



Upazila Disaster Management Plan

Upazila: Kolapara, District: Patuakhali

Plan developed by

Upazil Disaster Management Committee, Kolapara, Patuakhali

Coordinated by



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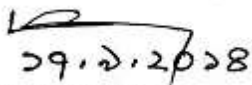
Acknowledgment



Development Upazilla Disaster Management Plan (DMP) under the Comprehensive Disaster Management is an important document which could help as a complete guideline for the particular upazilla. Concern bodies of the Government of People Republic of Bangladesh have assisted to develop the Disaster Management Plan for Kalapara upazilla Under Patuakhali. As implementing agency Muslim Aid has kept its great contribution to structuring the guideline and CDMP has provided fund for successful accomplishment. The report will be connected with upazilla central web portal (Upazilla Tottho Batayan) as soon as possible to make access the DMP information for all. Initial works to develop the report has been started since September 2013 and in 2014 the report has approved by full consents of upazilla disaster management committee accordingly. The committee has full authority to have the require correction as well as inclusion & exclusion could be worked out for further improvement of the report.

We are expecting that, the report would be played a pioneer and active role to face the natural hazard which describe inside elaborately and we also believe that, the people of this upazilla will be benefited by the report effectively indeed.

I am expressing my sincere gratitude to Govt. official's colleague, officials of upazilla parishad, Union parishad and officers from Muslim Aid who were involve and made very honest effort to develop kolapara upazilla disaster management plan report.


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(MdZahangir Hossain)
UNO
Kalapara, Patuakhali.

Upazila Disaster Management Plan

Upazila: Kolapara, District: Patuakhali

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1.1. Background

Standing Order on Disaster (SoD) clearly defines to incorporate Risk Reduction and Contingency Plan while developing District, Upazilla, Pourashava/City Corporation Disaster Management Plan. CDMP has given significant priority to the subject of district wise Disaster Management Plan that will be developed for next 3 to 5 years and focus will remain on effectiveness and sustainable planning, inclusive result oriented strategy, related stakeholders and proper participation of local institutions and community people.

Bangladesh is a disaster prone country of the world and every district of this country is severely hit by various natural hazard more or less. Among the districts, Patuakhali district is one. Kalapara Upazilla is a highly vulnerable area of patuakhali district. Patuakhali and variant part of this district are highly vulnerable due to its geological situations and frequently affected by heavy downpour, cyclone, drought, cold web, high tide, salinity and other hazards. Cyclone is a big hazard of this district for its position. Bangladesh mainly is a riverine country and as situated on coastal belt, Patuakhali is consistently affected more or less by particular natural hazards as like heavy rainfall and riverbank erosions each year. On the other hand, people remain frightened of manmade hazards such as deforestation, fire ignition, unplanned shrimp culture and chemical use. Kalapara Upazilla is a highly vulnerable area of this district. Every union is constantly affected by disaster like cyclone along with high tide, water logging, and salinity that are seriously collapsing the life and livelihood of the inhabitants of these upazilla. In this circumstance, there was not any long term strategic plan or mentionable initiatives that have been taken at upazilla level to reduce risk damage and save life and livelihoods since this upazilla experiences various disasters every year. Keeping that on mind, Disaster management plan for Kalapara upazilla has been prepared as a part of comprehensive disaster management strategy.

1.2 Main objective of the Plan:

- Developing Mass awareness in family and community level to mitigate risk related to all kind of disaster. Instigate a rational and realistic process in the family, community, union parishad, upazilla and district level.

- Proper utilization of local resources to reduce disaster risks and develop implementation process
- Practice and implement the local level community approach of evacuations, rescue, need assessment, relief, instant rehabilitation and emergency responses of disaster.
- To develop a strategic plan/charter for certain area and season
- To provide helps to the disaster management committee and allied sectors e.g. govt., national and international agencies and donors as an universal comprehensive plan
- Direction and guidance to develop plan and procedure of implementation for the relevant stakeholders of disaster management
- Enhance sincere participation, ownership and effective partnership to develop community level disaster planning

1.3 Introduction of Local Area

1.3.1 Geographical position of Upazilla:

Kalapara is a Upazilla of potuakhali district in Bangladesh. The Upazilla city is known as khepupara.it lies in 21.9861 North latitude and 90.2422 East latitude. Its area is 492.102 square km. In north west Amtali upazilla, in east Rabnabad channel and Golachipa Upazilla and in south the bay of Bengal. The second largest sea shore of Bangladesh , Kuakata , is located in this Upazilla. It is about 70.50 km distant from district city to Sea beach of Kuakata. Kuakata has become one of the well-known tourist spots of the world for rare opportunity of observing sunrise and sun set at a place. The cultural tradition of Rakhain tribe along with Bangali culture makes the upazilla more diversified, attractive and rich. Kalapara thana was declared on 1906 and the thana was diverted into upazilla at 1983.Kalapara upazilla consists of 12 unions and 2 powroshova. The name of the unions are –Chakjmia,Tiakhali, Lalua, Mithaganj, Nilganj, Mohipur, Latachapali, Dhankhali, Dhulkshar, Baliatoli, dalbuganjand Champapur, the two powroshova are Kalapara and Kuakata. Kalapara has a rich history. Kalapara upazilla is the start off upazilla of Bangladesh co-operative movement. The biggest rice mill of Asia was established in Kalapara through co-operative action on British ruling period. Also Oil mill, match factory, paper mill, Cinema hall, co-operative market and many more things are establish here. One of the four Radar stations of Bangladesh is in Kalapara Upazilla.

Electricity and telephone connection reached kalapara upazilla on 1976. One of the four Hilsha breeding centers of Bangladesh is on the estuary of Andhar manic river in Kalapara.. Kalpara is also famous as fisheries harbors .It is 50 km far away from the district town.

(www.unokalapara.gov.bd)

1.3.2 Area

Total area of kalapara upazilla is 492.102 sq. km. List of Maujas of 12 unions and 2 powroshova under the upazilla are given below:

<i>Upazilla</i>	<i>Name of the union</i>	<i>Number of Moujas</i>	<i>Name of the Moujas according to the Union.</i>
<i>Kalapara</i>	<i>Chakmia</i>	<i>05</i>	<i>Anipara, Chakmia, gamorbunia, Chkmia-Nishan baria.</i>
	<i>Tiakhali</i>	<i>05</i>	<i>Badurtoli,etbaria,khapupara, Rajpara, Tia khali</i>
	<i>Lalua</i>	<i>05</i>	<i>Banati para, chandu para, golbunia,lalua, noakata.</i>
	<i>Mithaganj</i>	<i>03</i>	<i>Modhukhali, Mithaghanj, Tegasia</i>
	<i>Nilganj</i>	<i>07</i>	<i>Hazipur, kumirmara, nobipur, nil ganj.</i>
	<i>Mohopur</i>	<i>03</i>	<i>Nijampur, shibbari, yousuf pure.</i>
	<i>Lotachapali</i>	<i>01</i>	<i>Lotachapali</i>
	<i>Dhankhali</i>	<i>06</i>	<i>Dhankhali, londa, Pachjonia., Nishanbari, Modhupara</i>
	<i>Dhulshar</i>	<i>05</i>	<i>Belatoli, Char chapli, Dhulshar.gongamoti, kwarchar.</i>
	<i>Baliatoli</i>	<i>09</i>	<i>Brara baliatoli, Charballiatoli, Charer shad., Charhabib, Charnajir, Sonarpar</i>
	<i>Dalbuganj</i>	<i>03</i>	<i>Dalbuganj. Horendro pur, Monsha toil.</i>
	<i>Champapur</i>	<i>07</i>	<i>Binmakatadia, Chalitabunia,Debpur, golbunia,Krishnopur,Patua</i>
	<i>Kalapara Powroshova</i>	<i>22</i>	<i>Nachna para, Khgepupara,notun bazaar,Pyranbazar, Rahmat pure, Atimkhana, Chitbunia,Akrabaria,Katpotti,kular potti, Naia potti,poshuhaspatal road,Puran stemar</i>

