shodor and all the Unions.
- There must be a register in the control room to register who was on duty at what time in the room and to record any incident or news that occurred during their time of duty,
- In the aftermath of disaster identify the most affected areas or roads.
- While serving in the control room, the on duty person is also responsible for stocking radios, torch lights, charger lights, life jackets, batteries, rain coats, etc.

4.2 Plan of Action during hazardous period:

Serial No.	Activities	Goals	When will it be done	Who will do it	With whose assistance	How it will be done	Communication
1.	Keeping volunteers ready	There are 350 people in 8 unions and 1 Pouroshova	February - March	Disaster Management Committee, Officers of Pouroshova and Union Office	Government, Non-government organizations and members of the community	Training, orientations and meetings	Maintain communication with Upazilla and Union disaster management committee's officials

Serial No.	Activities	Goals	When will it be done	Who will do it	With whose assistance	How it will be done	Communication
2.	Warning Announcements	8 unions and 1 Pouroshova	When disaster strikes	The Volunteer responsible for it	“	Training	Maintain communication with Union disaster management committee’s officials
3.	Arrangements to send the people to shelters	8 unions and 1 Pouroshova	As soon as the great danger warning is sounded	The Volunteer responsible for it	“	Through awareness	Maintain communication with Union disaster management committee’s officials
4.	Keep boats, cars, vans, etc. prepared	8 unions and 1 Pouroshova	March and September	Disaster Management Committee, Officers of Pouroshova and Union Office	“	Discuss and collect phone no. of boatmen, rickshaw and van pullers	“
5.	Rescue Arrangements	8 unions and 1 Pouroshova	March and September	“	“	Identify volunteers capable of working as relief workers and give them orientation	Maintain communication with Upazilla and Union disaster management committee’s officials
6.	Primary Treatment/ Healthcare	8 unions and 1 Pouroshova	March and September	“	“	Collect phone numbers of nearby healthcare centers	Maintain communication with Upazilla Health Centers’ officials
7.	Removal/ burial of dead animals	8 unions and 1 Pouroshova	March and September	“	“	Orientation	Maintain communication with Upazilla and Union disaster management committee’s officials
8.	Stocking and keeping dry food and life saving medicine near at hand	8 unions and 1 Pouroshova	March and September	“	“	Communicate directly with individuals or organizations who provides food and medicine and collect their phone numbers	Maintain communication with Union disaster management committee and Upazilla healthcare centers officials
9.	Treatment and vaccination of domestic animals	8 unions and 1 Pouroshova	March and September	“	“	Communicate with the Union officials	Maintain communication with Upazilla and Union disaster management committee’s officials
10	Maintenance of Shelters	8 unions and 1 Pouroshova	March and September	“	“	Conduct inspection directly and conduct necessary repairs while informing the appropriate	Maintain communication with Upazilla and Union disaster management committee’s officials

Serial No.	Activities	Goals	When will it be done	Who will do it	With whose assistance	How it will be done	Communication
						officials	
11.	Consistent relief distribution	8 unions and 1 Pouroshova	March and September	“	“	Communicate with individuals and organizations that gives reliefs	Maintain communication with Upazilla and Union disaster management committee’s officials
12.	Arrange mock pre-disaster preparations	8 unions and 1 Pouroshova	March	“	“	Arrange various mock programs on how to deal with different hazards at a fixed place with volunteers and members of the community	Maintain communication with Upazilla and Union disaster management committee’s officials
13	Ascertaining damages by disaster, fulfilling demands and establishing claims	8 unions and 1 Pouroshova	Post Disaster	Disaster Management Committee			
13.	Emergency Control Room Operation	8 unions and 1 Pouroshova	March and September	Disaster Management Committee, Officers of Pouroshova and Union Office	“	Safeguard all important information and equipments of the control room	Maintain communication with Upazilla disaster management committee’s officials

Policies for Implementing of during Disasters:

4.2.1 Keeping the Volunteers ready:

- Create small teams of volunteers under the leadership of members from the 8 unions and 1 Pouroshova
- Provide union based training on disaster management to the volunteers
- Every members of the team should receive orientation on sounding warnings, rescue programs, extraction procedures, shelter arrangements to all other important tasks
- Collect numbers of all who are connected with disaster management

4.2.2 Warning Announcements:

- Broadcast weather situation and warning alerts in all the areas through volunteers
- Every UP and Pouroshova member should them self must visit all the houses and determine the effectiveness of the warning alerts broadcast

- Make the people of the region become aware of the alert broadcast
- The great danger warnings must be broadcasted by the mosques through megaphones alongside TV and radio broadcasts and by continuous ringing of school and madrasa bells

4.2.3 Arrangements to send people to shelters:

- Make the general population aware about the importance to remove to the shelters as soon as the great danger warnings have been broadcasted on TVs and radios
- Give the head of the household responsibility to move everyone to the shelter
- In order to discuss the importance of the removal to shelters in mosques, schools and madrasas elect people associated with the institutions for the responsibility
- Create a detailed plan beforehand regarding where people of different regions will go

4.2.4 Keeping transport vehicles (boats, cars, vans, etc.) ready:

- Keep boats, cars, vans, etc. ready at appointed area for removal of the sick, elderly, pregnant women, children and all to the shelters as soon as the great warnings have been broadcasted in TVs and radios or after the disaster has occurred
- Decide before hand as to who will take the responsibility of which regions
- Collect and keep the phone numbers of the boatmen and drivers in the emergency control room
- Furthermore everyone should have the phone numbers of those who are designated with this responsibility

4.2.5 Rescue Arrangements:

- Select volunteers who are capable of conducting rescues and give them orientation
- Make a detailed plan beforehand as to who will conduct rescues in which regions
- Everyone should phone numbers of the rescuers

4.2.6 Primary Treatment/Healthcare:

- Create a fund to conduct rescue in vulnerable or risky areas
- Plan the set up of temporary healthcare or treatment camps
- Give some of the members of the disaster management committee the responsibility to communicate and collect the phone numbers of doctors who might respond during disasters
- Elect volunteers to take the elderly, pregnant women, children and other sick people to the hospital on emergency basis during or after disasters and give them orientation

4.2.7 Removal/ burial of dead animals:

- Elect volunteers who are experienced in this task and give them orientation
- Create a detailed plan beforehand as to who will work in which region
- Determine how the UP members can assist the volunteers in burying the dead people and animals

4.2.8 Stocking and keeping dry food and life saving medicine near at hand:

- Communicate and collect the phone numbers of the well off people of the region and others who can make a contribution of food and medicine

- Contact different shops in the bazaar so that they stock the required goods (Beaten Rice, Puffed Rice, Rice, Lentils, Potatoes, Oil, Baby Food, Tin Container, Polythene, Matches, etc.)
- Create a plan and list beforehand detailing who will distribute what in which region
- Create a list of important medicine by discussing with Union level health and family planning workers and contacting local pharmacies to collect them
- Keep transport ready to carry necessary goods
- Give this responsibility to volunteers elected from wards and UP

4.2.9 Treatment and Vaccination of Domestic Animals:

- Give training to UP members and Union volunteers on poultry and domestic animal vaccination and treatment procedures
- Discuss the procedure with experienced specialists and involve them in disaster management
- Collect important medicine after discussing it with the Upazilla Animal Resources Department officials
- Collect the phone numbers of the officials of Animal Resources Department

4.2.10 Maintenance of Shelters:

- Make a list of shelters according to wards
- Identify and make a list of areas which do not get flooded or are far away from river eroded areas and roads and barrages which are high and have strong infrastructure
- Make a list of local school, madrasas, colleges, government and non-government institutions which can be used as shelters apart from the designated ones
- Make repair to the shelters before the disaster season starts so as to keep them ready for use
- Determine provision of safe drinking water and hygienic sanitation in the shelters
- Make list of which areas people will go to which shelter
- Removal of the elderly, pregnant women, children and sick people to safe places during disasters
- Assist in removal of domestic animals, emergency food, necessary and valuable goods to safe places

4.2.11 Consistency in Relief Distribution:

- The Executive Director of the sub-district and Chairmen of the Union Parishad of unions will work together with the volunteers in relief distribution and rehabilitation of the homeless
- If outside organizations come to give relief then record their names, address and list of relief in the Emergency Control Room register
- Create a list of who will distribute reliefs in which areas and assist them
- The Disaster Management Committee should determine the damages and losses of the people from the disaster and then allot reliefs accordingly
- Broadcast the number and amount of relief of the committee's among the people

4.2.12 Arrange mock pre-disaster preparations:

- Arrange various disaster drills at ward level on how to broadcast disaster warnings, rescue and extraction, primary relief distribution, etc. during and after disasters
- Arrange mass drills in areas which experiences frequent cyclones and flood

- Every year while conducting drills in the months of March/April and September/October, they should also try out their state of preparedness
- Conduct the drills in risky areas
- While conducting drills, pay more attention to the procedure of removal of the elderly, pregnant women, children and sick people to safe places during disasters

4.2.13 Ascertaining damages by disaster, fulfilling demands and establishing claims:

- All the disaster management members must fill out the ‘SOS’ form within 24 hours of the occurrence of the disaster and submit them to the Union Parishad Chairmen within 7 days
- The Union Chairmen with the aid of the members of the Union Secretary Committee must compile all the wards’ information and send it to the sub-district as a report

4.2.14 Emergency Control Room Operation:

- Setup Emergency Control Room on some suitable area at sub-district and union level, immediately after a disaster has taken place
- Give the operation of the Emergency Control Room to responsible personnel
- Employ local government and non-government organizations ‘officials to operate the control room as well as a UP’s guard and make a list of them
- Create a list as to who will be in operation of the control room and when (at management level and implementation level)
- While being in charge of the room, record all the information that comes through in the register
- Identify the most damaged area and road, post disaster and prepare a report
- Collect all the information on the reliefs distributed in disaster hit area by government, non-government and individuals

4.3 List and descriptions of existing shelters in the district/sub-district:

There are 84 schools cum shelters and cyclone shelters in Moheshkhali sub-district. These were constructed in 1986 and 1993-1995 by CCDB and Red Crescent. Apart from these shelters, during disaster UP and Pouroshova institutions are used as shelters on emergency basis. List and description of safe shelters according to unions:

Shelters	Name	Union	Capacity	Comments
Mud forts	-	-	-	There are no mud forts
Cyclone Shelters: CCDB, Red Crescent built 2 storied shelters in 1986 and 1993 - 1995	Beside West Fokira Ghona Haji Abu Sayeed Company’s house, Fokira Ghona, Adjacent to West Fokira Ghona Mosque, Notun Bazaar Shelters	Boro Moheshkhali (4) Ward no. 9 & 1	1600	Every single of them are unfit for shelter purposes. They all need repair
	Teli Para, Thakur Tola and Ummonia Para Shelters	Choto Moheshkhali (3) Ward no. 8	850	Every single of them are unfit for shelter purposes. They all need repair
	Nasir Md. Dale, Mohuri Ghena, Banjamira Ghena, Shoroitoli, North Shutria Para, Shikder Para, Shutriar	Dholghata (9) Ward no. 1,4,5,8 & 9	3000	Every single of them are unfit for shelter purposes.

Shelters	Name	Union	Capacity	Comments
	Dale, Khatu Baaper Para, Panditer Dale, Shapmara Dale Shelters			They all need repair
	Kalagazir Para, Horiar Chora, Hoanak Community Center, Kerun Toli Shelters	Hoanak (4) Ward no. 2 & 7	2500	Every single of them are unfit for shelter purposes. They all need repair
	South Jhapua CCDB Shelter	Kalamarchora (1) Ward no. 5	250	The latrines and the tube-wells need to repair
	Ghoti Bhanga Moddhom Para, Chanda Kat, Lal Md. Shikder Para and Bottoli	Kutubjom (4) Ward no. 1, 5 & 6	2500	Every single of them are unfit for shelter purposes. The latrines and the tube-wells need to repair
	South Rajghat, North Rajghat, Bandi Shikder Para, North Shikder Para, North Miaji Para, Fuljan Mura, East Maij Para, Sardar Para, Moddhom Sairar Dale, cyclone center adjacent to Mogdale Bazaar	Matarbari (10) Ward no. 1, 2, 3, 5, 7, 8 & 9	3300	The latrines and the tube-wells need to repair
	J M Ghat, Site Mara and Dineshpur Shelter	Shaplapur (3) Ward no. 1 & 9	2000	Every single of them are unfit for shelter purposes. The latrines and the tube-wells need to repair
	Gorokghata South Rakhine Para, Ghonapara, Gorokghata Hindu Para, Gorokghata Shikder Para, Chor Para (1986) Cyclone shelter	Moheshkhali Pouroshova (5) Ward no. 4, 5, 6, 8 & 9	4500	Every single of them are unfit for shelter purposes. The latrines and the tube-wells need to repair
School Cum Shelter Government's Facilities Department and CCDB built 2 storied shelters between 1993-1995	West Fokira Ghona Government Primary School, Munshir Dale Government Primary School, Modhuar Dale Government Primary School, Modhuar Dale Government Primary School, Notun Bazaar Government Primary School, Jagira Ghena Alamgir Farid Technical College (ward no. 7)	Boro Moheshkhali (6) Ward no. 1,2,3,4,5,6 & 7	4500	Every single of them are unfit for shelter purposes. The latrines and the tube-wells need to repair
	Choto Moheshkhali Government Primary School, Shipahi Para Government Primary School	Choto Moheshkhali (2) Ward no. 2 & 4	800	Every single of them are unfit for shelter purposes. They all need repair
	Mohuri Ghena Government Primary School, Shorai Toli Government Primary School, Shutria Dale Government Primary School,	Dholghata (5) Ward no. 2, 3, 4, 5 & 7	1300	Every single of them are unfit for shelter purposes. The latrines and the