			<i>ghat, Islampur, Madrasha road, Upazilla office, Collager road, shanty bvag, manghal shuk road, badur toil, Bara sikandar bari, Muslim para, sobuj bag.</i>
	<i>Kuakata powrashava</i>	20	<i>Dakhin khajura, Mongsoe para, poschim kuakata, Shorif pure, dakhin kuakata, Puran para, kreationo para, soriat pure, Panjue para, ponchaet para, melapara.north- Kuakata. Mohammad ullah sarak, tulatoli. Musolli bad ongso, hasain pure, Mulovi menaj uddin sarak.</i>
Total	14	101	

Source: Upazilla Statistics Department, Kalapara

1.3.3 Population

The total population of Kalapara upazilla is 2,37,831 (two lacks thirty seven thousand eight hundred and thirty one). Among them 1,20,514 (One lack twenty thousand five hundred and fourteen) are male and 117317 (One lack seventeen thousand three hundred and seventeen) are female. 55,485 (Fifty five thousand four hundred and eighty five) are children, 24,732 (Twenty four thousand seven hundred and thirty two) are elderly people and 1,921 (One thousand nine hundred and twenty one) are people with special need. Total number of family of this area is 57,527 (fifty seven thousand five hundred and twenty seven) the total number of voter is 1,51,996 person. Union wise population is as follows:

<i>Union</i>	<i>Population</i>							
	Male	Female	Children (0-15)	Elderly	PWD	Total population	House Hold	Voter
Tiakhali	7213	7129	2134	1453	133	14342	3565	9689
Nilganj	14163	14856	6275	2465	212	29019	7282	19064
Lalua	8510	8220	2902	1811	173	16730	4066	10330
Mithaganj	5789	5798	1742	1975	112	11587	2884	7741
Chakmia	8157	8315	3265	1766	56	16472	4974	11497
Mohopur	11586	9300	5234	2089	245	2088	4321	11955
Lotachapali	13327	12598	6789	2154	174	25925	5872	15698

Dhankhali	7845	7852	3178	1109	189	15697	3791	10950
Dhulshar	9189	9054	5377	1955	177	18243	3974	11390
Baliatoli	7948	8344	4988	1645	94	16292	4050	10711
Dalbuganj	5280	5641	2798	1322	74	10921	3019	7403
Champa- pur	7577	7631	2877	1867	69	15208	3315	9674
Kalpara Powroshova	8887	8445	5321	1134	61	17332	4347	10376
Kuakata powrashava	5043	4134	2605	1987	152	9177	2065	5518
Total	1,20,514	1,17,317	55,485	24,732	1,921	2,37,837	57,525	1,51,996

Source: Upazilla Statistics and Election Commission Department, Kalapara, Patuakha

1.4 Information about infrastructural and non-infrastructural resources

1.4.1 Infrastructure

- Embankment:**

- ✓ Mohipur Union: A concrete embankment of 19 km from canal of Mohipur to Hafizpur Ghat is situated beside the Andhar Manik river starts from the Bay of Bengal.
- ✓ Chakmaia Union: Chakmaia Union is surrounded by a raw embankment of 12 km.
- ✓ Tia khali Union: There is a total 08 km concrete and soil made embankment that is 07 feet high.
- ✓ Dalbugang Union: From budhbaria bazaar to fulbunia a 36 km long dam is situated side by side of river varani. Beside the west side of Fulbunia river there is 1 km pucca and 27 km non terraced embankment.
- ✓ Lotachapali Union: About 28 km terraced embankment by the side of Khaporvanga River. Furthermore, near by the west side of Fulbonia river including Khapar vanga and Vorani river there 1 km terraced and 27 km non terraced embankment placed.
- ✓ Nilganj union: There 29 km v and non c embankment byt the southy side of Andhar Manik river which protected the Nilganj Union from saline water.
- ✓ Kalapara Poeroshova: There 6 km terraced embankment from kalapara feri ghat to Baliatoli khea ghat which is situated by the north side of those river and is 7 nfeet

- height. This embankment protected the Center point of Kalapara powrashava, Upazilla poriasad, thana, Post office, bazaar and Educational institution etc.
- ✓ Dhulshar: there 22 km by the side of Chapali river and 6 km circle shape pucca embankment from south char chapali river to khejur lotachapali,
 - ✓ Mitha ganj union: Mitha gnanj union is situated in the bank of Andhar maik and Sonatoli river. Total 33 km embankment from Sapuria to Mithaganj including pokhia para and Modhukhali.
 - ✓ Baliatoli Union: The union is situated on north-east bank of Andhar Manik river. There 39 km terraced and non terraced embankment from char najir village to Bablatola bazaar. Its height is 7 feet. This embankment protected the Bazaar, educational institution and union parisad of this union.
 - ✓ Lalua Union: This union is situated on the west bank of Ramnabad channel. From the baniti bazaar to Sanir bazaar there placed 29 km embankment.
 - ✓ Champa pure union: Champapure union is situated by the bank of Augunama and Ramnabad River. There 2 km terraced and 23 km non-terraced embankment is made in this union.
 - ✓ Dhankhali union; there is 25 km embankment on the bank of Tiakhali and Ramnath river.
 - ✓ Kuakata Powroshova: On the south side of this tourist town, there is 37 km embankment on the side of the Bay of Bengal.
- **Sluice gate:** 110 sluice gates are positioned in Klapara Upazilla close to the embankment. These sluice gates are associated to Adhar manic, North Sonatola, Tiakhali river and others canals. However, most of those sluice gates are not in good condition. As a result usual rush and water logging generates in case of excessive water flow. The quantity and the statistical condition of sluice gates according to the Union are given below:
 - ✓ Mohipur Union: There 9 sluice gates place in Mohipur Union which is situated in the riparian of the Bay of Bengal.
 - ✓ Chakmaia Union: There are 9 sluice gates in this union.
 - ✓ Tia khali Union: : There are 7 sluice gates in this union
 - ✓ Daalbugang Union: There are 6 sluice gates in this union
 - ✓ Lotachapali Union: There are 9 sluice gates in this union
 - ✓ Nilganj union: There are 9 sluice gates in this union

- ✓ Kalapara Poeroshova: There are 8 sluice gates in this union
- ✓ Dhulshar Union: There are 8 sluice gates in this union
- ✓ Mitha ganj union: There are 8 sluice gates in this union
- ✓ Baliatoli Union: There are 7 sluice gates in this union
- ✓ Lalua Union: There are 8 sluice gates in this union
- ✓ Champa pure union: There are 8 sluice gates in this union
- ✓ Dhankhali union: There are 8 sluice gates in this union
- ✓ Kuakata Powroshova: There are 8 sluice gates in this union

However, mentioned numbers of sluice gates are available in Kalapara Upazilla but most of them are in impracticable condition due to the lack of proper supervision.

- **Bridge:** There are 20 bridges of different size placed over the rivers and canals of every Unions/Powroshova of kalapara Upazilla. In fact, 2 bridges placed in some Unions/ Powrashava. Placements of these bridges are as follows according to the Unions.

- ✓ Mohipur Union: 2 bridges.
- ✓ Chakmaia Union: : 2 bridges
- ✓ Tia khali Union: : 2 bridges
- ✓ Daalbugang Union: 1 bridges
- ✓ Lotachapali Union: 1 bridges
- ✓ Nilganj union: : 1 bridges
- ✓ Kalapara Poeroshova: : 1 bridges
- ✓ Dhulshar Union: : 2 bridges
- ✓ Mitha ganj union: 1 bridges
- ✓ Baliatoli Union: : 2 bridges
- ✓ Lalua Union: : 1 bridges
- ✓ Champa pure union: 1 bridges
- ✓ Dhankhali union; : 2 bridges
- ✓ Kuakata Powroshova: : 1 bridges

The mentioned bridges are constructed with rod, steel and concrete and there are also three new bridges under construction on Dhaka-kuakata high way over Andher manic, Fulbunia and Shibbaria river.

- ✓ **Culvert:** There 550 culvert placed over the rivers/canals of Kalapara upazilla. Among them most of the culvert of 5 unions are in very risky condition.

- ✓ Mohipur Union: 35 Culverts.
- ✓ Chakmaia Union: : 40 Culverts
- ✓ Tia khali Union: : 30 Culverts
- ✓ Daalbugang Union: 45 Culverts
- ✓ Lotachapali Union: 55 Culverts
- ✓ Nilganj union: : 60 Culverts
- ✓ Kalapara Poeroshova: : 15 Culverts
- ✓ Dhulshar Union: : 35 Culverts
- ✓ Mitha ganj union: 35 Culverts
- ✓ Baliatoli Union: : 48 Culverts
- ✓ Lalua Union: : 45 Culverts
- ✓ Champa pure union: 45 Culverts
- ✓ Dhankhali union; : 50 Culverts
- ✓ Kuakata Powroshova: : 12 Culverts

(Source: Water Development Board & LGED, Kalapara)

- **Road:** Total length is 1508 Km (Soil 1275km, break 93km and concrete 140km)
 - ✓ Mohipur Union: 75 Km.
 - ✓ Chakmaia Union: : 80 km
 - ✓ Tia khali Union: : 100 km
 - ✓ Daalbugang Union: 60 km
 - ✓ Lotachapali Union: 130 km
 - ✓ Nilganj union: : 150 km
 - ✓ Kalapara Poeroshova: : 10 km
 - ✓ Dhulshar Union: : 120 km
 - ✓ Mitha ganj union: 88 km
 - ✓ Baliatoli Union: : 120 km
 - ✓ Lalua Union: : 100 km
 - ✓ Champa pure union: 90 km
 - ✓ Dhankhali union; : 120 km
 - ✓ Kuakata Powroshova: : 12 km

Besides, the amount of pitch road is 140 km. The main road of this upazilla and the Dhaka – Kuakata highway which starts from Rajpara abashan and entitled as the main gate of Kalapara to

Kuakata is about 50 km. The others main road of kalpara is Kalapara ferry ghat to Mohipure together with Baliatoli. Kuakata to Dhulshar together with mistripara 30 km terraced road and in different union of Kalapara upazilla such as 10 km in Nilganj, 6 km in Mohipura, 9 km in Lotachapali and 9 in Dalbuganj, Chakmia 6, Baliatoli 9km, lalua and tiakhali n6 Km each, Dhankhali 9, Champapure 8 , Mitha ganj 7 km Dhulshar 5 km and 3 km road in Kuakata Powrashava (Source: LGED, Kalapara).

- ***Irrigation System***

Total Selo machine 4360, Boro 2020 hector, Robi crops 52700 hector, Ropa Amon supplement irrigation 23000 hector, Awous 1800 hector. In Kalapara upazilla Selo machine 760, Boro 350 hector, Robi crops 14800 hector, Ropa Amon 10000 hector, Awous 400 hector

- ✓ Mohipur Union: 83 Nos.
- ✓ Chakmaia Union: : 23 Nos
- ✓ Tia khali Union: : 62 Nos
- ✓ Daalbugang Union: 132 Nos
- ✓ Lotachapali Union: 78 Nos
- ✓ Nilganj union: : 143 Nos
- ✓ Kalapara Poeroshova: : 29 Nos
- ✓ Dhulshar Union: : 54 Nos
- ✓ Mitha ganj union: 89 Nos
- ✓ Baliatoli Union: : 66 Nos
- ✓ Lalua Union: : 56 Nos
- ✓ Champa pure union: 96 Nos
- ✓ Dhankhali union; : 74 Nos
- ✓ Kuakata Powroshova: : 14 Nos

On an average in every year Boro-350 Hec, Rabi -14800hec, Ropa Aman-10,000 hec and Aush-400 hec are cultivated ([Source: Upazilla Agriculture Department, Kalapara](#)).

- **Village market and Hat:**

There are total 20 village markets in kalpara upazilla. Hats sit almost every day in a week which covers every union in the upazilla. Temporary stall sits beside the main shops in the hat day and temporary market also sits every morning and evening in the Upailla town area. Hat and village market is operating by the biasness proprietor associations and the lease takers.

A brief description on this matter is as follows:

- ✓ Lota chapali Union: Total 3 hat and village market in this union. These are Lakhipur bazaar, kuakata bazaar and Ali bazaar. These markets sit for a day in a week. There are 335 regular and irregular shops available. Furthermore, some bazaars of different sizes are placed in some places. About 228 nos permanent and temporary shops are seen in these markets. Most of the shops are made of wood and bamboo. Maximum number of shops is in low land for that it goes under water when the melt arises.
- ✓ Mohipure Union: There 2 hats are take place in Mohipure union, moreover a regular bazaar is arranged under the Alipur bridge. There are 103 permanent and 83 non-permanent shops in this bazaar. The shops go under water during high tide and disaster time.
- ✓ Chakmia Union; There is no permanent Hat in This union. Most the people of this union complete their daily shopping in the upazilla parisad bazaar and in the road side temporary bazaar.
- ✓ Tiakhali Union: There is no permanent Hat in This union. Most the people of this union complete their daily shopping in the upazilla parisad bazaar and in the road side temporary bazaar. 37 permanent and non-permanent shops sit by the either sides of the road near Badurtoli sluice gate.
- ✓ Dalbuganj Union: 1 Hat is arranged in this union, besides some small bazaar are seen in various places of this union. Presumably, 75 regular and irregular shops are seen in these places. Most of the shops are made of bamboo, wood and Golpata and they are almost in the lowland.
- ✓ Nil Ganj Union: 2 hats are arranged in this union, Pathimara bazaar is the biggest of them. There are about 420 permanent and nonpermanent shops in this market, besides some other markets sit in this union as well. 261 shops are seen in this market. There are 2 Ferryghat stands in this union. About 30-35 shops sit in these ghats. Maximum number of shops is in low land for that it goes under water when the melt arise
- ✓ Kalapara Powrashava: 1 hat is placed in Klapara Powrashava that sits on Tuesday of every week. As a result it becomes the gathering place of the people of some unions. There are about 400-435 permanent and nonpermanent shops in this market. Maximum number of shops is in low land for that it goes under water when the melt arises.

- ✓ Dhulshar Union: 1 Hat is in dhulshar union and another bazaar is sited under the Bablatola of this union About 55-64 nos of permanent and nonpermanent shops are found in this market. Maximum number of shops is in low land for that it goes under water when the melt arise
- ✓ Mithaganj Union: 1 Hat is arranged in this union, besides some small bazaars are seen in various places of this union. Approximately 75 regular and irregular shops are seen in these places. From Supora to Char para pokhia para to Mithaganj together with Modhukhali there 33 km embankment placed, by the both side of this embankment a huge number of permanent and non permanent shops are placed. Most of the shops are made of bamboo, wood and Golpata and they are almost in the lowland. All those things are in risk in case of disaster happening.
- ✓ Bliatoli Union; 2 hats regularly sit in this union and also some small bazaar sit by the side of 39 km long embankments. Probably 88 permanent and non-permanent shops sit here. Most of the shops are made of bamboo, wood and Golpata and they are almost in the lowland. All those are likely to be destructed if disaster happens.
- ✓ Lalua union; 2 hats regularly sits in this union. Two weekly bazaar sits in this union one is called banoti and another is called sonibar bazaar. one sits on Monday and another on Saturday. On the hat day different mobile shops from different places come here total number of this types of shops is 55-60. Besides some other small bazaar are placed in different places of this union. About 85 permanent and nonpermanent shops are found in this market. Maximum number of shops is in low land for that it goes under water when the melt arise
- ✓ Champapure union; 1 Hat is arranged in this union, besides some small bazaars are seen in various places of this union. Presumably, 65 regular and irregular shops are seen in these places. About 70-80 shops have been seen in both side of the embankments.
- ✓ Dhankhali union; 1 Hat is arranged in this union, besides some small bazaars are seen in various places of this union. Approximately 75 regular and irregular shops are seen in these places. Maximum number of shops is in low land for that it goes under water when the extra melt arise or if disaster happen. Maximum number of shops is in low land for that it goes under water when the melt arise.

- ✓ Kuakata powrashava; 3 hats regularly sits in this Powrashava besides some other bazaar have been seen to take place in different places of this powrashava. About 75 permanent and non-permanent shops of different size are seen on the roadside of sagorkanna Kuakata beach along with Rakhain market. Maximum number of shops is in low land for that it goes under water when the melt arise.