Shelters	Name	Union	Capacity	Comments
	Shapmara Dale Government Primary School, Dholghata High School			tube-wells need to repair
	Time Bazaar Government Primary School, Bonia Kata High School, Hoanak Government Primary School, Kalalia Kata Government Primary School, Panir Chora Government Primary School, Hoanak Islamia Dakhil Madrasa	Hoanak (5) Ward no. 2,3,4,5 & 7	3600	Every single of them are unfit for shelter purposes. The latrines and the tube-wells need to repair
	North Nolbila Government Primary School, Yunus Khali Government Primary School, Chikoni Para Government Primary School, Kalamarchora Government Primary School, Nunchori LGD Government Primary School, Adharghona Government Primary School, Nunachori Moinul Islam Senior Madrasa	Kalamarchora (8) Ward no. 1,3,4,5,7,8 & 9	5750	Every single of them are unfit for shelter purposes. The latrines and the tube-wells need to repair
	Ghotibhanga West Para Government Primary School, Shonadia Government Primary School, Nayapara Government Primary School, Meheria Para Government Primary School, Tajiakata Government Primary School, Khondokar Para Government Primary School	Kutubjom(6) Ward no. 1,2, 6, 7, 8 & 9	4500	Every single of them are unfit for shelter purposes. The latrines and the tube-wells need to repair
	South Rajghat Government Primary School, Matarbari Government Primary School, Matarbari High School, Puran Bazaar Government Primary School, North Shikder Para Government Primary School	Matarbari (5) Ward no. 1, 3, 5 & 6	1900	The latrines and the tube-wells need to repair
	Shaplapur High School, Kaidabadh Government Primary School	Shaplapur (2) Ward no. 6 & 8	1000	They all need repair
	Moheshkhali Model Government Primary School, Boro Burmese Government Primary School	Moheshkhali Pouroshova (2) Ward no. 3 & 4	2000	Every single of them are unfit for shelter purposes. The latrines and the tube-wells need to repair
Government/ Non-Government Institutions	-	-	-	-
UP Bhaban	8 UP Bhaban and 1 Pouroshova Bhaban	-	-	Used according to demand during disasters
High Roads	-	-	-	-

All of these shelters are in disrepair. Among the existing equipments of volunteers of the shelters some are under the custody of CPP Unit team and others are in CPP Sub-district Office's custody. The shelters need repair in order to return them in working condition. The roads leading to the shelters are all in terrible state. They need repair and their heights raised.

4.4 Formation of the Shelter Management Committee:

The Shelter Management Committee is very important for disaster management. In order to save life and wealth, poultry, birds, proper using of the shelter and maintaining the Shelter Management Committee is essential during disaster. This committee is comprised by UP chairman, member, women member, social worker, the representative of volunteer organization and teacher. With the assistance of community people this committee serves the all responsibilities of maintenance and management of shelter centre.

Shelters	Name of Shelters	Caretaker of the Shelters	Designation	Mobile
Name of School cum Shelter and Cyclone Shelter	All the shelters of the 8 Unions and 1 Pouroshova	Md. Hossain Ibrahim	Sub-district Chairman	01819171290
		Moulavi Jahir	Sub-district Male Vice Chairman	
		Jahanara Jahangir	Sub-district Female Vice Chairman	
		Md. Anowarul Nasser	Sub-district Executive Director	01732592321
		Md. Shofiul Alam	Sub-district Project Implementing Officer	01834379277
		Hafiz Ahmed	Co Director CPP Moheshkhali	01712026304
		Md. Siddique Ahmad	Sub-district Team Leader CPP	01815681886
		Associated Union's UP Chairman	UP Chairman	
		Principal of associated school cum shelter	Principal	

4.5 List of resources found in the district/sub-district (which can be used during disasters):

Infrastructure/ Resource	Number	Responsible Person	Short Description
Shelters	90	The numerous UP respectable members	All the shelters are out of order and in disrepair. They all need repair along with the tube-wells and latrines.
Big Megaphone	17		
Small Megaphone	76	“	
Wirelesses	2	“	

⁹ Source: Sub-district PIO Office, interview and survey

Infrastructure/ Resource	Number	Responsible Person	Short Description
Life Jackets	527	“	The life jackets, rain coats, gum boots, radios, etc. and other things of most unions have all gone bad
Gum Boots	497	“	
Sirens	79	“	
Helmets	297	“	
	455	“	
Bicycles	43	“	
Torch Lights	58	“	
Aprons	170	“	
Flag stands(with flags)	59	“	
Engine run boats	5	Boat Owners	
Rescue tool box	20	CPP Union team leader	
Wireless sets	1	It is under CCP unit team leader and volunteers	
Stretchers	19	“	
Mikes	2	“	
Radios (out of order)	88	“	
First Aid Boxes	76	“	
Tables	5	CPP Union Office	
Chairs	21	“	
Almirahs	5	“	

4.6 Capitalization/Funding:

Financial information of the 8 unions and 1 Pouroshova of Moheshkhali Sub-district has been given below:

(a) Own Source (Union taxes, rates and fees)

Yearly taxes on households: Tk. 6653916/-; Taxes on businesses and other livelihoods (Trade License): Tk. 556745/-; Ejara related charges: (haat – bazaar, landing stages, salt depot, etc.): 7061199/-; Issuing license and permit fees: Tk. 60000/-; Motor and other vehicles: Tk. 1007777/-; General fund of Union Parishad and Pouroshova: Tk. 1826255/-; Others: Tk. 108638/-.

The table below gives a detailed outlook on tax according to unions:

Source or Type	Yearly Income								
	Boro Moheshkhali	Choto Moheshkhali	Dholghata	Hoanak	Kalamarchora	Kutubjom	Matarpari	Shaplapur	Pouroshova
Yearly taxes on households	138680	2500	2500	92314	3000	14000	60000	2915	315909
Taxes on businesses and other livelihoods (Trade License)	77750	3820	4000	48550	7000	17150	124800	9950	293020
Ejara related charges: (haat – bazaar, landing stages, salt depot, etc.)	87500	80000	100000	46000	100000	95000	98000	18500	625000

(b) Government approved:

- Road construction and repair: Tk. 500000/- (Five lac taka only)
- House construction and repair: Tk. 2800000/- (Twenty lac taka only)
- Development fund (LGSP): Tk. 25633117/-
- Experience based: Tk. 194774/-
- Establishment:

Pouroshova

Mayor: Tk. 15000/-, Councilor: Tk. 4000/-, Secretary: Tk. 15000/-, UP Assistant Administrator (civil): Tk. 8900/-, Accountant: Tk. 8940/-, Bazaar Inspector: Tk. 7120/-, License Inspector: Tk. 6640/-, Convergency Inspector: 6290/- and Health assistant, vaccinator and others: Tk. 107540/-.

Union Parishad:

Chairman and Member fees:

Chairman (8) each: Government: Tk. 1475/- and Parishad: Tk. 1525/-

MUP (96) each: Government: Tk. 950/- and Parishad: Tk. 1200/-

Secretary (scale) 8 each: Tk. 72062/-

Dafadar (8 union) each: Tk. 2100/-

Village Police (8 Union) each: Tk. 1900/-

- Others:

Land transmittal tax (1%): Tk. 975000/-

Fields	Yearly Grant									
	Boro Moheshkhali	Choto Moheshkhali	Dholghata	Hoanak	Kalamarchora	Kutubjon	Matarbari	Shaplapur	Pouroshova	
Development fund (LGSP)	1785000	1146835	900000	1776211	721365	1750752	1828415	7104539	17013117	
Land transmittal tax (1%)	150000	236000	89000	371834	360000	258095	160000	299920	1924849	

(c) Local Government Source:

Upazilla Parishad: Tk. 5162332/-

Fields	Yearly Grant
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	Boro Moheshkhali	Choto Moheshkhali	Dholghata	Hoanok	Kalamarchora	Kutubjom	Matarbari	Shaplapur	Pouroshova
Fund from Upazilla Parishad	799000	599000	100000	849232	45000	599000	1880000	1045100	464000

(d) Non-government developing organizations:

- ADP: 1850000/-

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4.7 Immediate implementation and verification of the work plan:

1. Plan follow up committee
2. Plan implementation and maintenance committee

1. Plan follow up committee

Serial No.	Name	Designation	Mobile
1.	Md. Hossain Ibrahim	Sub-district Chairman	01819171290
2.	Moulavi Jahir	Sub-district Male Vice Chairman	
3.	Jahanara Jahangir	Sub-district Female Vice Chairman	
4.	Md. Anowarul Nasser	Sub-district Executive Director	01732592321
5.	Md. Shofiul Alam	Sub-district Project Implementing Officer	01834379277
6.	Rashedul Anwar	Area Manager (RIC)	01716736678
7.	Amirul Bahrain	Sub-district Agriculture Officer	01715232290
8.	Shamshul Alam Kutubi	Sub-district Co operation Officer	01814814854
9.		Sub-district Social Welfare Officer	

Objectives of the Committee:

- ✓ Every year, during the month of April/ May the existing plan should be revised minutely by the committee and update it through correction and amendments in impartial manner. The secretary member of the committee should take personal initiative in this action.
- ✓ After every disaster, the management committee should review the plan and make necessary corrections.
- ✓ Every year during the month of April/ May, in the honour of National Disaster Day, the Disaster Management Committee must arrange atleast one mock disaster drill.
- ✓ The Disaster Management Plan needs to be approved by the district Disaster Management Committee.

¹⁰ Source: Upazilla and Union Parishad and Pouroshova

2. Plan implementation and maintenance committee

Serial No.	Name	Designation	Mobile
1.	Md. Hossain Ibrahim	Sub-district Chairman	01819171290
2.	Moulavi Jahir	Sub-district Male Vice Chairman	
3.	Jahanara Jahangir	Sub-district Female Vice Chairman	
4.	Md. Anowarul Nasser	Sub-district Executive Director	01732592321
5.	Md. Shofiul Alam	Sub-district Project Implementing Officer	01834379277
6.	Anowar Hossain	Sub-district Social Welfare Officer	01710395061
7.	Rashedul Anowar	Area Manager (RIC)	01716736678
8.	Md. Siddique Ahmed	Sub-district Team Leader CPP	01815681886
9.	Md. Saleh Ahmed	(Comd.) Muki Joddha Songshodh	

Objectives of the Committee:

- ✓ The implementation of the plan needs to be monitored.
- ✓ Maintain communication with different government and non-government organizations at district level.
- ✓ Take initiatives to resolve problems that arise while implementing the plan.
- ✓ Verify the progress of the implementation of the plan and provide feedback.

Fifth Phase

Rescue and Rehabilitation Plan

5.1 Valuation of Damages:

Fields	Description
Agriculture	<p>If the cyclone strikes at a speed of 200-220 km/hr then 60% of the total crops may get destroyed.</p> <p>If there are high tides similar to that of 2007's then 40% of the crops will be destroyed. Out of 78408 acres farmland 31363 acres' crop, salt, shrimp and betel leaf will get destroyed or damaged.</p> <p>12500 acres' crops will get destroyed if there is heavy rainfall and rise in the water coming down the hills.</p> <p>70% of the produced crops may get destroyed.</p> <p>Every year 50% crops may get destroyed to pest attack and cause financial crisis for the farmers. 40% of the crops may get destroyed due to oceanic tidal waves.</p>
Infrastructure	<p>If the cyclone strikes at a speed of 200-220 km/hr then 40% mud houses and 20% tin houses may get destroyed.</p> <p>60% houses in low lying areas may get destroyed if there is heavy rainfall and rise in the water coming down the hills.</p> <p>60% of the houses at the foot of the hills may get destroyed by landslides.</p> <p>If there is any kalboishakhi then 40% mud houses and 20% tin houses may get destroyed.</p>
Communication	<p>If there are cyclones similar to that of 1991 then the roads will get damaged and become risky thus cutting off all communications.</p> <p>Heavy rainfall and water coming down the hill might destroy the dirt roads and cut off all communication.</p>
Human Resources	<p>During the monsoon season the risky hilly houses may get damaged or destroyed by landslides.</p> <p>If there are cyclones similar to that of 1991, then 50% people of the risky hilly houses may get hurt and nearly 3000 family members may suffer from various diseases.</p> <p>5% people may die if kalboishakhi occurs.</p>
Environment and forests	<p>Deforestation and parabon destructions will lead to 80% destruction of forest resources and put the environment in grave danger.</p>
Fishes / Shrimps	<p>Parabon destruction may destroy the breeding grounds of fishes and their homes.</p> <p>Nearly 200 shrimp enclosures out of 350 enclosures in the coastal regions may get completely destroyed by oceanic tidal waves.</p> <p>Nearly 100 shrimp enclosures in the coastal regions may get destroyed by high tides.</p> <p>Heavy rainfall and water coming down the hills may destroy 200 shrimp enclosures connected to canals.</p>
Betel Leaf	<p>If the cyclone strikes at a speed of 200-220 km/hr then 60% betel leaf crop on hilly lands may get destroyed.</p> <p>Heavy rainfall and water coming down the hills may destroy 50% of the betel leaf crop.</p> <p>Kalboishakhi can destroy 30% of the betel leaf crop.</p> <p>Every year 50% of the betel leaf crop may get destroyed by pest attack which may amount to a loss of Tk. 200 crore.</p>
Salt	<p>If the cyclone strikes at a speed of 200-220 km/hr then 200 acres' salt field may get damaged.</p> <p>Water coming down the hill may cause loss to 200 acres' salt field.</p> <p>150 acres' salt fields near Moheshkhali Channel and coastal region villages may get</p>

Fields	Description
	destroyed by high tides.