1.4.2 Social wealth

- **House and shelter:**

Most of the houses of Kalpara upazilla are made of tin and wood. The number of concrete house is too little. Mud made houses are very typical here. The total number of houses in Kalpara upazilla is 48,841 among those 4,022 are concrete house, 7,109 are semi pucca and 37,231 are earthen house. 479 family formulate their houses in others land. About 65% Houses of this upazilla are under the flood level and also not flood tolerant.

- ✓ Mohipure Union: The total number of houses of this union is 3,427 among those 2,190 are non terraced house, semi pucca house are 754, 454 are the terraced home and 29 families made their home in others land.
- ✓ Chakmia Union; The total number of houses of this union is 3,872 among those 2,882 are non terraced house, semi pucca house are 526, 421 are the terraced home and 27 families made their home in others land.
- ✓ Tiakhali Union: The total number of houses of this union is 3,078 among those 1,840 are non terraced house, semi pucca house are 796, 393 are the terraced home and 49 families made their home in others land.
- ✓ Dalbuganj Union: The total number of houses of this union is 2,716 among those 1,973 are non terraced house, semi pucca house are 474, 232 are the terraced home and 37 families made their home in others land.
- ✓ Lota chapali Union: The total number of houses of this union is 5,176 among those 4,200 are non-terraced house, semi pucca house are 612, 331 are the terraced home and 33 families made their home in others land.
- ✓ Nil Ganj Union: The total number of houses of this union is 6,578 among those 5,523 are non-terraced house, semi pucca house are 623, 407 are the terraced home and 25 families made their home in others land.

- ✓ Kalapara Powrashava; The total number of houses of this union is 3,579 among those 1,383 are non terraced house, semi pucca house are 1,171, 1,009 are the terraced home and 16 families made their home in others land.
- ✓ Dhulshar Union: The total number of houses of this union is 3,192 among those 2,443 are non-terraced house, semi pucca house are 521, 210 are the terraced home and 18 families made their home in others land.
- ✓ Mithaganj Union: The total number of houses of this union is 2,381 among those 1,998 are non-terraced house, semi pucca house are 272, 75 are the terraced home and 36 families made their home in others land.
- ✓ Bliatoli Union; The total number of houses of this union is 3,351 among those 2,771 are non-terraced house, semi pucca house are 452, 97 are the terraced home and 31 families made their home in others land.
- ✓ Lalua union; The total number of houses of this union is 3,682 among those 3,161 are non terraced house, semi pucca house are 352, 98 are the terraced home and 71 families made their home in others land.
- ✓ Champapure ujnion; The total number of houses of this union is 2,972 among those 2,798 are non terraced house, semi pucca house are 98, 39 are the terraced home and 37 families made their home in others land.
- ✓ Dhankhali union; The total number of houses of this union is 3,245 among those 3,065 are non terraced house, semi pucca house are 110, 49 are the terraced home and 21 families made their home in others land.
- ✓ Kuakata piowrashava; The total number of houses of this union is 1,592 among those 1,044 are non terraced house, semi pucca house are 312, 207 are the terraced home and 29 families made their home in others land.

- **Water:**

As for drinking water people of this upazilla uses the water from tubewell and pond water. There 2,801 deep tubewell are performing and 116 are not, 67 are beyond the flood level. 80% population of this area is using water from tubewell. There is a water tank in the upazilla town that can contain 5000 liter. 8329 families who are living in Kalapara powrashava, tiakhali and Chakmia unions use water for drinking and regular work from the tank. The Powrashava authority operates the tank.

- ✓ Mohipure Union: There 127 deep tubewell are in mohipur union from that 11 are not performing and 04 are beyond the flood level.
- ✓ Chakmia Union; There 209 deep tubewell are in Chakmia union from that 08 are not performing and 03 are beyond the flood level.
- ✓ Tiakhali Union: There 218 deep tubewell are in this union from that 09 are not performing and 05 are beyond the flood level.
- ✓ Dalbuganj Union: There 154 deep tubewell are in this union from that 09 are not performing and 04 are beyond the flood level.
- ✓ Lota chapali Union: There 231 deep tubewell are in this union from that 12 are not performing and 04 are beyond the flood level.
- ✓ Nil Ganj Union: There 318 deep tubewell are in this union from that 08 are not performing and 07 are beyond the flood level
- ✓ Kalapara Powrashava; There 254 deep tubewell are in this union from that 05 are not performing and 09 are beyond the flood level.
- ✓ Dhulshar Union: There 168 deep tubewell are in this union from that 09 are not performing and 04 are beyond the flood level.
- ✓ Mithaganj Union: There 178 deep tubewell are in this union from that 07 are not performing and 04 are beyond the flood level.
- ✓ Bliatoli Union; There 198 deep tube well are in this union from that 09 are not performing and 05 are beyond the flood level.
- ✓ Lalua union; There 173 deep tube well are in this union from that 08 are not performing and 04 are beyond the flood level.
- ✓ Champapure ujnion; There 176 deep tube well are in this union from that 07 are not performing and 04 are beyond the flood level.
- ✓ Dhankhali union; There 163 deep tube well are in this union from that 08 are not performing and 03 are beyond the flood level.
- ✓ Kuakata piowrashava; There 234 deep tube well are in this union from that 06 are not performing and 07 are beyond the flood level.

(Source: DPHE, Kalapara)

- **Sanitation system:**
- Having 46782 sanitary latrines from those 17,094 are above flood/ surge level and 82.84% community use the sanitary latrine. Most of the latrines are lime made of bamboo, wood, tin and ring slaves that are not disaster tolerant.
 - ✓ Mohipure Union: There 3322 latrines are in this union from those 1856 are on top of flood level.
 - ✓ Chakmia Union; There 3672 latrines are in this union from those 1234 are on top of flood level
 - ✓ Tiakhali Union: There 2987 latrines are in this union from those 1176 are on top of flood level
 - ✓ Dalbuganj Union: There 2654 latrines are in this union from those 984 are on top of flood level
 - ✓ Lota chapali Union: There 5016 latrines are in this union from those 1175 are on top of flood level
 - ✓ Nil Ganj Union: There 6354 latrines are in this union from those 1170 are on top of flood level
 - ✓ Kalapara Powrashava; There 3397 latrines are in this union from those 2341 are on top of flood level
 - ✓ Dhulshar Union: There 2995 latrines are in this union from those 932 are on top of flood level
 - ✓ Mithaganj Union: There 2194 latrines are in this union from those 920 are on top of flood level
 - ✓ Bliatoli Union; There 3194 latrines are in this union from those 1023 are on top of flood level
 - ✓ Lalua union; There 3492 latrines are in this union from those 1034 are on top of flood level
 - ✓ Champapure ujnion; There 2869 latrines are in this union from those 983 are on top of flood level
 - ✓ Dhankhali union; There 3153 latrines are in this union from those 1234 are on top of flood level
 - ✓ Kuakata piowrashava; There 1483 latrines are in this union from those 1032 are on top of flood level

(Source: DPHE, Kalapara)

- **Educational institutions:**

179 are government primary school, 40 schools are maintaining by BRACK, 30 are maintaining by Karitas. Dhaka Ahsania mission operating school 10, Secondary school 28, junior school 5, Degree college 2, general college 2 technical collage 2, Abadetia madrasha 37, Dhakhil madrasha 22 and senior madrasha 5 are placed in this upazilla.

(Source: Education and Statistics Department, Kalapara.)

- **Educational institutions/ Library: Education rate-59.92%**

Short description Government, non-government primary, secondary, Madrasha, College, library of this upazilla according to unions are shown in the attachment -1.

- **Religious institution:**

There are 387 Mosque, 45 Temple, 3 Church, 6 Pagodas are in Kalapara upazilla most of these infrastructures are semi pucca. There have some probability to damage these infrastructures in case of happening cyclone Sidar.

- ✓ Mohipure Union: There are 25 Mosques and 04 Temples in this Union.
- ✓ Chakmia Union; There are 27 Mosques and 02 Temples in this Union.
- ✓ Tiakhali Union: There are 28 Mosques and 02 Temples in this Union.
- ✓ Dalbuganj Union: There are 23 Mosques and 01 Temples in this Union.
- ✓ Lota chapali Union: There are 31 Mosques, 05 Temples, 02 Shrines and 02 Garzas in this Union.
- ✓ Nil Ganj Union: There are 38 Mosques and 06 Temples in this Union.
- ✓ Kalapara Powrashava; There are 40 Mosques, 08 Temples and 02 Shrines in this Union.
- ✓ Dhulshar Union: There are 23 Mosques and 01 Temples in this Union.
- ✓ Mithaganj Union: There are 22 Mosques and 02 Temples in this Union.
- ✓ Bliatoli Union; There are 22 Mosques and 02 Temples in this Union.
- ✓ Lalua union; There are 26 Mosques and 01 Temples in this Union.
- ✓ Champapure ujnion; There are 27 Mosques and 01 Temples in this Union.
- ✓ Dhankhali union; There are 29 Mosques and 01 Temples in this Union.
- ✓ Kuakata piowrashava; There are 26 Mosques,09 Temples,02 Shrines and 01 Garzas in this Union.

- **Place of religious gathering (Eid gah):**

Total 350 Eidgah are in the Kalapara union. Among those the biggest one is in kuakata powrashava. Most of the grassland of Eidgah are low. In time of heavy rain fall and tide this grass land low down under water.,

- ✓ Mohipure Union: There are 22 Eidgah yard in this union.
- ✓ Chakmia Union; There are 27 Eidgah yard in this union
- ✓ Tiakhali Union: There are 23 Eidgah yard in this union
- ✓ Dalbuganj Union: There are 21 Eidgah yard in this union
- ✓ Lota chapali Union: There are 39 Eidgah yard in this union
- ✓ Nil Ganj Union: There are 41 Eidgah yard in this union
- ✓ Kalapara Powrashava; There are 19 Eidgah yard in this Powrashava.
- ✓ Dhulshar Union: There are 21 Eidgah yard in this union
- ✓ Mithaganj Union: There are 20 Eidgah yard in this union
- ✓ Bliatoli Union; There are 25 Eidgah yard in this union
- ✓ Lalua union; There are 28 Eidgah yard in this union
- ✓ Champapure ujnion; There are 23 Eidgah yard in this union
- ✓ Dhankhali union; There are 19 Eidgah yard in this union
- ✓ Kuakata piowrashava; There are 22 Eidgah yard in this Powrashava

- **Health support:**

Total number of community clinic in kalapara upazilla is 22 hospitals, 6 diagnostics centers and some pharmacy of various sizes. Treatment support from medical practitioner and nonqualified doctors are available in these pharmacy. On the other hand, treatment supports are maneuvering through registered doctors in the community clinic and hospitals.

- ✓ Mohipure Union: There 1 community clinic and a massive sum of pharmacy of different size are available in this union.
- ✓ Chakmia Union; There 1 community clinic and a massive sum of pharmacy of different size are available in this union.
- ✓ Tiakhali Union: There 1 community clinic and a massive sum of pharmacy of different size are available in this union.
- ✓ Dalbuganj Union: There 1-community clinic and a massive sum of pharmacy of different size are available in this union.

- ✓ Lota chapali Union: There 2-community clinic and a massive sum of pharmacy of different size are available in this union.
- ✓ Nil Ganj Union: There 3-community clinic and a massive sum of pharmacy of different size are available in this union.
- ✓ Kalapara Powrashava; There 1 hospital,6 diagnostics center, 2 community clinic and a massive sum of pharmacy of different size are available in this union.
- ✓ Dhulshar Union: There 1 community clinic and a massive sum of pharmacy of different size are available in this union.
- ✓ Mithaganj Union: There 2-community clinic and a massive sum of pharmacy of different size are available in this union.
- ✓ Bliatoli Union; There 2 community clinic and a massive sum of pharmacy of different size are available in this union.
- ✓ Lalua union; There 2 community clinic and a massive sum of pharmacy of different size are available in this union.
- ✓ Champapure ujnion; There 1 community clinic and a massive sum of pharmacy of different size are available in this union.
- ✓ Dhankhali union; There 1 community clinic and a massive sum of pharmacy of different size are available in this union.
- ✓ Kuakata piowrashava; There 1 hospital, 2-community clinic and a massive sum of pharmacy of different size are available in this union.

(Source:Upazilla Health and Family Planning Department, Kalapara)

- **Bank:**

There are 9 Banks located in Kalapara and Kuakata upzila town of them 5 are government bank and 4 are non-government bank. Those are Agrani Bank, Janata Bank, Sonali Bank, Krishio Banmk, Rupali Bank, BRAC Bank, Shajalal Islami Bank and Uttra Bank.

- **Post office:**

Total 14 post offices are located in Union, Powrashava and Upozilla level. Adequate services are received from post offices situated in Kalapara and Kuakata porashava.

- ✓ Mohipure Union: 1 post office is placed in this union.
- ✓ Chakmia Union; 1 post office is placed in this union.
- ✓ Tiakhali Union: 1 post office is placed in this union.
- ✓ Dalbuganj Union: 1 post office is placed in this union.

- ✓ Lota chapali Union: 1 post office is placed in this union.
- ✓ Nil Ganj Union: 1 post office is placed in this union.
- ✓ Kalapara Powrashava; 1 post office is placed in this powrashava.
- ✓ Dhulshar Union: 1 post office is placed in this union.
- ✓ Mithaganj Union: 1 post office is placed in this union.
- ✓ Bliatoli Union; 1 post office is placed in this union.
- ✓ Lalua union; 1 post office is placed in this union.
- ✓ Champapure ujnion; 1 post office is placed in this union.
- ✓ Dhankhali union; 1 post office is placed in this union.
- ✓ Kuakata piowrashava; 1 post office is placed in this powrashava.

• **Club/Cultural center:**

There are 15 volunteer organizations in kalapara upazilla.

- ✓ Kuakata Powrashava; There are 5 clubs/cultural organizations in this Powrashava. They are- Kuakata Khala ghar, Bandhu blood donor club, Bangladeshyn neval wing, Bangladesh red crisent society etc.
- ✓ Kalapara Powrashava: Total 10 clubs exist in Kalpara powrashava such as Andhar manic khala ghar, Atimkhana blood donor club, Bandhu blood donor club, Youth Red Crescent etc.

• **NGO/Volenter organizations:**

List opf NGOs working with disaster are given below:

SI No	NGO	Work in Disaster	No of Beneficiary	Implementati on period
01	Muslim Aid	<ul style="list-style-type: none"> ✓ School based S.M.C meeting. ✓ Awareness meeting and training along with school students. ✓ Training about disaster ✓ Increase awareness and tolerance on disaster. ✓ Ward disaster management 	33567	April 2013 - January 2016

		<p>committee.</p> <ul style="list-style-type: none"> ✓ Arrange Firing line about disaster. ✓ Day observance ✓ Increase facilities based on school. ✓ Compile disaster management plane on Upazilla and district level. ✓ I.G.A ✓ Cash for work and training 		
02	Avash	<ul style="list-style-type: none"> ✓ Disaster awareness meeting ✓ Increase awareness about climate change. ✓ Emergency support during disaster ✓ Day observance ✓ Emergency support for the MOHASEN affected people ✓ Re-construction of damaged houses ✓ Re-construction of damaged latrine 	490	April 2010- December 2015
03	F.H	<ul style="list-style-type: none"> ✓ Training about disaster ✓ Increase awareness about disaster. ✓ Rehabilitation 	350	January 2008 - January 2020

04	Friendship	<ul style="list-style-type: none"> ✓ Village disaster management committee ✓ Arrange awareness meeting with the students of secondary level. 	37500	June 2013- May 2014
05	Wave foundation	<ul style="list-style-type: none"> ✓ Training about disaster ✓ Increase awareness about disaster. ✓ Re-construction of the damaged houses 	1598	June 2010 - June 2016
06	J.J.S.	<ul style="list-style-type: none"> ✓ Training about disaster ✓ Increase awareness about disaster. ✓ Re-construction of the damaged houses ✓ Support for the fishermen 	3200	October 2013- March 2014
07	World concern	<ul style="list-style-type: none"> ✓ Training about disaster ✓ Increase awareness about disaster. ✓ Re-construction of the damaged houses 	18777	July 2013- December 2016
08	Polli gana unnayn kendro (P.J.U.K)	<ul style="list-style-type: none"> ✓ Training about disaster ✓ Increase awareness about disaster. 	1890	April 2007- January 2020
09	Speed trust	<ul style="list-style-type: none"> ✓ Village disaster management committee ✓ Courtyard session ✓ Construction or repair 	37555	May 2011- March 2015

		cyclone shelter ✓ Road and earthen rampart ✓ Arrange firing line about disaster ✓ Day observance		
10	Codeck	✓ Training about disaster ✓ Increase awareness about disaster ✓ Awareness theater outreach ✓ Preparing list and identity card of the fisher man	3235	November 2013- April 2014
11	Karitash	✓ Village disaster management committee ✓ Courtyard session ✓ Construction or repair cyclone shelter. ✓ Road and earthen rampart repairing ✓ Firing line about disaster ✓ Day observance	38000	May 2011- March 2015