5.2 Speedy/Advance recovery:

5.2.1. Re-establishment of Administration:

Serial No.	Name	Designation	Mobile
1.	Md. Hossain Ibrahim	Sub-district Chairman	01819171290
2.	Md. Anowarul Nasser	Sub-district Executive Director	01732592321
3.	Md. Shofiul Alam	Sub-district Project Implementing Officer	01834379277
4.	Amirul Bahrain	Sub-district Agriculture Officer	01715232290
5.	Md. Mosharaf Hossain	Sub-district Engineer	01819964310
6.	Md. Shahidullah	Sub-district Primary Education Officer	01717149262

5.2.2. Cleaning of debris/ruins:

Serial No.	Name	Designation	Mobile
1.	Moulavi Jahir	Sub-district Male Chairman	
2.	Md. Kamal Hossain	Sub-district Co Engineer, Public Health Engineering Department	01711749173
3.	Anowar Hossain	Sub-district Social Welfare Officers	01710395061
4.	Dr. Julhas Ahmed	Sub-district Animal Resources Officer Moheshkhali	01711967855
5.	Md. Siddique Ahmed	Sub-district Team Leader CPP	01815681886

5.2.3. Restart Public Service:

Serial No.	Name	Designation	Mobile
1.	Md. Hossain Ibrahim	Sub-district Chairman	01819171290
2.	Jahanara Jahangir	Sub-district Female Vice Chairman	
3.	Md. Anowarul Nasser	Sub-district Executive Director	01732592321
4.	Md. Shofiul Alam	Sub-district Project Implementing Officer	01834379277
5.	Amirul Bahrain	Sub-district Agriculture Officer	01715232290
6.	Md. Mosharaf Hossain	Sub-district Engineer	01819964310

5.2.4. Emergency Livelihood Assistance:

Serial No.	Name	Designation	Mobile
1.	Md. Hossain Ibrahim	Sub-district Chairman	01819171290
2.	Moulavi Jahir	Sub-district Male Vice Chairman	
3.	Md. Anowarul Nasser	Sub-district Executive Director	01732592321
4.	Md. Shofiul Alam	Sub-district Project Implementing Officer	01834379277
5.	Anowar Hossain	Sub-district Social Welfare Officer	01710395061
6.	Rashedul Anowar	Area Manager (RIC)	01716736678

ANNEXURES

Appendix 1

Checklist for the implementation of the plan during disasters

Checklist:

The following preparation needs to be undertaken as soon as warnings have been broadcasted on TV and Radio:

Serial No.	Topic	Yes/No
1.	Calling emergency meeting of District Disaster Management Committee and of Union Parishad Union Disaster Management Committee and decide on what needs to be done.	
2.	Calling the elected volunteers to spread warnings about the incoming disaster.	
3.	Explain the importance of the rescue of people from risky areas to the designated individuals or teams.	
4.	Spreading words about securing dry food and safe drinking water for 2/3 days, under protective covering and burying them in the ground.	
5.	Distributing life jackets and other necessary equipments among the volunteers for their safety	
6.	Arranging for enough manpower to run the Emergency Control Room round the clock and create a duty roster.	
7.	Increasing the security around food/relief storage at sub-district and union level.	
8.	Keeping appropriate number of boats, vans and other vehicles ready for immediate transport.	
9.	Stocking necessary medicine.	
10.	Others	

Checklist:

Every year, after discussion at the Union Disaster Management Committee meeting, the table below needs to be filled by the 15th of May and sent to the District Executive Director at District Administration:

Serial No.	Topic	Tick where appropriate
1.	Every Union has enough food stocked in storage	
2.	The children of the risky areas has been vaccinated	
3.	Mother and children aged 1-6 years have been given vitamin A	
4.	The members of the volunteer teams are given yearly training	
5.	Make the members of the volunteer teams aware of their specific tasks	
6.	Stock necessary medicine and saline at UP clinics and hospitals	
7.	Every shelter has necessary First Aid Kit and Medicines	
8.	Every shelter has their elected local doctor present	
9.	Every shelter has the necessary working tube well	
10.	Every shelter has usable and working latrines	
11.	Every shelter has working windows and doors	
12.	Every shelter has separate safe areas for women	

Serial No.	Topic	Tick where appropriate
13.	Every shelter has alternative care takers	
14.	Every shelter has someone to look after the pregnant women	
15.	There are high areas or strongholds for domestic animals and poultries	
16.	The microphones are open to broadcast warnings and weather reports	
17.	Inspire and make the people conscious about stocking dry food and drinking water at least for 2/3 days	
18.	Others	

Appendix 2

Disaster Management Committee at District/Sub-district level (a new committee has been selected after the 2014 election)

Serial No.	Name	Designation	Members	Mobile
1.			Chairman	
2.			Secretary Member	
3.			Member	
4.			Member	
5.			Member	
6.			Member	
7.			Member	
8.			Member	
9.			Member	
10.			Member	
11.			Member	
12.			Member	
13.			Member	
14.			Member	
15.			Member	
16.			Member	
17.			Member	
18.			Member	
19.			Member	
20.			Member	
21.			Member	
22.			Member	
23.			Member	
24.			Member	
25.			Member	
26.			Member	
27.			Member	
28.			Member	
29.			Member	
30.			Member	
31.			Member	
32.			Member	
33.			Member	

Appendix 3

List of Volunteers in the District/Sub-district

Serial No.	Name	Father/ Husband's Name	Ward No.	Training	Mobile
1.	Saidul Alam	Father: Late Haji Md. Yunus	Dholghata	Warning	01815674317
2.	Md. Ismail	Father: Late Haji Fazal Akhter	Dholghata	Rescue	01813319132
3.	Jafar Alam	Father: Haji Sirajul Haque	Dholghata	Shelter	01820625467
4.	Jaber Ahmed	Father: Gura Mia	Dholghata	Relief	
5.	Monowara Begum	Husband: Abdul Shukkur	Dholghata	First Aid	
6.	S. M. Sarwar Kamal	Father: Abdul Malek	Kalamarchora	Warning	01811622356
7.	Md. Robiul		Kalamarchora	Co-shelter	01824809596
8.	Abu Taher	Father: Late Najir Ahmed	Kalamarchora	Rescue	01713625418
9.	Dr. Saber Ahmed	Father Mucha ali	Kalamarchora	First Aid	01811201086
10.	Kafil Uddin	Father: Jaker Ahmed	Kalamarchora	Relief	
11.	M. Osman Sarwar	Father: Haji Rashid Ahmed	Shaplapur	Warning	01937744844
12.	Syed Mia	Father: Late Md. Kalu	Shaplapur	Shelter	
13.	Jahirul Alam	Father: Late Abdul Jabbar	Shaplapur	Rescue	
14.	Hasmat Ara Begum	Husband: Nurul Kabir	Shaplapur	Co-first aid	
15.	Fahmina Hasan Naima	Husband: Abdul Rashid	Shaplapur	Co-relief	
16.	Mahbub Alam	Father: Harunur Rashid	Choto Moheshkhali	Warning	01819696899
17.	Nasir Uddin	Father: Md. Illias	Choto Moheshkhali	Shelter	
18.	Md. Sohban	Father: Late Haji Azizur Rahman	Choto Moheshkhali	Rescue	01817790432
19.	Nasir Uddin	Father: Abu Syed	Choto Moheshkhali	First Aid	
20.	Boshir Ali	Father: Abdul Hakim	Choto Moheshkhali	Co-relief	01722858584
21.	Md. Shawkat Islam	Father: Late Haji Abu Syed	Kutubjom	Warning	01718274125
22.	Azizul Haque	Father: Md. Amin	Kutubjom	Shelter	
23.	Fazal Karim	Father: Bodiur Rahman	Kutubjom	Rescue	
24.	Abdul Karim	Father: Bojlul Karim	Kutubjom	First Aid	
25.	Jabedul Islam	Father: Mozaffar Ahmed	Kutubjom	Relief	
26.	Ehabubur Rahman Faruki	Father: Mokhlesur Rahman	Matarbari	Warning	01740802668
27.	Bodiul Alam	Father: Golam Kader	Matarbari	Co-shelter	
28.	Akhtar Hossain	Father: Kabir Ahmed	Matarbari	Rescue	
29.	Anowar Hossain Parvez	Father: Amir Hossain	Matarbari	First Aid	
30.	Akkas Uddin	Father Putun Ali	Matarbari	Relief	
31.	Jafar Alam	Father: Hakim Ali	Hoanak	Warning	01813996701
32.	Enamul Haque	Father: Akhter Kamal	Hoanak	Shelter	01823034145
33.	Abdul Khalek	Father: Akhter Ali	Hoanak	Rescue	
34.	Md. Ali	Father: Late Fazlul Haque	Hoanak	First Aid	01814216006

Serial No.	Name	Father/ Husband's Name	Ward No.	Training	Mobile
35.	Asik Ahmed	Father: Late Abul Fazal	Hoanak	Relief	01817619360
36.	M Akhter Kamal Chowdhury	Father: Late Noor Ahmed	Boro Moheshkhali	Warning	01711571260
37.	Dr. Porimal Kanti	Father: Ashiri Kumar	Boro Moheshkhali	Shelter	01712068225
38.	Shawkat Osman	Father: Abdul Karim	Boro Moheshkhali	Rescue	01821570794
39.	Golam Sharif	Father: Abdul Sattar	Boro Moheshkhali	First Aid	
40.	Hafez Abul Boshor	Father: Late Hakim Ali	Boro Moheshkhali	Relief	
41.	Mahmudul Haque	Father: Late Mojaher Mia	Pouroshova	Warning	01849513288
42.	Idul Kanti Dey	Father: Pronob Dey	Pouroshova	Co-shelter	01812900716
43.	Shabuddin	Father: Kabir Ahmed	Pouroshova	Rescue	01820538942
44.	Dilip Kumar Das	Father: Subol Kumar Das	Pouroshova	First Aid	01818140074
45.	Dalilur Rahman	Father: Late Mofzol Ahmed	Pouroshova	Relief	

3.2. List of Union volunteers:

Boro Moheshkhali Union:

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
1.	Abul Kalam	Late Mia Hossain	1	Co-warning	-
2.	Md. Alam Pasha	Doulat Mia	1	Shelter Management	01811363633
3.	Hafez Amanu Haque	Haji Solaiman	1	Rescue	01721771140
4.	Golam Sharif	Abdus Sattar	1	First Aid	-
5.	Mostak Ahmed	Late Rowshan Ali	2	Warning	-
6.	Shawkat Osman	Abdul Karim	2	Rescue	01821570794
7.	Isratul Jannat	Husband: Mostak Ahmed	2	Co-first Aid	-
8.	Hafez Jafar Alam	Alhaj Asad Ali	3	Co-warning	-
9.	Md. Saber	Md. Abdus Somod	3	Shelter Management	01198098381
10.	Mozzamel Haque	Haji Jomir Uddin	3	Rescue	-
11.	Sultan Ahmed	Late Selim Mia	3	First Aid	01823911712
12.	Shadat Kabir	Late Mazharul Haque	4	Warning	01920542602
13.	Ruhul Kader	Dr. Abdul Aziz	4	Shelter Management	-
14.	Sahab Uddin	Late: Omar Ali	4	Relief Distribution	-
15.	Md. Shah Alam	Haji Nosrat Ali	5	Warning	01727410939
16.	Dr. Porimol Kanti	Ashini Kumar	5	Shelter Management	01712068225
17.	Hafez Abul Boshor	Late Hakim Ali	5	Relief Distribution	-
18.	Baby Prova Dey	Dr. Porimol Kanti	5	Co-first Aid	01721683314
19.	Mofizur Rahman	Abu Syed	6	Warning	01714654463
20.	Nazim Uddin	Md. Boksu	6	Shelter Management	01813794477
21.	Shidul Kanti Dey	Bojendro Lal Dey	6	Rescue	01816357981
22.	Rozina Akhter	Masud Hasan	6		01195126401
23.	Md. Anowar Hossain	Altaf Hossain	7	Warning	01726621599
24.	Morzina Akhter	Husband: Gofur Alam	7		01719389660

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
25.	Rahmat Ullah	Ujir Ali	7	Relief Distribution	-
26.	Taslima Begum	Husband: Md. Jalal	7	Female Shelter Management	-
27.	Abul Fazal	Late Nosrat Ali	8	Warning	01818766751
28.	Sarwar Kamal	Mostofa Kamal	8	Rescue	-
29.	Shaker Alam	Late Haji Dudu Mia	8	First Aid	-
30.	Hajera Begum	Hossain Ahmed	8		-
31.	Selim Ullah Khan	Late Haji Ali Mia	9	Warning	01712937916
32.	Abul Kashem	Hafez Abdul Jabbar	9	Shelter Management	01813164705
33.	Nurul Kabir	Abdur Shukkur	9	Co-First Aid	01813273446
34.	Ruby Akhter	Husband: Abul Kashem	9		-

Choto Moheshkhali Union:

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
1.	Ansarul Haque	Late Haji Bacha Mia	1	Warning Broadcast	
2.	Md. Boddrudoza	Md. Habibur Rahman	1	Shelter Management	01196146886
3.	Md. Lokman	Late Fazal Karim	1	Co-Rescue	01813260562
4.	Dr. Md. Firoz Ahmed	Golam Sultan	1	First Aid	01822546146
5.	Abdus Samad	Golam Sultan	1	Co-Relief	
6.	Bulbul Akhter	Husband: Kabir Ahmed	2	Co-Warning Broadcast	
7.	Nurul Kabir	Late Haji Habibur Rahman	2	Shelter Management	
8.	Azizur Rahman	Md. Shikander	2	Co-Rescue	
9.	Kabir Ahmed	Amir Ali	2	First Aid	
10.	Nurul Hossain	Fakir Mohammad	2	Relief Distribution	01198202998
11.	Mahbub Alam	Late Harinur Rashid	3	Warning Broadcast	01819696899
12.	Nasir Uddin	Mohammad Illias	3	Shelter Management	-
13.	Mohammad Sobahan	Late Haji Azizur Rahman	3	Rescue	01817790432
14.	Nasir Uddin	Abu Syed	3	First Aid	-
15.	Bashir Alam	Abdul Hakim	3	Co-Relief	01722858584
16.	Md. Siraj	Haji Ajar Ali	5	Warning Broadcast	-
17.	Jakir Hossain	Abul Kalam	5	Shelter Management	-
18.	Md. Gazi Mia	Md. Idris	5	Rescue	01823910771
19.	Abul Sama	Late Kashim Ali	5	Co-First Aid	-
20.	Md. Ismail	Haji Sahab Mia	5	Co-Relief	01820299068
21.	Imam Ali	Md. Sirajul Islam	6	Shelter Management	-
22.	Moslem Mia	Kabir Ahmed	6	Rescue	-
23.	Azizul Haque	Late Jan Mia	6	First Aid	-
24.	Abdur Rashid	Late Naju Mia	7	Warning Broadcast	-
25.	Md. Islam	Haji Faru Mia	7	Shelter Management	01190477285
26.	Nurul Amin	Abdul Jalil	7	Rescue	-
27.	Kala Buri	Husband: Mia Jan	7	Co-First Aid	-
28.	Nurul Alam	Late Abdur Rahman	7	Co-Relief	-
29.	Kalikumar Dey	Borjo Mohon Dey	9	Warning Broadcast	-
30.	Mir Kashem	Mohammad Ali	9	Co-Shelter Management	-

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
31.	Sujit Kumar Dey	Dhirendro Lal Dey	9	Search and Rescue	01811975299
32.	Dr. Subol Krishna Dey	Nirendro Lal Dey	9	First Aid	01713629946
33.	Milon Dutta	Prem Hori Dutta	9	Relief	-

Dholghata Union:

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
1.	Joynal Abedin	Amir Hamza	1	Warning Broadcast	01814476309
2.	Nurul Absar	Ali Hossain	1	First Aid	-
3.	Johirul Islam	Late Ali Ahmed	1	Relief Distribution	-
4.	Kamal Uddin Choudhury	Abul Hossain Choudhury	1	Rescue	-
5.	Delawar Hossain	Romzan Ali	1	Shelter Management	-
6.	Salauddin	Amir Hossain	2	Warning Broadcast	01817224503
7.	Md. Manik Uddin	Late Nurul Amin	2	Shelter Management	-
8.	Eranul Haque	Nurul Amin	2	Rescue	-
9.	Abul Kashem	Abdur Razzak	3	Warning Broadcast	-
10.	Mizan Ara	Father: Md. Kabir Ahmed	3	First Aid	-
11.	Abdul Malek	Late Kabir Ahmed	3	Shelter Management	-
12.	Jahangir Alam	Kahadat Ullah	5	Shelter Management	01811362103
13.	Mizanur Rahman	Mahabub Alam	5	First Aid	01815851844
14.	Hamida Begum	Husband Ali Azgar	5	Rescue	-
15.	Md. Jakria Ahmed	Ahmed Ullah	4	Warning Broadcast	-
16.	Md. Deedarul Islam	Doulat Mia	4	Co-Warning Broadcast	-
17.	Abul Kalam	Abdul Karim	4	Rescue	-
18.	Saidul Alam	Md. Yunus	6	Warning Broadcast	01815674317
19.	Salamat Ullah	Habibur Rahman	6	Rescue	-
20.	Nurul Islam	Noju Mia	6	Co-Warning Broadcast	-
21.	Foridul Alam	Haji Md. Yunus	6	First Aid	01840073539
22.	Foridul Alam	Amin Ullah	7	Warning Broadcast	-
23.	Mohosen Ali	Abdus Samad	7	Co-Warning Broadcast	-
24.	Ansarul Karim	Sher Ullah	7	Rescue	-
25.	Abu Taher	Bodor Amini	7	First Aid	-
26.	Jafar Alam	Sirajul Haque	8	Shelter Management	-
27.	Nur Hashem	Salamat Ullah	8	First Aid	-
28.	Bashir Ahmed	Karim Dand	8	Rescue	-
29.	Ramjan Ali	Lal Mia	8	Warning Broadcast	-
30.	Hafez Faridul Alam	Hafez Bozlul Haque	9	First Aid	01812569195
31.	Anarkali Chumki	Husband: Omar Faruk	9	Shelter Management	-
32.	Mobbaserin	Husband: Aman Ullah	9	Rescue	-
33.	Ismail	Late Fazl Karim	9	Relief Distribution	01812433306
34.	Aman Ullah	Abdul Jabbar	9	Co-Warning Broadcast	01815674316

Hoanak Union:

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
1.	Sajeda Akhter	Husband: Saikat Ali	1	Co-Warning	-
2.	Faridul Alam	Amir Hamza	1	Shelter Management	01823822321
3.	Md. Ali	Fazlul Haque	1	Co-Rescue	01814216006
4.	Jakir Alam	Nurul Haque	1	First Aid	01814770487
5.	Md. Hossain	Abul Kashem	2	Warning	01820029031
6.	Mobbassera Begum	Husband: Md. Hossain	2	Co-Shelter Management	-
7.	Faridul Alam	Md. Ahmed Kabir	2	First Aid	-
8.	Abu Bakkar	Md. Zakaria	2	Relief	-
9.	Jafar Alam	Hakim Ali	3	Warning	01813996701
10.	Shopon Hiru	Gopal Bhattacharja	3	Shelter Management	01824402917
11.	Firoza Parveen	Husband: Jafar Alam	3	Co-First Aid	-
12.	Md. Ali	Haji Abdul Hakim	3	Rescue	-
13.	Ratan Kumar Dey	Chita Horon Dey	4	Warning	01813551471
14.	Md. Zubair	Late Petan Ali	4	Co-Shelter Management	-
15.	Ratan Kumar Ghosh	Late Ronodhish Ghosh	4	Rescue	01812932903
16.	Md. Kashem	Abul Hashem	4	Co-First Aid	-
17.	Aman Ullah	Late Shahab Mia	4	Co-Relief	01820120374
18.	Md. Alam	Md. Estefaz	4	Warning	01815078010
19.	Enamul Haque	Akhter Kamal	4	Shelter Management	01823034145
20.	Sirajul Mostofa	Abdul Ali	4	Rescue	0182000360
21.	Abdul Kabir	Nazir Ahmed	4	First Aid	01813501220
22.	Ashik Mahmood	Late Abul Fazal	4	Relief	01817619360
23.	Subod Kumar Dey	Ram Narayan Dey	5	Warning	-
24.	Haripod Dey	Jatindra Lal Dey	5	Rescue	-
25.	Apon Chandra Dey	Rabindra Lal Dey	5	First Aid	-
26.	Bimol Chandra	Notun Chandra	5	Relief	-
27.	Md. Abdul Haque	Karim Baksu	6	Warning	-
28.	Nurul Amin	Ali Chand	6	First Aid	-
29.	Moktar Ahmed	Hakim Ali	6	Relief	-
30.	Abul Kalam	Safor Mulluk	7	Co-Warning	-
31.	Md. Ismail	Abul Hossain	7	Shelter Management	-
32.	Abdul Khalek	Akhter Ali	7	Co-Rescue	-
33.	Md. Kashem	Bodiul Alam	7	First Aid	-
34.	Sanjay Dey	Monohori Dey	7	Co-Relief	-
35.	Liakat Ali	Mofizur Rahman	9	Warning	01746805603
36.	Abul Fazal	Md. Amin	9	Co-Shelter Management	-
37.	Azizul Haque	Jabbar Muluk	9	Co-Rescue	-
38.	Syed Kabir	Md. Faru Mia	9	First Aid	-
39.	Joytunnahar	Husband Faridul Alam	9	Co-Relief	-

Kalamarchora Union:

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
1.	Rafique Ahmed	Haji Md. Shafi	1	Warning Broadcast	01721779354
2.	Anisul Mostofa	Md. Ismail	1	Shelter Management	-

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
3.	Hafez Riduwan Elahi	Md. Syed Fakir	1	Rescue	01824971657
4.	Joynal Abedin	Shahab Mia	1	First Aid	01713967347
5.	Shopon Kumar	Gopal Krishna	2	Warning Broadcast	01813786401
6.	Sumon Borua	Hira Mohon Borua	2	Co-Shelter Management	01821819910
7.	Nurul Kader	Jaffar Ahmed	2	Rescue	01820239138
8.	Diresh Borua	Roshik Borua	2	Co-First Aid	01713967379
9.	Dr. Mashuk Mahiru		3	Warning Broadcast	01811672507
10.	Abu Ahmed	Late Yakub Ali	3	Shelter Management	01722144913
11.	Mojibur Rahman	Yusuf Ali	3	Co-Rescue	-
12.	Shilu Rani Shil	Husband: Ajoy Kumar Shil	3	Co-First Aid	-
13.	Haji Md. Ismail	Late Karim Dadh	4	Warning Broadcast	01816828438
14.	Jamir Uddin	Md. Abu Jafar	4	Shelter Management	01723963020
15.	Lokman Hakin	Abul Hossain	4	Rescue	01815674323
16.	Dr. Mustak Ahmed	Late Jamal Ahmed	4	Co-First Aid	01817738454
17.	Topon Kanti Shil	Shudhangshu Kumar Shil	5	Warning Broadcast	01820109729
18.	Khaleda Begum	Husband: Mokhtar Ahmed	5	Co-Shelter Management	-
19.	Mostofa Kamal	Haji Tajul Mia	5	Rescue	01717734244
20.	Sobita Rani Shil	Dr. Topon Kanti	5	Co-First Aid	01741516555
21.	Md. Ali	Late Shahab Ali	6	Co-Warning Broadcast	01821846624
22.	Dil Mohammad	Ula Mia Choukidar	6	Shelter Management	-
23.	Halima Sultana	Husband: Md. Ali	6	Co-Rescue	-
24.	Abu Hena Mostofa	Abu Taleb	6	Co-First Aid	-
25.	S M Sarwar Kamal	Abdul Kamal	7	Co-Shelter Management	01811622356
26.	Mubina Haque	Husband: Mahmudul Haque	7	Co-Rescue	-
27.	Khaled Morshed	Shorot Ali	7	Co-First Aid	-
28.	Haji Rashid Ahmed	Late Haji Fazal	7	Warning Broadcast	01731594852
29.	Torikul Islam	Nurul Islam	7	Warning Broadcast	01813164664
30.	Bashir Ahmed	Sultan Ahmed	8	Shelter Management	01824402900
31.	Nurul Amin	Anju Mia	8	Rescue	-
32.	Monowara Begum	Husband: Amin Ullah	8	Warning Broadcast	-
33.	Siddique Ahmed	Nazir Ahmed	9	Shelter Management	01815681886
34.	Tofail Azam	Nurul Haque	9	Rescue	01812427273
35.	Md. Ekram	Md. Kashem Ali	9	Warning Broadcast	01811611157

Kutubjom Union:

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
1.	Abdur Shukkur	Nurul Haque	1	Warning Broadcast	-
2.	Forkan Ahmed	Shah Alam	1	Shelter Management	-
3.	Kabir Ahmed	Mostafa Ali	1	Co-Rescue	-
4.	Shamshul Alam	Bahadur Mia	1	First Aid	-
5.	Gias Uddin	Syed Ahmed	1	Warning Broadcast	01714374133

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
6.	Dildar Begum	Jafar Alam	1	Co-Rescue	-
7.	Nurul Hossain	Omar Faruk	1	Relief Distribution	-
8.	Sarowar Kamal	Md. Rowshan Ali	2	Warning Broadcast	-
9.	Nurul Islam	Late Mojaher Mia	2	Rescue	-
10.	Jamal Uddin	Dr. Nurul Amin	2	First Aid	-
11.	Moktar Ahmed	Md. Azam Mia	2	Relief Distribution	-
12.	Dr. Amiruzzaman	Haji Md. Sharif	2	Warning Broadcast	-
13.	Abul Kalam	Haji Mokbul Sobahan	2	Shelter Management	-
14.	Abul Kalam Ajad	Late Belal Ahmed	2	First Aid	-
15.	Rahman Ali	Late Kala Mia	2	Rescue	-
16.	Nurul Hashem	Ali Hossain	3	Warning Broadcast	01818431530
17.	Minuara Begum	Nurul Hashem	3	Co-Shelter Management	-
18.	Md. Hossain Ali	Kala Mia	3	Rescue	-
19.	Md. Ismail	Late Badsha Mia	3	Co-First Aid	-
20.	Mahamudul Karim Azad	Late Golam Kader	4	Warning Broadcast	-
21.	Dildar Begum	Husband: Dr. Abul Kashem	4	Co-Shelter Management	-
22.	Mahmudul Karim	Sheikh Ahmed	4	Co-Rescue	-
23.	Humaira Akhter	Husband Mahmudul Karim	4	Co-First Aid	-
24.	Masudul Islam	Muktar Ahmed	5	Warning Broadcast	-
25.	Bahadur Mia	Tufaan Ali	5	Rescue	-
26.	Farid Ahmed	Late Sidique Ahmed	5	First Aid	-
27.	Md. Sarwar Kamal	Ramiz Ahmed	6	Warning Broadcast	-
28.	Kamrunnahar	Husband: Ansarul Karim	6	Co-Shelter Management	-
29.	Rashedul Islam	Altaf Hossain	6	Co-Relief Distribution	-
30.	Danu Mia	Haji Md. Jalal	7	Warning Broadcast	-
31.	Nurul Haque	Mojahar Mia	7	Rescue	-
32.	Ansarul Haque	Late Sikhder Ali	7	Co-First Aid	-
33.	Md. Jakir Hossain	Solmain Bhuiya	8	Warning Broadcast	01719006568
34.	Nurul Alam	Jalal Ahmed	8		-
35.	Md. Siddique	Haji Mohsan Ali	8	Shelter Management	-
36.	Jahangir Alam	Siddique Ahmed	8	Rescue	-
37.	Md. Shawkatul Islam	Late Haji Abu Syed	9	Warning Broadcast	01718274125
38.	Nessar Ahmed	Jahir Ahmed	9	Co-Shelter	-