(Source: Upazilla Parishad, Kalapara)

- **Play Ground:** Every educational institutions of Kalapara upazilla has a playground but no specific information found for exact playground. It is found in physical visit that most of the playgrounds are low land so small rainfall causes water logging.
- **Graveyard:** There are two graveyards and a burial ground in Kalpara Upazilla and those lie above flood water level.
- **Communication and mode of transportation:** Riksha, Auto, engine van, Naasimon, Motor cycle, van, Pick-up-van, Bus and Boat are the main transport through which people of this area can communicate with district (Source: Upazilla Statistics Department, Kalapara.).

- Forest and forestation:** Government restricted forest area under forest department is 1613 hectares, which is now declared as national garden. 1600 km forestation on the side of embankment of water board and 120 km beside roads and highways are under forest department. Garden near LGED link road is 20 km long. No forestation information found from local government and NGOs. In those orchards Keora, Soila, Golpata, Acacia, Black catechu, Shishum, Chamble, Khoia, Mehogoni, Casuarina Tamarind, Flamboyant, jamun, Casuarina, Tuma etc. tree are there (Source: Upazilla Forest Department, Kalapara.).

1.4.3 Climate and weather:

Condition of climate and weather of Kalapara Upazilla are as follows:

Month	Average rain fall			Highest average temperature			Lowest average temperature		
	2013	2012	2011	2013	2012	2011	2013	2012	2011
December	0 mm	0 mm	0 mm	15.5 °c	15.2 °c	15.5 °c	15.2 °c	13.6 °c	14.0 °c
January	0 mm	0 mm	0 mm	12.0 °c	12.0 °c	12.0 °c	12.0 °c	14.0 °c	12.0 °c
February	0 mm	0 mm	0 mm	15.5 °c	15.5 °c	15.5 °c	15.5 °c	18.2 °c	12.8 °c
March	0 mm	2 mm	01 mm	33.6 °c	33.1 °c	32.3 °c	21.4 °c	22.4 °c	20.7 °c
April	2 mm	2 mm	03 mm	34.4 °c	34.4 °c	33.1 °c	24.5 °c	24.7 °c	23.9 °c
May	3 mm	3 mm	08 mm	32.1 °c	35.0 °c	33.0 °c	25.1 °c	26.6 °c	25.1 °c
June	14 mm	14 mm	18 mm	32.5 °c	33.3 °c	31.9 °c	26.5 °c	20.8 °c	26.3 °c
July	22 mm	21 mm	26 mm	31.6 °c	31.6 °c	31.7 °c	26.2 °c	26.1 °c	26.0 °c

A	13	13	30	31.7	32.2	30.9	26.0	26.3	26.0
ugust	mm	mm	mm	°c	°c	°c	°c	°c	°c
Sept	1	1	18	32.1	32.2	31.5	25.8	26.2	26.1
ember	8mm	8mm	mm	°c	°c	°c	°c	°c	°c
Octo	1	0	02	31.1	32.0	33.1	24.3	23.7	24.9
ber	3mm	8mm	mm	°c	°c	°c	°c	°c	°c
Nov	0	0	0	30.0	29.8	30.6	18.6	19.6	19.3
ember	mm	2mm	mm	°c	°c	°c	°c	°c	°c

(Source: BMD, Kalapara)

- Flow of rainfall:** Average rainfall of last three years is shown in the table. The data of last ten years clearly shows that natural flow of rainfall has changed. The amount and glibness of lightings has increased. (Source: BMD, Kalapara, Patuakhali).
- Temperature:** Seasonal average highest and lowest temperatures of last three years have been shown. By focusing on the data of last ten years we can understand that average temperature is increasing every year. As the area is next to the mangrove forest the temperature remains mild, although local forestry is not remarkable. The highest and lowest temperature of this area is 33.5°: 3 12.5° C respectively .The average temperature in rainy season of this area is 28.3 c, most of the time temperature remains normal. From the experience of the local community, we come to know that the temperature is increasing day by day. Especially in the last 7-8 years it increase too high to tolerate. The main reason of high temperature is increasing humidity of air and salinity in the water, because humidity and salinity is reducing environmental tolerance level. Agriculture farming is in threat due to the raise of temperature. Especially salinity increase in land due to the increase in shirring fishing as a result ecology is in threat. If this condition persists, risk will increase in feature. Moreover, people who are talking poultry and farming as alternative profession are facing the risk due to the rising temperature. (Source: BMD, Kalapara).

- **Underground water level:** The average underground water steady level of this Upazilla is 3 to 7 fit and the underground water level is 800-1200 fit but in winter season water level goes to more below level as per record. As per the information from Public health engineering office, the survey is carried out twice every year to measure the water level. It is found the water level stays in 14 to 16 fit in April but in May it goes downwards. It is 15 to 17 in May. Locality thinks that pure drinking water level become downward day by day due to salinity. It is a threat for sustainable development. (Source: DPHE Office, Kalapara)

1.4.4 Others

- Land and use of land Total land-49210 hectares
- Total agricultural land: 40940 hectares
- Land which gives a cultivation in a year- 29% =11798 hectares
- Land which gives two cultivation in a year 43%=17187 hectares
- Land which gives three cultivation in a year: 28%=11955 hectares
- Non cultivating land(house area) = 8270 hectares
- ✓ Mohipure Union: Total land area is 4520 hectares, cultivated land area is 3755 hectares, the area of single crop land is 10 hectares, double crop area is 1602 hectares and triple crops area is 1032 hectares.
- ✓ Chakmia Union; Total land area is 4860 hectares, cultivated land area is 3344 hectares, the area of single crop land is 1103 hectares, double crop area is 1186 hectares and triple crops area is 1103 hectares.
- ✓ Tiakhali Union: Total land area is 3131 hectares, cultivated land area is 2824 hectares, the area of single crop land is 1152 hectares, double crop area is 1072 hectares and triple crops area is 600 hectares.
- ✓ Dalbuganj Union: Total land area is 3131 hectares, cultivated land area is 2824 hectares, the area of single crop land is 738 hectares, double crop area is 1376 hectares and triple crops area is 1572 hectares.
- ✓ Lota chapali Union: : Total land area is 3550 hectares, cultivated land area is 3199 hectares, the area of single crop land is 738 hectares, double crop area is 1477 hectares and triple crops area is 872 hectares.