Matarbari Union:

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
1.	Md. Rezaul Karim	Late Ferdous Ahmed	1	Warning Broadcast	-
2.	Nurul Huda Ledu	Late Hasanur Rashid	1	First Aid	-
3.	Anowara Begum	Husband: Abul Sama	1	Warning Broadcast	-
4.	Enamul Haque Babul	Late Habibur Rahman	2	Warning Broadcast	-
5.	Kamal Uddin	Late Habibur Rahman	2	Shelter Management	-
6.	Arefa Begum	Father: Syeda Begum	2	First Aid	-
7.	Momtazul Islam	Late Siraj Mia	3	Warning Broadcast	-

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
8.	Md. Ajar Hossain	Late Abdur Sattar	3	Warning Broadcast	-
9.	Bodiul Alam	Golam Kader	3	Shelter Management	-
10.	Shabekur Nahar	Husband: Late Abdus Salam	3	First Aid	-
11.	Md. Alam	Late Rabbat Ali	4	Warning Broadcast	-
12.	Abdur Rahim	Late Abu Syed	4	Shelter Management	-
13.	Shilu Rani Shushil	Husband Milon Kanti Shushil	4	Aid	-
14.	Nurul Islam	Md. Aiub	5	Shelter Management	-
15.	Salauddin	Kabir Ahmed	5	Co-Rescue	-
16.	Roksana Begum	Husband: Mofasel Ahmed	6	Female Aid	-
17.	Nazem Uddin	Late Bodiul Alam	6	Co-First Aid	-
18.	Md. Wasim Akram	Ibrahim Khalil	6	Warning Broadcast	-
19.	Shahin Mostofa	Siddique Ahmed	6	Co-First Aid	-
20.	Md. Nasir Uddin	Late Shaheb Mia	7	Co-First Aid	-
21.	Dr. Moin Uddin	Abdul Majid	7	Co-Warning Broadcast	-
22.	Obaidul Hossain	Late Abu Syed	7	Co-Shelter Management	-
23.	Md. Nurul Absar	Md. Ishak Sikder	7	Warning Broadcast	-
24.	Shakhawat Hossain	Late Md. Hossain Sikder	7	Co-Warning Broadcast	-
25.	Fatematujohora Munni	Father: Abul Bashar	7	Female Shelter Management	-
26.	Abu Saleh	Bashir Ahmed	8	Warning Broadcast	-
27.	Neharul Haque	Mostak Ahmed	8	Warning Broadcast	-
28.	Kamrunnessa Kajol	Husband: Sahabuddin	8	M: Warning Broadcast	-
29.	Abdul Wadud	Abul Bashar	9	Warning Broadcast	-
30.	Foyejul Karim	Mofiz Uddin	9	Co-First Aid	-
31.	Sibbir Ahmed	Sultan Ahmed	9	Rescue	-
32.	Monir Uddin	Late Golam Rosul	2	Warning Broadcast	-
33.	Rokeya Begum	Husband: Md. Ridwan	9	M: Rescue	-
34.	Khalecha Khanom	Husband: Selim Ullah	9	M: Warning Broadcast	-

Shaplapur Union:

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
1.	Humayan Kabir	Late Ashab Mia	1	Warning Broadcast	-
2.	Nasima Akhter	Husband: Nurul Haque	1	Co-Shelter Management	-
3.	Golash Kuddus	Late Ahmudur Rahman	1	First Aid	-
4.	Nasima Khatun	Husband: Delowar Hossain	1	M: Co-Relief	-
5.	M Osman Sarwar	Haji Rashid Ahmed	2	Warning Broadcast	01937744844
6.	Jannatul Ferdous	Husband: Abdur Shukkur	2	Co-Warning Broadcast	-
7.	Sahmshu Alam	Late Ola Mia	2	Rescue	-
8.	Lokman Sarwar	Late Nurul Hossain	2	First Aid	-
9.	Shahnewaz Badsha	Late Mojahar Mia	3	Warning Broadcast	-
10.	Nurul Alam	Late Mostak Ahmed	3	Shelter Management	-
11.	Ferdous Akhter	Husband Gias Uddin	3	M: Co-Rescue	-

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
	Munni				
12.	Selim Md. Iqbal	Abul Bashar	3	First Aid	-
13.	Rashid Mia	Late Samad Mia	4	Co-Shelter Management	01719650390
14.	Khairunnessa	Husband Sarowar Alam	4	M: Co-Rescue	-
15.	Delowar Hossain	Dolilur Rahman	4	First Aid	-
16.	Khaleda Begum	Husband: Jalal Uddin	4	M: Co-Relief	-
17.	Mira Prova Bihari	Husband: Haradhan Bihari	5	M: Co-Warning	-
18.	Md. Rafique	Late Abdur Rashid	5	Shelter Management	-
19.	Noni Gopal Shil	Norindro Chandra Shil	5	Rescue	-
20.	Dr. Shopon Kumar Paul	Late Sudhir Chandra Paul	5	First Aid	-
21.	Nurul Kader	Jafar Alam	6	Warning Broadcast	-
22.	Abdul Karim	Abu Jaffar	6	Shelter Management	-
23.	Johirul Alam	Late Abdul Jabbar	6	Rescue	-
24.	Md. Rahmat Ullah	Md. Amiruzzaman	6	First Aid	-
25.	Dr. Safiul Alam	Late Ashi Mia	8	Warning Broadcast	-
26.	Abul Kashem	Late Nur Ahmed	8	Shelter Management	-
27.	Md. Kalimullah	Md. Nurul Haque	8	Rescue	-
28.	Abbas Uddin	Late Haji Golam Sultan	8	First Aid	-
29.	Nurul Islam	Master Ahmuddur Rahman	9	Warning Broadcast	-
30.	Johirul Alam	Haji Nur Ahmed	9	Co-Shelter Management	-
31.	Md. Alam	Late Abdur Jabbar	9	Rescue	-
32.	Hasmatara Begum	Husband Nurul Kabir	9	M: Co-First Aid	-
33.	Ajgar Ali	Late Sultan Ahmed	9	Co-Relief	-

Moheshkhali Pouroshova:

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
1.	Md. Solaiman	Late Ushiur Rahman	5	Co-Warning Broadcast	01814812857
2.	Shahab Uddin	Kabir Ahmed	5	Rescue	01820538942
3.	Ruhul Amin	Mokbul Hossain	5	Co-First Aid	01819983104
4.	Azizul Haque	Bodruddoza	5	Co-Rescue	-
5.	Shontosh Kumar Dey	Late Jatra Mohon Dey	6	Co-Warning Broadcast	-
6.	Idul Kanti Dey	Pronob Dey	6	Co-Shelter Management	01812900716
7.	Chinu Rani Das	Husband: Badal Kanti Das	6	Co-Rescue	-
8.	Samir Kanti Das	Late Junu Ram Dey	6	Co-First Aid	01813142492
9.	Abdul Gofur	Sultan Ahmed	9	Co-Warning Broadcast	-
10.	Shah Alam	Mia Hossain	9	Co-Shelter Management	01918396951
11.	Abdul Haque	Yusuf Ali	9	Rescue	-
12.	Saidul Islam	Haji Bacha Mia	9	First Aid	01811833640
13.	Hasan Ali	Abdul Halim	9	Co-Relief	01197099362
14.	Gias Uddin	Md. Ali	7	Co-Warning Broadcast	01814182725
15.	Md. Sultan	Nur Ahmed	7	Co-Shelter Management	-
16.	Amjad Hossain	Late Haji Lal Mia	7	Rescue	-
17.	Abdul Karim	Hafez Anwar	7	First Aid	-
18.	Shafiul Alam	Late Mokbul Ahmed	8	Co-Rescue	01812752211

Serial No.	Name	Father/husband's name	Ward No.	Training	Mobile
19.	Shah Imran	Shamshuddoha	8	First Aid	-
20.	Jamal Uddin	Jalal Ahmed	8	Co-Warning Broadcast	01817400018
21.	Sultanul Islam	Late Gura Mia	8	Co-Relief	01820299100
22.	Md. Rafiullah	Haji Md. Solaiman	4	Warning Broadcast	-
23.	Abdul Gofur	Saber Ahmed	4	Shelter Management	-
24.	Shopon Jaldas	Nokul Jaldas	4	Rescue	01815373388
25.	Nirmal Kanti Dey	Arshini Kumar Dey	4	Co-First Aid	-
26.	Abdul Gofur	Late Sikder Ali	3	Co-Warning Broadcast	01819033739
27.	Md. Siddique	Late Habibur Rahman	3	Rescue	-
28.	Jafar Alam	Dudu Mia	3	First Aid	-
29.	Subhash Chandra	Late Atul Chandra	3	Relief	-
30.	Osman Sarowar	Late Mokbul Ahmed	2	Co-Warning Broadcast	-
31.	Golam Mostofa	Mir Kashem	2	Shelter Management	-
32.	Johir Uddin	Mojaher Mia	2	Co-Rescue	-
33.	Abdul Karim	Siddique Ahmed	2	First Aid	-
34.	Abu Taher	Ershad Ali	1	Warning Broadcast	01814865425
35.	Bodiul Alam	Jalal Ahmed	1	Shelter Management	-
36.	Golam Mostofa	Md. Rashid	1	Rescue	-
37.	Shamshunnahar	Husband: Abdus Samad	1	M: Co-First Aid	01816464633

Appendix 4

List of Shelter Management Committee

Mud Forts:

Shelters' Name	Person in Charge	Mobile	Comments
None	-	-	-

School cum Center:

Shelters' Name	Person in Charge	Designation	Mobile
All the School cum shelter in every unions of the Upazilla/ Sub-district	Md. Hossain Ibrahim	Sub-district/ Upazilla Chairman	01819171290
	Md. Anawarul Naser	Sub-district Executive Officer	01732592321
	Jahanara Jahangir	Female Sub-district/ Upazilla Chairman	
	Md. Shafiul Alam	Sub-district Project Implementation Officer	01834379277
	Union Parishad Chairman and Representative of the Pouroshova Mayor		
	Representatives of the School and Colleges		

Government/ Non-Government Institutions:

Shelters' Name	Person in Charge	Designation	Mobile
All the Cyclone shelter in every unions of the Upazilla/ Sub-district	Md. Hossain Ibrahim	Sub-district/ Upazilla Chairman	01819171290
	Md. Anawarul Naser	Sub-district Executive Officer	01732592321
	Moulovi Jahir	Sub-district/ Upazilla Vice Chairman	
	Md. Shafiul Alam	Sub-district Project Implementation Officer	01834379277
	Union Parishad Chairman and Representative of the Pouroshova Mayor		
	Hafiz Ahmed	Deputy Director CPP Moheshkhali	01712026304
	Md. Siddique Ahmed	Sub-district/ Upazilla Team Leader CPP	01815681886

High roads and Barrages:

Shelters' Name	Person in Charge	Designation	Mobile
All the High Roads and Barrages in every unions of the Upazilla/ Sub-district	Md. Hossain Ibrahim	Sub-district/ Upazilla Chairman	01819171290
	Moulovi Jahir	Sub-district/ Upazilla Vice Chairman	
	Md. Anawarul Naser	Sub-district Executive Officer	01732592321
	Md. Mosharraf Hossain	Sub-district/ Upazilla Engineer	01819964310
	Md.	Deputy Executive Engineer, Public Health Engineering Dept.	
	Md. Shafiul Alam	Sub-district Project Implementation Officer	01834379277

Health Management Committee:

Health Centers' Name	Person in Charge	Mobile	Comments
Sub-district/Upazilla Health Centres	Dr. Shuchinto Choudhury Sub-district/Upazilla Health and PP Officer	01711327833	
	Dr. Md. Mahfuzul Haque (Retd. Medical Officer)	01712124706	
	Dr. Nizam Uddin (Medical Officer Disease Control)	01819676698	
	Abu Jafar (Health Inspector, Incharge)	01814305258	
	Bozlul Karim (Statistician)	01813386761	

Fire Safety Committee:

Fire Stations' Name	Person in Charge	Designation	Mobile
Moheshkhali Fire Station	Md. Hossain Ibrahim	Sub-district/ Upazilla Chairman	01819171290
	Md. Anawarul Naser	Sub-district Executive Officer	01732592321
	Shuvo Kanti Borua	Station Officer, Fire Service and Civil Defence Station, Moheshkhali	01812343102
	Md. Shafiul Alam	Sub-district Project Implementation Officer	01834379277
	Md. Mosharraf Hossain	Sub-district/ Upazilla Engineer	01819964310

Engine Run Boat:

Unions/ Wards' Name	Person in Charge	Mobile	Comments
Pouroshova, Ward No. 08	Md. Salah Uddin	01818555304	
Choto Moheshkhali, Ward No. 03	Hamidul Haque	01829776903	
Pouroshova, Ward No. 08	Md. Arif Ullah	01820424533	
Pouroshova, Ward No. 03	Abu Siddique	01818301235	
Pouroshova, Ward No. 08	Md. Oli Ullah	01819099381	

Local Businessmen:

Unions/ Wards' Name	Person in Charge	Mobile	Comments
Pouroshova, Ward No. 07	Mou. Md. Abu Saleh (Merchant)	01815335081	
Pouroshova, Ward No. 03	Haji Bodiul Alam (Merchant)	01819108826	
Choto Moheshkhali, Ward No. 03	Md. Yunus (Merchant)	01816906953	
Pouroshova, Ward No. 06	Md. Roushan Ali	01829322322	
Pouroshova, Ward No. 07	Goutam Chokroborti	01734086461	

Appendix 5

Name of Schools and Number of Student Numbers according to Unions:

Union	School/ Madrasa/ College	Name of Educational Institutions	Students	Teachers	Ward	Whether used as Shelters or not
Boro Moheshkhali	Government	Fokira Kata Government Primary School	773	6	1	No
		Munshir Government Dale Primary School	500	4	2	Yes
		Boro Moheshkhali Government Primary School	667	8	4	Yes
		Modhuar Dale Government Primary School	514	8	5	Yes
		Notun Bazaar Government Primary School	600	7	6	Yes
		Jagia Ghona Government Primary School	468	7	7	Yes
		Fokira Ghona Government Primary School	723	6	9	Yes
		West Fokira Ghona Government Primary School	486	6	9	Yes
		Mogria Kata Government Primary School	407	4	1	No
		Jora Pukur Para Government Primary School	156	4	5	No
	Kindergarten	Boro Moheshkhali KG school	245	5	3	No
	Non- Government High School	Boro Moheshkhali High School	525	18	6	No
		Boro Moheshkhali Girls High School	575	17	3	No
	Madrasa	Boro Moheshkhali Darus Sunnia Dakhil Madrasa	400	14	1	No
		Boro Moheshkhali Female Dakhil	382	17	3	No
		Latuar Dale Darussunno Madrasa	290	13	5	No
		Notun Bazaar Madrasa	320	15	8	No
		Nurul Ulam Madrasa	360	13	9	No
	Non- Government Primary School	Mogria Kata Akhter Kamal Chowdhury Primary School	285	4	1	No
	College	Bangabondhu Women's College	252	16	3	No
Alamgir Farid Technical College		134	11	7	Yes	
Choto	Government	Shipahi Para Government	735	7	2	Yes

Union	School/ Madrasa/ College	Name of Educational Institutions	Students	Teachers	Ward	Whether used as Shelters or not
Moheshkhali		Primary School				
		Choto Moheshkhali Government Primary School	705	8	4	Yes
		Mudir Chora Government Primary School	540	5	6	No
		Adinath Government Primary School	784	9	8	No
	Non- Government Lower Secondary School	Choto Moheshkhali Lower Middle School	520	8	5	No
	Madrasa	Ahmedia Sunnia Dakhil Madrasa	1460	18	7	No
Dholghata	Government	Mohuri Ghona Government Primary School	357	5	2	Yes
		Soraitola Government Primary School (Soraitola Government Public School has become risky as a shelter thus it has been moved on top of Dholghata Barrage in shanties)	160	2	4	No
		Shutria Government Primary School	436	4	6	Yes
		Shapmarar Dale Government Primary School	457	2	9	Yes
	Non- Government High School	Dholghata Adarsha High School	540	12	5	Yes
	Madrasa	Mohuri Ghona Islamia Alim Senior Madrasa	485	21	1	No
		Dholghata Husainia Bodrul Ulom Darul Madrasa	275	14	9	No
		Emdadia Anwarul Ulom Madrasa	410	10	6	No
Asma Binte Abu Bokkor Girls Darul Madrasa		300	8	6	No	
Hoanak	Government	Horiar Chora Government Primary School	684	7	2	No
		Time Bazaar Government Primary School	1009	7	3	Yes
		Bonia Kata Government Primary School	733	7	4	Yes
		Hoanak Government Primary School	1009	8	5	Yes
		Kerun Toli Government	344	6	7	Yes

Union	School/ Madrasa/ College	Name of Educational Institutions	Students	Teachers	Ward	Whether used as Shelters or not
		Primary School				
		Kalalia Kata Government Primary School	644	7	8	Yes
		Panir Chora Government Primary School	972	8	9	Yes
		Dholghata Government Primary School	657	4	8	Yes
		West Kalagazir Government Primary School	651	4	2	Yes
	Kindergarten	Panir Chora Adarsha KG School	180	6	9	No
		Bania Kata Anushondhan Adarsha KG School	160	8	4	No
	Non- Government High School	Hoanak Bohumukhi High School	790	11	4	Yes
		Panirchora Adarsha High School	550	12	9	Yes
		Haji Abdul Mabudh Chowdhury High School	300	7	Ward no.7	No
	Girls High School	Hoanak Girl's High School	276	12	Ward no.4	No
	Madrasa	Panirchora Islamia Dakhil Madrasa	600	14	9	No
		Rashidia Islamia Dakhil Madrasa	550	20	9	No
		Rajuar Ghona Moinul Islam Madrasa	400	16	6	No
		Hoanak Islamia Dakhil Madrasa	560	17	3	Yes
		Nuria Mazharul Ulom Madrasa	900	20	2	No
		Kalaikata Jinnurain Dakhil Madrasa	400	18	8	No
	Non Government Lower Secondary School	Chonkhola Para Lower Middle School	120	5	9	No
		Horiar Chora Lower Middle School	50	4	2	No
	College	Hoanak College	198	16	4	Yes
	Kalamarchora	Government	North Nalbila Government Primary School	522	7	1
Yunus Khali Government Primary School			701	7	3	Yes
Sardar Ghona Government Primary School			740	4	4	Yes
Chikoni Para Government Primary School			816	5	5	Yes

Union	School/ Madrasa/ College	Name of Educational Institutions	Students	Teachers	Ward	Whether used as Shelters or not
		Kalamarchora Government Primary School	772	7	7	Yes
		Nonachori Government Primary School	639	6	8	Yes
		Adhar Ghona Government Primary School	667	4	9	Yes
		Mijjir Para Government Primary School	779	5	9	Yes
		Chaliatoli Government Primary School	382	4	1	Yes
	Kindergarten	North Nolabila Model School	190	4	2	No
		Kalamarchora Adorsho Biddaniketon	160	5	8	No
		Adhar Ghona Adarsha Al Academy	700	6	9	No
	Non-Government Primary School	Kalamarchora Non-Government Primary School	324	4	6	Yes
		Kalamarchora Pahartoli Primary School	285	4	4	No
	Non-Government High School	Kalamarchora High School	600	10	7	Yes
		Yunuskhali Nasir Uddin High School	599	13	3	No
		North Nolabila Middle School	301	10	1	No
	Madrasa	Kalamarchora Adarsha Dakhil Madrasa	750	12	7	No
		Shah Mojidia Girls Dakhil Madrasa	550	14	9	No
		Jhapua Al Imam Madrasa	490	13	8	Yes
		Adhar Ghona Girls Madrasa	540	14	9	No
Moinul Islam Girls Madrasa		550	15	8	No	
Kutubjom	Government	Ghoti Bhanga Government Primary School	699	5	1	Yes
		Kutubjom Government Primary School	628	6	7	Yes
		Lal Md. Shikder Para Government Primary School	657	9	6	Yes
		Khondokar Para Government Primary School	689	6	9	Yes
		Tajiakata Government Primary School	386	5	3	Yes
		Meheria Government Primary School	829	4	8	Yes
		Shonadia Government Primary School	156	4	2	Yes
	Non-Government Lower	Ghotibhanga Lower Middle School	260	8	1	No

Union	School/ Madrasa/ College	Name of Educational Institutions	Students	Teachers	Ward	Whether used as Shelters or not
	Secondary School					
	Non- Government High School	Auposur High School	580	10	6	No
		Kutubjom Adarsha High School	800	12	6	No
	Madrasa	Kutubjom Jameusunnah Darul Ulom Dakhil Madrasa	840	17	5	No
		Tajia Kata Sumaiya Girls Dakhil Madrasa	700	16	3	No
Matarbari	Government	Matarbari Government Primary School	1188	12	1	Yes
		Rajghat Government Primary School	600	7	3	Yes
		Puran Bazaar Government Primary School	773	8	6	Yes
		Sairar Dale Government Primary School	704	5	9	Yes
		North Shikder Para Government Primary School	333	4	1	Yes
		North Rajghat Government Primary School	241	4	3	No
		South Sairar Dale Government Primary School	277	4	9	No
		South Mogdale Government Primary School	365	4	8	No
		Matarbarir Nayapara Government Primary School	326	4	7	Yes
	Kindergarten	Matarbari Ideal School	210	9	1	No
		Matarbari KG School	180	8	1	No
		Srijoni KG School	139	7	8	Yes
	Non- Government High School	Matarbari High School	1390	18	1	No
		Matarbari Adarsha Junior High School	290	8	6	No
	Madrasa	Matarbari Mojidia Sunnia Senior Madrasa	851	22	5	Yes
		Ajejia Kashemul Ulom Madrasa	510	10	1	No
		Umehani Balika Madrasa	350	8	9	No
		Sairar Dale Darus Sunno Madrasa	310	8	9	No
Rajghat Rashidia Hoshomtia Dakhil Madrasa		580	14	3	No	
Toibiya Taheria Sunnia Girls Dakhil Madrasa		415	12	6	No	
Moheshkhali Pouroshova	Government	Moheshkhali Model Government Primary School	751	12	2	Yes

Union	School/ Madrasa/ College	Name of Educational Institutions	Students	Teachers	Ward	Whether used as Shelters or not
		Gorokghata Government Primary School	876	9	5	Yes
		Burmese Government Primary School	537	7	4	Yes
		Chor Para Government Primary School	266	4	9	Yes
		Puti Bila Government Primary School	330	4	3	Yes
	Government Girls High School	Moheshkhali Government Girls High School	700	20	3	Yes
	Kindergarten	Moheshkhali KG and Pre Cadet School	350	14	7	No
		Tulip National School	130	7	4	No
	Non- Government High School	Moheshkhali Adarsha High School	1900	26	3	Yes
		Gorokghata Adarsha High School	220	7	9	Yes
	Senior Madrasa	Putibila Islamia Fazil Madrasa	800	22	2	No
	Non- Government Primary School	Dashi Majhir Prodipaloy Primary School	380	5	3	No
	College	Moheshkhali Degree College	1300	29	3	Yes
	University	Leadership University	100	7	9	Yes

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Appendix 6

District/ Sub-district at a glance

	Numbers
Area	388.5 km
Upazilla Parishad	1
Union Parishad	8
Pouroshova Office	1
Moujas	32
Villages	206
Families	58177
Total Population	321218
Male	165693
Female	155525
Government Primary Schools	63
Non – Government Primary Schools	6
Secondary Schools	18
Colleges	4
Universities	1
Madrasas (Dakhil, Fazil and Ebbaddia)	71
Satellite Schools	7
BRAC Schools and NGO Schools	165
Kindergarten Schools	12
Lower Secondary School	8
Rate of Education	28%
Police Station	1
Barrages	16
Sluice Gates	31
Bridges	120
Culverts	281
Mosques	374
Temples	53
Kayang	8
Orphanages	22
International Non-Government Development Organizations	None
National Government Development Organizations	18
Government Hospitals	1
Government Health Centers	7
Community Clinics	26
Buddhist Orphanages	1
Churches	-
BRDB Office	1

	Numbers
NGO operated Health Service Center	3
Dak Bungalow	1
Eidgah	2
Land Office	3
Bank (Krishi Bank -5, Pubali and Islami Bank)	8
Post Office	8
Clubs	20
Haat – Bazaars	43
Palli Biddut Office	1
TNT office	1
Police Station	2
CPP Office	4
Bonbit Office	9
Graveyards	311
Crematoriums	27
Poultry farms	20
Weaving Industry	2
Mobile Towers	39
Deep Tube-well	749
Shallow Tube-well	27534
Hand driven tube-well	
Rivers	10
Canals	39
Bills	-
Haoars	-
Ponds	800
Dirt Roads	354 km
Paved Roads	79 km
Partially Paved Roads	142 km
Playing Fields	22
Fish Unloading Center	2
Salt Production Center	1
Flour Mill	1
Ice Mill	1
Food Storage	2
Cottage Industry	6
Sub-Registry Office	1

Appendix 7:

Road Information according to Unions:

Union	From where to where	Distance and height	Name of Union or Ward located in	Whether Flood free	Whether being used as Flood Shelters
Boro Moheshkhali	Paved Roads: From the last end of ward no. 1's Shukria Para to the Moheshkhali Sub-district Shodor.	6 km 4 feet	Ward no. 5, 9, 7, 8, 3 and 2	Flood free	Takes shelters on the nearby roads
	HBB: connected to every wards of the Union	20 km 4 feet	Connected from Ward no. 1 to Ward no. 9	Flood Free	
	Dirt Roads: every ward's village roads	60 km 3 feet	Connected from Ward no. 1 to Ward no. 9	Not Flood Free	
Choto Moheshkhali	Paved Roads: From Ward no. 9's Rashid Mia's bridge to Ward no. 4's Rashid Mia's farm towards the Shaplapur's border, it's nearly 14 km, and from Ward no. 9's Thakur Tola's turn towards Adinath Temple it is 2 km	16 km 4 feet	Ward no. 1-9	All types of roads, Paved, HBB and Dirt Roads , all get partially flooded	Takes immediate shelter on nearby roads that are high
	HBB: Connected to every wards of Choto Moheshkhali	25 km 4 feet	Connected from Ward no. 1 to Ward no. 9		
	Dirt Roads: Connects every ward to its respective villages	55 km 3 feet	Connected from Ward no. 1 to Ward no. 9		
Dholghata	Paved Roads: From Shutria Bazaar to Kishrabonia Adarsha School	2 km 4 feet	Ward no. 5, 6 and 7	Not all roads of Paved, Dirt and HBB roads are flood free	Takes immediate shelter on nearby roads that are high
	HBB: From Mohuri Ghena Bazaar to Mohuri Ghena Shikder Para Madrasa	2 km 3.5 feet	Connected from Ward no. 1 to Ward no. 9		
	Dirt Roads: Connects every ward to its respective villages	26 km 3 feet	Connected from Ward no. 1 to Ward no. 9		
Hoanak	Paved Roads: From Ward no. 1's Deila Ghona of Hoanak Union to Ward no. 9's Barghor Para's border	8 km 3 -4 feet	Ward no. 1,2,3,4,5,6,7,8 and 9	All types of roads, Paved, HBB and Dirt Roads , all get partially flooded but as the rain slows down,	Takes immediate shelter on nearby roads that are high
	HBB: Connected to every wards of the Hoanak Union	25 km 3 - 4 feet	Connected from Ward no. 1 to Ward no. 9		
	Dirt Roads: Connects every ward to its respective villages	70 km 3 - 3.5 feet	Connected from Ward no. 1 to		

Union	From where to where	Distance and height	Name of Union or Ward located in	Whether Flood free	Whether being used as Flood Shelters
			Ward no. 9	the water level falls	
Kalamarchora	Paved Roads: From Ward no. 1's Moheshkhali bridge to Amir Sharif's Mosque situated at the border of ward no. 9 – 9 km, from Shoshankhola to Dorodia bridge – 2 km and from Balur Dale to the northern border of Shaplapur Union's ward no. 1- 1 km	12 km 4 feet	Connected from Ward no. 1 to Ward no. 9	All types of roads, Paved, HBB and Dirt Roads , all get partially flooded.	Takes immediate shelter on nearby roads that are high
	HBB: connects Boro Moheshkhali union to every wards	18 km 4 feet	Connected from Ward no. 1 to Ward no. 9		
	Dirt Roads: Connects every ward to its respective villages	62 km 3 feet	Connected from Ward no. 1 to Ward no. 9		
Kutubjom	Paved Roads: From Khondokar Para to Ghotibhonga, Khondokar Para to Kala Mia Bazaar and Kala Mia Bazaar's north side to Kutubjom Jamea Sunnah Madrasa	6 km 4 feet	Ward no. 1, 5, 6, 7, and 9	All types of roads, Paved, HBB and Dirt Roads , all get partially flooded. But the water from Haoar does not remain long in sandy areas	Takes immediate shelter on nearby roads that are high
	HBB: Connects Choto Moheshkhali Union to all its wards	3 km 4 feet	Some of the roads from ward no. 1 – 9 are brick soiled		
	Dirt Roads: Connects every ward to its respective villages	30 km 3 feet	Connected from Ward no. 1 to Ward no. 9		
Matarbari	Paved Roads: From South Rajghat to Notun Bazaar through North Rajghat	3 km 4 feet	From Ward no. 1 to Ward no. 3	Free from Flood	Takes immediate shelter on nearby roads that are high
	HBB: Connects Matarbari Union to all its wards	21 km 3 feet	From Ward no. 1 to Ward no. 9	Gets partially flooded	
	Dirt Roads: Alternative routes to the sea beach and impassable areas	9km 3 feet	From Ward no. 1 Ward no. 9	Gets partially flooded (Sairar Dale, Mogdale, from Puran Bazaar to some parts of Fuljan Mura, nearly 5 km gets flooded	

Union	From where to where	Distance and height	Name of Union or Ward located in	Whether Flood free	Whether being used as Flood Shelters
				by high tides every year)	
Shaplapur	Paved Roads: From the border bridge of Ward no. 9, Jamai Dharanir Shia to Ward no. 1's Site Mara's Shaplapur's Border	15 km 4 feet	From Ward no. 9 to Ward no. 1	Gets partially flooded by water coming down the hills	Takes immediate shelter on nearby roads that are high
	HBB: Connects Shaplapur Union to all its wards	6 km 3 feet	From Ward no. 9 to Ward no. 1		
	Dirt Roads: Connects every ward to its respective villages	32 km 3 feet	From Ward no. 9 to Ward no.1		
Moheshkhali Pouroshova	Paved Roads: From Ward no. 1's Mohuri Para to Ward no. 8's Shikder Para is paved. Basically every ward has paved roads between 0.5 km to 1.82 km	11 km 5 feet	From Ward no. 1 to Ward no. 8	Being a coastal area, water does not collect here	Takes immediate shelter on nearby roads that are high
	HBB: Connects the Pouroshova to all its wards	22km 4 feet	From Ward no. 1 to Ward no. 9		
	Dirt Roads: Connects every ward to its respective villages	14 km 3 feet	From Ward no. 1 to Ward no. 9		

Appendix 8:

Bridges according to Unions:

Union	Name of the Bridge	The River or Canal it is situated on	Ward	Whether it works
Boro Moheshkhali 14 bridges	Lal Md. Shikder Para Bridge Bridge adjacent to Lokkhon Boida's house, Dhoyapara Bridge Shipahir Para Bridge Ichamoti Bridge	Napit's Canal and Ichamoti Canal	Ward no. 5	Everyone of them works
	Fokira Kata Bridge Pahar Toli Bridge Gulgulia Para Bridge Montro Kata Bridge Bridge adjacent to Boddoruddin Master's house	Maitta Toli Chora Golachipa Chora Ichamoti Canal Deisha Kata Canal Debenga Kata Chora	Ward no. 4	
	Bridge adjacent to Nijtaluk Para Choto Kulal Para Bridge Boro Kulal Para Bridge	Ichamoti Canal	Ward no. 6	
	Joiyer Kata Chora Bridge Shukria Kata Bridge	Joiyer Kata Chora Maitta Toli Chora	Ward no. 1	
Choto Moheshkhali 14 bridges	Rashid Mia's Bridge (in 2006 a 0.75 km long jetty had been built with the aid of Nepalese Government for the pilgrims and tourists who visits the Adinath Temple for the Shiva Choturdoshi fair in ward no. 9's Thakurtola of Choto Moheshkhali Union)	Baruna Ghat Canal	Ward no. 9	All of them works
	Chengchori Bridge	Chengchori Canal	Ward no. 5	Works
	South Nalbila West Canal Bridge (3 bridges) Boro Bill Canal's Bridge Achor Toli Canal's Bridge Shipahir Para Bridge	West Canal, Boro Bill Achor Toli Canal Boruna Ghat Canal	Ward no. 2 & 3	All of them works
	Choto Moheshkhali Lomba Ghena Bridge Haniar Chora Bridge Kalmadiar Bridge	Mudirchara Canal, Haniar Chora Canal Kalmadiar Chora	Ward no. 4 & 5	All of them works
	Bridge of Deil Para road	Ditch created by water coming down the hill	Ward no. 7	Works
	Teli Para Bridge (2)	Teli Para Canal,	Ward no. 8	Works
Dholghata 7 bridges	Mohuri Ghena Bridge Bonjamirghena Bridge Buri Para Bridge	Mama's Canal, Banjamira Canal Buri Para Canal	Ward no. 2	All of them works
	Shutria Bridge, Kichra Bunia Bridge	Boro Canal, Kichra Bunia Canal	Ward no. 5	All of them works
	Mohon Bashi Bridge,	Ulo Khali Canal	Ward no. 7	Works
	Panditer Deil Bridge	Pandit Deil Canal	Ward no. 8	All of them works

Union	Name of the Bridge	The River or Canal it is situated on	Ward	Whether it works
Hoanak 26 Bridges	Deila Ghena North Bridge Deila Ghena middle Bridge Deila Ghena South Bridge Chonkhola Para North Bridge Chonkhola Para South Bridge	Deila Ghona Chora Chonkhola Chora Chonkhola Chora	Ward no. 1	They are very risky
	Horiar Chora North Bridge Horiar Chora Middle Bridge Kalagazir Para Bridge	Horiar Chora Horiar Chora Kalagazir Chora	Ward no. 2	They are very risky
	Padma Pukur Para Bridge Padma Pukur Para middle Bridge Khosra Para Bridge	Padma Pukur Chora Padma Pukur Chora Khorsha Chora	Ward no. 3	All of them works
	Pui Chora Bridge	Pui Chora	Ward no. 4	Works
	Boro Chora Bridge South Boro Chora Bridge	Boro Chora	Ward no. 5	They are very risky
	Rajuar Ghona North Chora Bridge Rajuar Ghona Middle Chora Bridge	Rajuar Ghona Chora	Ward no. 6	All of them works
	Kerun Toli North Bridge Kerun Toli Middle Bridge Nayapara Bridge Nayapara South Bridge	Kerun Toli Chora Nayapara Chora	Ward no. 7	All of them works
	Kalia Kata South Bridge Mohura Kata Bridge Dholghat Para Bridge	Kalia Kata Chora Mohura Kata Chora Dholghat Chora	Ward no. 8	All of them works
	Panirchora North Bridge Panir Chora South Bridge Joiyer Kata Bridge	Panirchora Chora Joiyer Kata Chora	Ward no. 9	2 of them works (Joiyer Para Bridge is risky)
	Kalamarchora 8 Bridges	Dhora Canal Bridge Moheshkhali connecting Bridge	Kuhelia River	Ward no. 1
Maij Para Bridge		Maij Para Chora	Ward no. 3	
Jhapua Chora Bridge		Jhapua Chora	Ward no. 4	
Kalarmarchora Bridge Ghonar Bridge		Kuhelia River	Ward no. 7	The Ghona Bridge is unfit for use
Nunachori Bridge		Nunachori Chora	Ward no. 8	
Adhar Ghona Bridge		Kuhelia River	Ward no. 9	
Kutubjom 6 Bridges	Khondokar Para Bridge	Khondokar Para Canal	Ward no. 9	All of them Works
	Katakali Bridge, Horighona Bridge, Johir Kabir Graveyard Bridge	Katakali Cana Horighona Canal Panch Ana Ghona Chora	Ward no. 3	
	Ghoti Bhangra Bridge	Ghoti Bhangra Canal	Ward no. 1	
	Majher Dar Bridge	Shondia Majher Dar Canal	Ward no. 2	
Matarbari	Matarbari Bridge (Rajghat)	Kuhelia River	Ward no. 3	All of them

Union	Name of the Bridge	The River or Canal it is situated on	Ward	Whether it works
1 Bridge				Works
Shaplapur 38 Bridges	Site Mara Bridge, Potoachori Bridge, Chikon Chori Bridge	Site Mara Chora Potoachori Chora Chikon Chori Chora	Ward no. 1	All of them Works
	Bridge of Shaker Md. Kata road Himchori Bridge Mithachora Bridge Chikoni Para Bridge Khorelia Jhiri Bridge Tulatoli Bridge	Gola Chira Chora Himchori Chora Mithachora Boro Chora Khorolia Chora Tulatoli Chora	Ward no. 2	All of them Works
	Dhuilla Chori Bridge South Baria Chori Bridge Baria Chori Bridge Napiter Ghona Bridge	Dhuilla Chori Chora Moger Ghona Baria Chori Chora Water drainage route	Ward no.3	All of them
	West Ghona Para Bridge Tetul Toli Bridge Shongho Jhiri Bridge Motimar Bridge	Motimar Chora Mithachori Chora Shongho Jhiri Chora Motimar Chora	Ward no. 4	They are risky
	Hur Hori Bridge Bridge adjacent to Alim Madrasa	Hurhori Chora Water drainage route	Ward no. 5	They are risky
	Dhuilla Chori Bridge	Oyayinggor Chora	Ward no. 6	They are risky
	Mukbeki Bridge Budar Para Bridge Oyayinggor Bridge (2 of them)	Mukbeki Chora Water drainage route Oyayinggor Chora	Ward no. 7	They are risky
	Kuar Jhiri Bridge Bridge adjacent to west of Rashid Mia's farm Kutubdia Para Bridge Kainna Jhiri Bridge Lailla Chora Bridge	Kuar Jhiri Chora Moutain water drainage route Chitar Jhiri Kainna Jhiri Lailla Chora	Ward no. 9	All of them works
	Teila Para Bridge Nafar Chora Bridge Bridge adjacent to the northern part of Kaidabadh Bazaar Shimanto Bridge	Teila Para Jhiri Nafar Chora Moutain water drainage route Dhoiar Chora		
Moheshkhali Pouroshova	Boruna Ghat Bridge	Borunghat Canal	Ward no. 1	Works
	South Gona Para Bridge South Putibila Shimanto Bridge Dashi Majhir Para Bridge Rashid Mia's Bridge	Government Canal Water drainage route Borunghat Canal	Ward no. 3 and 4	All of them works
	Ghona Para Bridge	Water drainage route	Ward no. 5	Works

Appendix 9:

Culverts according to Unions:

Union	Name of the Main Culverts	The Roads/ Rivers/ Canal it situated on	Ward	Whether it works
Boro Moheshkhali 57 Culverts	Shukria Para, Moitatoli Md. Amjad Ali road (2) Fokira Kata road (2) Amtoli (3)	On different roads/ canals of the wards	Ward no. 1	All of them works
	The road from Munshir Deil Rohinga Bazaar to Pahartoli (2) Munshir Deil Shorok	On different roads/ canals of the wards	Ward no. 2	All of them works
	M. Akhter Kamal Road, the road from Mahapara to Md. Ansur Ali Para (2) The road from Monu Miapara to D.C. road (2) Bangabondhu Women's College road The road from Mahapara to Miaji Para (2)	On different roads/ canals of the wards	Ward no. 3	All of them works
	North of Abdul Karim's house Achor Toli road (3)	On different roads/ canals of the wards	Ward no. 4	All of them works
	Nijtaluk Para road Shipahir Para road to graveyard road The road from Madrasa road to Modhuar Deil (2) Latuar Dale (2)	On different roads/ canals of the wards	Ward no. 5	All of them works
	Late Md. Rashid Ahmed road Choto Kulal Para	On different roads/ canals of the wards	Ward no. 6	All of them works
	Siraj Chairman road East Jagira Ghona road Haji Atahar Mia road	On different roads/ canals of the wards	Ward no. 7	All of them works
	Khaleda Zia road (3) from West Jagira D.C. road to South Jagira Ghona (4) from Fokira Ghona road to East Jagira Ghona (2) from Notun Bazaar road to Napitar Canal road (4)	On different roads/ canals of the wards	Ward no. 8	All of them works
	Anwar Pasha Chowdhury Shorok Late Md. Johir Shorok Middle and West Fokira Ghona road (6)	On different roads/ canals of the wards	Ward no. 8	All of them works
Choto Moheshkhali 44 Culverts	Culvert adjacent to Bujurer Khali's Mosque Duicha Baaper Dalar Culvert	On water drainage and irrigation system and Duichar Chora	Ward no. 1	All of them works
	Forest Office Culvert (3)	Peper Chora and Mahmud Ullah Ghonar Chora	Ward no. 4	All of them works
	Munajan Culvert	Putir Chora Canal and on	Ward no. 5	All of them