- ✓ Nil Ganj Union: Total land area is 5065 hectares, cultivated land area is 3405 hectares, the area of single crop land is 1144 hectares, double crop area is 1846 hectares and triple crops area is 415 hectares
- ✓ Kalapara Powrashava; Total land area is 2340 hectares, cultivated land area is 2053 hectares, the area of single crop land is 630 hectares, double crop area is 988 hectares and triple crops area is 435 hectares
- ✓ Dhulshar Union: ; Total land area is 3655 hectares, cultivated land area is 3257 hectares, the area of single crop land is 840 hectares, double crop area is 1166 hectares and triple crops area is 1251 hectares
- ✓ Mithaganj Union: Total land area is 3987 hectares, cultivated land area is 3355 hectares, the area of single crop land is 922 hectares, double crop area is 1188 hectares and triple crops area is 1245 hectares
- ✓ Bliatoli Union; Total land area is 3987 hectares, cultivated land area is 3355 hectares, the area of single crop land is 922 hectares, double crop area is 1188 hectares and triple crops area is 1245 hectares
- ✓ Lalua union; Total land area is 2732 hectares, cultivated land area is 2432 hectares, the area of single crop land is 779 hectares, double crop area is 1318 hectares and triple crops area is 272 hectares
- ✓ Champapure ujnion; Total land area is 3243 hectares, cultivated land area is 2943 hectares, the area of single crop land is 1055 hectares, double crop area is 1186 hectares and triple crops area is 702 hectares
- ✓ Dhankhali union; Total land area is 4321 hectares, cultivated land area is 3111 hectares, the area of single crop land is 942 hectares, double crop area is 1627 hectares and triple crops area is 542 hectares

Agriculture and food: Transplanted Aman , Aush and Boro. Grass pea, Black gram, Green vegetables (both ravi and kharip), Water melon, Sweet potato, Maize, Wheat , Mung bean, Sunflower etc. Staple food are paddy, fish and vegetables. Season wise land use is by percentage, Ravi-52%, Kharip1 -18%, Kharip2- 99%

Land topography: High land-1%, Medium high land-73%, Medium low land- 20%, Low land-06%. Soil type is Sandy-5%, Sandy loom-5%, Clay loom-25%, Clay-3%

- ✓ Dhankhali union; Statistical figure of production in this union is 2427 metric ton rice and 960 metric ton fish .
- ✓ Champapure union; ; Statistical figure of production in this union is 2887 metric ton rice and 1852 metric ton fish
- ✓ Lalua union; Statistical figure of production in this union is 1753 metric ton rice and 1300 metric ton fish
- ✓ Bliatoli Union; Statistical figure of production in this union is 2528 metric ton rice and 1505 metric ton fish
- ✓ Mithaganj Union: Statistical figure of production in this union is 2983 metric ton rice and 1450 metric ton fish
- ✓ Mohipure Union: Statistical figure of production in this union is 2343 metric ton rice and 980 metric ton fish
- ✓ Chakmia Union; Statistical figure of production in this union is 2455 metric ton rice and 1223 metric ton fish
- ✓ Tiakhali Union: Statistical figure of production in this union is 2234 metric ton rice and 760 metric ton fish
- ✓ Dalbuganj Union: Statistical figure of production in this union is 2528 metric ton rice and 1435 metric ton fish
- ✓ Lota chapali Union: Statistical figure of production in this union is 2280 metric ton rice and 1110 metric ton fish
- ✓ Nil Ganj Union: Statistical figure of production in this union is 3527 metric ton rice and 1670 metric ton fish
- ✓ Kalapara Powrashava; Statistical figure of production in this union is 113 metric ton rice and 150 metric ton fish
- ✓ Dhulshar Union: Statistical figure of production in this union is 2423 metric ton rice and 1419 metric ton fish.

Classifications of major crops/products:

Sl. No.	Time/duration (Oct. – Feb.)	Kharip-1 (March – June)	Kharip-2 (July – Sep.)	Land area (Hector)
1	Fallow	Uncultivated/ Fallow	Transplanted Aman	11374
2	Fallow	Aush	Transplanted Aman	5345
3	Grass pea	Uncultivated/ Fallow	Transplanted Aman	2440
4	Grass pea	Aush	Transplanted Aman	3260
5	Felon	Awush	Transplanted Aman	5205
6	Felon	Uncultivated/ Fallow	Transplanted Aman	4495
7	Mung bean	Aush	Transplanted Aman	1470
8	Mung bean	Uncultivated/ Fallow	Transplanted Aman	1330
9	Watermelon	Aush	Transplanted Aman	950
10	Watermelon	Uncultivated/ Fallow	Transplanted Aman	850
11	Groundnut	Uncultivated/ Fallow	Transplanted Aman	370
12	Groundnut	Aush	Transplanted Aman	370

River: There are three rivers in Kalapara Upazilla. They are Andharmanic, Purboshonatola, Tiakhali. Most of the fisherman family getting support by catching fish from these three rivers. Besides having some merits also have some demerits such as different area washed away in the time of Ashar, Sraban and Vadra when the millet water is high. *(Source: Water Development Board, Kalapara)*

Pond: total pond is 17134. Every pond is used for fishing farm but the farmers need more training.

- ✓ Bliatoli Union; 1389 nos
- ✓ Lalua union; 1096 nos
- ✓ Mithaganj Union: 1307 nos
- ✓ Dhankhali union; 1276 nos
- ✓ Champapure union; 1124 nos
- ✓ Dhulshar Union: 1427 nos
- ✓ Dalbuganj Union 1812 nos
- ✓ Mohipure Union: 1347 nos
- ✓ Lota chapali Union: 1598 nos

- ✓ Nil Ganj Union: 1850 nos
- ✓ Tiakhali Union: 1020 nos
- ✓ Chakmia Union: 1123 nos
- ✓ Kalapara Powrashava; 765 nos.

(Source: Fisheries Department, Kalapara.)

- **Canal** There are 39 channels in this upazilla among those 20 are using for fish farming through community approach. Which was excavated under FCDI program..

- **Salinity:** Kalapara upazilla is a saline prone area. Croplands, open spaces, river and channels are affected by severe salinity during the particular season in every year. Seasonal crops are damaged by the saline water and Boro crops are very rare in the district due to the saline affects. This area was covered by saline water during November to June 25-30 years ago. Then there was regular millet and ebb process in the river that is very important for making land. On that environment, salinity was a negligible problem. It did not cause any problem then to the livelihood. When the convention of double and triple cropping process through using embankment in order to cultivate more crops from then it was seems to be a problem. Land salinity got permanent place due to the climate change impact. It fears that though salinity is not seems to be a great problem for shrimp cultivation in costal belt, it will be identified as a great hazard in the contrast of drinking water, natural equity. 30% area of this locality is affected in salinity level 2 and 3. though the saline water is low now due to the river siltation and low land, It fears that this area will washed away under saline water when sea water level become high. *(Source: Upazilla Agriculture Department, Kalapara)*
- **Arsenic problem:** No arsenic poisons found in any tube wells of Kalapara upazilla..

2.1 Overall history of Disaster

The Kalapara is one of the most disaster-prone upazilla amongst different upazillas of Potuakhali district. This upazilla faces some or other disasters almost every year. People face huge loss of property and normal life become disrupted due to different hazards including cyclone, river filling up, salinity, coastal flooding and storm. In rainy season extensive area including upazilla and cities become inundated due to overflow of river. Besides, heavy downpour in rainy season creates marshy in house of low area among upazilla because of bad drainage system which remains stable nearly a month. The level of flood and water logging are increasing in this area due to river siltation. Posur river situated west side of this upazilla and mostly responsible for flooding.

Due to being near to the coast, almost every year cyclone attacks Kalapara upazilla. From south east part cyclone and bore hit on lives and livelihood in that area. Moreover salinity intrusion is increasing day by day which extensively damages the crops and trees. Due to this hazard agriculture, animal resources, health, infrastructure and trees become affected. In that area scarcity of food is seen, including crisis of employment normal life of people become disrupted. From the overall history of Kalapara upazilla shows that, almost every year cyclone takes place in this area. The cyclone of 2007, 2009 and 2013 was atrocious. This cyclone damaged extensively in Lalua, Dhulashar, Latachali, Dalbujang, Mohipur, Niljang, Tiakhali, Dhankhali, Champapur, Chakmaia, Baliatali, Mithajang and Kalapara union. Salinity exists in every union. As a result the above mentioned disasters have negative impact on lives and livelihoods. It is also noted that, 20-25 feet and 220-240 km/hr speed of tidal flow of sidr in 2007 also hit this union.