Union	Name of the Main Culverts	The Roads/ Rivers/ Canal it situated on	Ward	Whether it works
	CulvertKalamia Boli Culvert Mohidullah Madrasa Culvert Petainna Baaper Culvert (2) Ashraf Ali Ghena Culvert Ashraf Ali Ghena Jame Mosque Culvert Siddique Ar Baaper Culvert South Kul Culvert	mountain water drainage and irrigation route		works
	Mudirchara Maij Para Culvert (2) Maij Para Culvert Himchori's Well's Culvert Mudir Chora Fulu Mia Culvert Culvert beside the house of Mudir Chora's Abul Hossain Culvert beside Mudir Chora's Amin Shaudagar's house Mudir Chora Jame Mosque Culvert, Culvert in front of Abu Taleb's house Ahmedia Kat Ghonapara Culvert Bashkat Ghonar Culvert (2) Putir Chora Culvert (2)	Mukhkhali Chora Ujir Chora Putir Chora Canal Rong Jhora Chora Himchori Chora and on mountain water drainage and irrigationroute	Ward no. 6	All of them works
	Rahatjan Para Culvert (2) Mong Para Culvert Culvert on the westside of Nurul's shop Dale Para Graveyard Culvert (2) Pahar Thakur Tola Culvert (3) Tufan Ali Road Culvert (2)	South Nol Bil Chora and on mountain water drainage and irrigation route	Ward no. 7	All of them works
	West Thakurtola Culvert	Macher Ghona Chora	Ward no. 8	Works
	Joldash Para Culvert PaharThakur Tola Culvert Middle Thakur Tola Culvert Thakurtola Culvert	Moger Ghena Chora On river bed	Ward no. 9	All of them works
Dholghata	North Mohuri Ghona and Nasir Md. Dale	Madrasa Canal and Ghona Canal	Ward no. 1 (2)	2 Works
3 Culverts	Shikder Para Culvert	Shikder Para Canal	Ward no. 5	Works
Hoanak 16 Culverts	Kalgazir Para West Culvert(2)	Kalgazir Chora	Ward no. 2	All of them works
	Kathaltoli Para Culvert (3)	Kalgazir Chora	Ward No. 3	All of them works
	Bania Kata Culvert	Bania Kata Chora	Ward no. 4	Works
	Borocho East Culvert (2) Borocho West Culvert Algadia Culvert	Bora Chora	Ward no. 5	All of them works
	Middle Rajuar Ghona East Culvert	Rajuarghona Chora	Wad no. 6	Works
	Nayapara East Culvert (2) Nayapara West Culvert	Kerun Toli Chora	Ward no. 7	All of them works
	Panir Chora Middle Culvert (2)	Panirchora Chora	Ward no. 9	Works

Union	Name of the Main Culverts	The Roads/ Rivers/ Canal it situated on	Ward	Whether it works
Kalamarchora 8 Culverts	Chakkata Ghena Culvert Borua Chitay Culvert Borua Para's Middle Culvert	Chakkata Ghena Borua Chitay Borua Para	Ward no. 1	Works
	Borua Bazaar Culvert Shaheb Mia South Culvert Afjalia Para's Culvert Md. Yakub's Culvert Afjalia Para Culvert	Borua Bazaar Road Shaheb Mia Ghata Beside the south side road of Md. Yakub Afjalia Para Road	Ward no. 2	Works
	Yunus Khali Culvert Nasir Uddin Choudhury High School Culvert Maij Para Culvert (2)	Yunus Khali Bazaar's North Road Nasir Uddin Choudhury High School Road Maij Para Road	Ward no. 3	Works
	Marakka Ghona Culvert (2) North Jhapua A. Madrasa Culvert Jhapua Culvert (4) Jhapua Pahar Toli Culvert	Marakka Ghona Road North Jhapua Madrasa Road Jhapua Road Jhapua Pahar Toli Road	Ward no. 4	Works
	South Jhapua Culvert Chikni Chora Culvert	South Jhapua Road Chikni Chora Road	Ward no. 5	Works
	Jam Gach Tola Culvert Shona Para Culvert Naya Para Culvert (5) Aftab Ali Culvert	Jam Gach Tola Chora Shona Para Road Naya Para Road Aftab Ali Chora	Ward no. 6	Works
	Kalarmarchora High School Culvert Samia Ghona Culvert (4) Fokir Jum Para Culvert Lal Miara Para Culvert	Kalarmarchora High School Road Samia Ghona Road Fokir Jum Para Road Lal Miara Para Road	Ward no. 7	Works
	Nuna Chori Culvert	Nuna Chori Road	Ward no. 8	Works
	Adhar Ghena Culvert Majhir Para Culvert (3)	Adhar Ghena Road Majhir Para Road	Ward no. 9	Works
Kutubjom	Kalamia Bazaar West Para Culvert Chanda Kata Culvert	On roads used everyday and water drainage system	Ward no. 5	Works
	Doillar Para Culvert Mogkat Culvert (2)	Doillar Para Chora Mogkata Chora	Ward no. 6	Works
	Panchana Ghona Culvert (2) Gucchogram Culvert	Panchana Ghona Chora On roads used everyday and water drainage system	Ward no. 3	Works

Union	Name of the Main Culverts	The Roads/ Rivers/ Canal it situated on	Ward	Whether it works
Matarbari 25 Culverts	Culvert adjacent to South Rajghat Khatun Baaper Mosque Boro Khudai Boro Culvert	Water drainage routes of roads Rangakhali Canal	Ward no. 3	Works
	Notun Rasta's Culvert Culvert adjacent to Laila Ghona Haji Boda Mia's house Culvert adjacent to Union Parishad Culvert adjacent to Mon Hajir Para	Water drainage routes of roads and lands	Ward no. 4	Works
	Culvert adjacent to Mojidia Madrasa Culvert adjacent to Owaj Uddin Road's Bolir Para	Water drainage routes of lands	Ward no. 5	Works
	North Rajghat Culvert North Rajghat Yunus Mia Madrasa Culvert	Rangakhali Canal Water drainage routes	Ward no. 3	Works
	Culvert adjacent to the road of Owapoda Para Culvert adjacent to the east side of Khondar Bill's Culvert adjacent to Md. Okil Ahmed's house Culvert adjacent to Shikder Para Culvert adjacent to Bania Kata	Water drainage routes of lands Rangakhali Canal Water drainage routes of roads	Ward no. 2	Works
	Culvert adjacent to Majher Dale Culvert adjacent to Moshraf Ali Shikder Para Culvert adjacent to Naya Para road Culvert adjacent to Fuljan Mura road	Water drainage routes of lands Water drainage routes of roads	Ward no. 7	Works
	Culvert adjacent to Mogdale – Sairadale road Culvert adjacent to the head of Bishsho Canal Culvert adjacent to the top of Gudar Canal	Water drainage routes of roads Bishsho Canal Top of Gudar Canal	Ward no. 8	Works
	Bol Khali Culvert Culvert adjacent to Kalika Madrasa Culvert at the top Halimar Baaper road (2)	Bolkhali Canal Water drainage routes of roads	Ward no. 9	Works
	Moheshkhali Pouroshova 35 Culverts	Haji Mobarak Ali Shorok Culvert (2) Culvert adjacent to Fozle Baaper road	On roads used everyday and water drainage system of lands	Ward no. 2
Culvert adjacent to Dashi Majhi Para's Mosque Culvert adjacent to road that lies on the west of Moshraf Ali Para (3) Culvert adjacent to College Para road Culvert adjacent to the road that lies to the west of Khaled Bin Walid Madrasa (2)		On roads used everyday and water drainage system of lands Government Chora	Ward no. 3	Works
Culvert adjacent to Boro Rakhine		On roads used everyday	Ward no. 4	Works

Union	Name of the Main Culverts	The Roads/ Rivers/ Canal it situated on	Ward	Whether it works
	Para's Fish Unloading Center's road Culvert adjacent to South Rakhine Para's Lassa Pond	and water drainage system of lands		
	Culvert adjacent to east Ghona Para Mosque Culvert adjacent to Choinna Para of Sea Beach Road South Ghona Para Culvert West Ghona Para Culvert	On roads used everyday and water drainage system	Ward no. 5	Works
	Culvert adjacent to Bolram Para's Road (3) Culvert adjacent to the road tha lies behind the Upazilla Bhaban	On roads used everyday and water drainage system	Ward no. 6	Works
	Culvert adjacent to Gorokghata Lama Bazaar Culvert adjacent to Adalot Para Culvert adjacent to Md. Sofir's house	On roads used everyday On roads used everyday and water drainage system of lands and roads	Ward no. 7	Works
	Culvert adjacent to the fish market of West Shikder Para Shikder Para Culvert Culvert adjacent to Haji Siraj Shoudagor's house Culvert adjacent to west Para's Islam Khalifa's house	On roads used everyday Bokkoribaper Chora	Ward no. 8	Works Risky Works Works
	Culvert adjacent to Leadership University road Culvert adjacent to Dr. Nurul Amin's house Culvert adjacent to Sirajul Islam Shoudagor's house	water drainage system of lands water drainage system of lands Bokkoribaper Chora Bokkoribaper Chora	Ward no. 9	Works

Appendix 10

List of some important programs broadcasted by Bangladesh Betar

Radio Station	Name of Program	Time	Days
Dhaka K	Krishi Shomachar	6:55 am – 7:00 am	Everyday
	Shukher Thikana	7:25 am – 7:30 am	Everyday
	Shasthoi Shukher Mul	11:30 am – 12:00 pm	Every day except Friday
	Sonali Foshol	6:05 pm – 6:35 pm	Everyday
	Abohawa Barta	6:50 pm – 7:00 pm	Everyday
Chittagong	Krishi Kotha	6:55 am – 7:00 am	Everyday
	Krishi Khamar	6:10 pm – 6:50 pm	Every day except Monday
	Shukhi Shongshar	8:10 pm – 8:30 pm	Every day except Friday
Rajshahi	Kheth Khamar Shomachar	6:55 am – 7:00 am	Everyday
	Sobuj Bangla	6:05 pm – 6:50 pm	Everyday
Khulna	Shashto Totho	6:55 am – 7:00 am	Everyday
	Krishi Shomachar	4:20 pm – 4:30 pm	Everyday
	Chashabadh	6:10 pm – 6:50pm	Everyday
Rangpur	Shukher Thikana	7:25 am – 7:30 am	Everyday
	Kheth Khamar	6:05 pm – 6:30 pm	Everyday
Sylhet	Ajker Chashabadh	6:55 am -7:00 am	Everyday
	Shukher Thikana	7:25 am – 7:30 am	Everyday
	Shyamol Sylhet	6:05 pm - 6:50 pm	Every day except Friday
		6:05 pm – 6:25pm	Sunday, Monday and Wednesday
Thakurgao	Kishan Maati Desh	3:07 pm – 3:10 pm	Everyday
Cox's Bazaar	Ajker Krishi	3:40 pm – 3:45 pm	Tuesday and Thursday
	Sonali Prantor	3:15 pm – 3:30 pm	Every day except Saturday and Thursday
Barisal	Krishi Kotha	3:35 pm – 3:50 pm	Every day except Monday, Wednesday and Friday
Rangamati	Jiboner Jonno	1:50 pm – 1:55 pm	Everyday
	KhamarBari	3:05 pm – 3:15 pm	Everyday

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¹²The 'Abohawa Barta' is broadcasted at the same time everywhere

List of some important programs broadcasted by Bangladesh Betar

Radio Station	Name of Program	Area	Time	Days
Radio NAF, Set up by Alliance for Co-operation and Legal Aid in Bangladesh	Arrangement to broadcast programs that are socially beneficial through specific Social activities	Teknaf Upazilla/ Sub-district, Cox's Bazaar District		

- **Conclusion:**

All the members of the sub-district disaster management committee and union disaster management committee as well as the local inhabitants were directly involved in the implementation of the plan. Their dedication and relentless effort has helped immensely to implement the risk reduction program. The participators believe that all their information, ideals and problems have been represented fully in the Sub-district's 'Disaster Management Planning Implementation' report. If the plan is properly implemented then it will reduce the local disasters risk significantly and reduce the level of losses of resources and lives.

Source:

Moheshkhali Upazilla Statistician Office, Upazilla Election Office, Upazilla Krishi Office, Upazilla Animal Resources Department, Upazilla Education Office, Upazilla Public Health Engineering Department, Upazilla Engineering Office, Upazilla PIO Office, Upazilla Health Complex, Cox's Bazar District Weather Office, CPC, NGOs, Union Parishad, Union and District Disaster Management Committee and interview of long term inhabitants of the island.



Comprehensive Disaster Management Program (CDMP II)

Disaster Management and Relief Ministry