The major hazards of this upazilla: *Cyclone, Surge, Salinity, Water logging, Heavy downpour, Drought and River bank erosion are the main hazards of this upazilla.*

Amount of loss, time of happening and damages and departments are given below through chart:

Sl no.	Name of disaster	Year	Amount of loss	Resources/ sectors
1	Cyclone	1988, 2007, 2009	Huge	Crop, human resource, livestock, infrastructure

2	Salinity	Every year	Huge	Crop, Plants, Domestic animal
3	Coastal flooding	2000, 2013	Huge	Crop, Fish, Domestic animal, infrastructure
4	Water logging	Every year	Huge	Livelihood
5	River bank erosion	Every year	Huge	Crop field and homestead area, home, road, infrastructure
6	Heavy downpour	Every year	Huge	Crop
7	Surge	2009	Huge	Crop field and homestead area, home, road, infrastructure, crop, fish, domestic animal

- How and when happened: Due to near sea coast, ponds and low land area of this upazilla become affected by above mentioned hazards. This upazilla become affected with most of the hazards in the month of March to May and September to November.
- What was the height of the flood water in the past: Flood water level was reached at the highest pick during sidr cyclone. Flood water level became 15-18 feet during sidr.
- How quickly grew water in the past: In 15th November 2007 the height of water of sidr cyclone grew too fast.
- How long flood or tidal surge water became lasts: Bore water was standing for 2-3 hours.
- Amount of loss: The table are given below
- People are experiencing what problem/ difficulties: facing difficulties in case of lives and livelihoods, traffic, diseases etc.

Short description of some recent disasters are given below:

Name of disaster	Year	Amount of loss	Which resouces/ sectors were affected
Cyclone Mohasen (whole kalapra upazilla)	16 th May, 2013	<ul style="list-style-type: none"> • No. of affected people- 174302 person • Affected area- 335.86 square kilometer • No. of died people- 2 person • No. of injured people- 565 person • No. of affected families- 44590 person 	Human life, domestic animal, poultry, crop, plants, fish, infrastructure, road etc.

		<ul style="list-style-type: none"> • No. of affected home- 25038 • No. of affected domestic animal 455 (2785000/=) • Loss of poultry- 21227 (2772200/=) • Crop loss- 1095 acre-(10950000/=) • Loss of shrimp- 444.66 acre (41800000/=) • Affected educational institution- 260 • Affected religious institution-336 • Affected roads- 1436 km • Affected embankments-34 km (10000000/=) • Affected forest- 757380000/= • Affected electricity- 12575000/= • Affected telecommunication- 2020000/= • Affected industries- 3 (250000/=) • Affected hatchery- 302 (35350000/=) • Affected tube-wells- 40 • Affected pond/reservoir - 10701 • Affected steamer/boat-197 (10775000/=) • Affected fishing net-298 (4400000/=) • Others 12050 like, toilet 500 	
Cyclone Aila (lalua union,	25 th May, 2009	<ul style="list-style-type: none"> • Affected area- 45 square kilometer • No. of affected people- 20000 	Domestic animal, poultry, crop, plants,

kalapara)		<p>person</p> <ul style="list-style-type: none"> • No. of injured people- 13 person • No. of affected families- 3690 • No. of affected home- 2850 • Affected domestic animal- 15000 • Loss of poultry- 35000 (3500000/=) • Crop loss- 420 acre-(475000/=) • Loss of shrimp- 25 acre (320000/=) • Destroyed educational institution- 7 • Affected religious institution-19 • Affected roads- 49 km • Affected embankments- 13.50 km • Affected hatchery- 35 (420000/=) • Affected tube-wells- 25 • Affected pond/reservoir - 2500 • Affected steamer/boat-72 (1500000/=) • Affected fishing net-40 (4800000/=) 	fish, infrastructure, road etc.
Cyclone sidr (lalu union, kalapara)	15 th November, 2007	<ul style="list-style-type: none"> • Affected area- 13.40 square kilometer • No. of affected people- 21000 person • No. of died people- 4 person • No. of injured people- 250 person • No. of affected families- 4200 	Human life, domestic animal, poultry, crop, plants, fish, infrastructure, road etc.

		<ul style="list-style-type: none"> • No. of affected home- 2400 • No. of affected domestic animal 314 (1500000/=) • Loss of poultry- 19000 (200000/= including domestic animals) • Crop loss- 1300 acre • Loss of shrimp- 60 acre • Affected educational institution- 12 • Affected religious institution-52 • Affected roads- 42 km • Affected embankments-23 km • Affected hatchery- 18 (600000/=) • Affected tube-wells- 28 • Affected pond/reservoir - 255 • Affected steamer/boat-700 • Affected fishing net-1750 	
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(Source: UP, Upazilla PIO, UNO & CPP Office, Kalapara)

2.2 Main hazards of this upazilla

Identification and prioritization of the hazards of this upazilla are given below:

<i>Sl. No.</i>	Hazards	<i>Sl. No.</i>	<i>Priority</i>
1	River bank erosion	1	Cyclone
2	Surge	2	Surge
3	Cyclone	3	Salinity
4	Coastal flooding	4	River bankerosion
5	Heavy downpour	5	Coastal flooding
6	Salinity	6	Water logging
7	Water logging	7	Heavy downpour

(Source: CPP Office, Kalapara)

2.3 Detailed description of different hazards, present and future state

Detailed description of different hazard and their present and future states of kalapara upazilla are as follows:

Cyclone

Kalapara upazilla is mainly cyclone-affected area. Every year cyclone hits on this area from the month of Vadra to Agrahayon. As a result, agriculture, fish, infrastructure and communication system in this area are extensively damaged. Destruction of trees and Sundarban are rapidly increasing the loss of cyclone affected area. It is assumed that, the gradual increase of global temperature accelerating the frequency of cyclone occurrence. Every year cyclone attacks on this area but it was severe in the year of 2007, 2009 and 2013. About 35-60% aman rice, 20% orchard and 90% vegetables became damaged in 2009. About 40-50% aman rice, 20% orchard and 90% vegetables damaged on this area by cyclone in 2007, 2009 and 2013.

Surge

The tidal surge is the main hazard of Kalapara upazilla. This upazilla is affected slightly or heavily by bore in every year. Due to low land area and near the sea this upazilla is hindered by tidal surge. Most of the people of kalapara upazilla are fishmonger, so tidal flows exert negative impact on human life and livelihood in this area. Including death of life massive loss observed on property, crop, fish resources, forestry, domestic animals, poultry, house, industry and other infrastructure. As for example, the scenarios of loss of tidal surge during cyclone are mentioned in the above chart. The condition of embankments, roads, culverts and sledge gates is very fragile so that the sufferings of people and loss of properties become higher. Apparently in this area have lower number of shelter house and other facilities than amount of population. If didn't improve the above mentioned condition huge loss can occur in future. The most comprehensive tidal surge/ flood was seen in 2009. Besides, due to decrease the navigability of the river the outbreak of tidal surge/ flood is increasing in this area.

Salinity

Salinity is a dangerous hazard of Kalapara upazilla. Day by day salinity level is increasing in that area. The intensity of salinity became higher in the month of Poush to Jyesta. Almost every union has gone under salinity. The level of salinity gradually decrease during rainy season. In dry season salinity creates huge loss on agriculture sector. Due to increase salinity, scarcity of drinking water are seen in that area. Because of increased sea level day by day salinity is increasing in river water. The high level of salinity is seen in 8 union of Kalapara upazilla among

12 union. The name of salinity affected union are given in the chart. Due to salinity, it exert great negative impact on crops, forestry, infrastructures, fish resources etc. in other words overall livelihood. The salt water of sea easily enter into the crop field due to bad condition of embankments, roads as well as slwedge gate and that can't fasily drain out because of lower level of land. Thus day by day crop field of Kalapara upazilla has gone under saline water. If immediately didn't take any initiative it would happen in future when there were no cultivable land. In future agriculture sectore will suffer great loss in dry season, if present this condition. The problem of salinity observed every year but severity was higher in 2006.

riverbank erosion

riverbank erosion is seen in kalapara upazilla. It is more in Lalua union. Every year riverbank erosion continues in this union. riverbank erosion happens from the month Ashar to Ashin. As a result, huge amount of agricultural crops, home, roads, trees have vanished in the heart of the river. As a result food productions become disrupted. Human become homeless and environment become lost. If didn't construct embankments with block and didn't plant rooted trees in river sides, it would happen more severe in future.

Flood/ Coastal flooding :

The chanel of Andharmanik and Ramnabad flows south and east south sides respectively of the union their tidal water causes flooding in this area. Besides, heavy downpour create flooding. Due to lack of well arranged drainage system flood is became harmful on life and livelihood. If the drainage system isn't properly managed and don't higher and strengthen the embankments of river in future flood may increase . Every year flood happened but in 2013 flooding was remarkable which created by heavy downpour.

Water logging:

Due to construction of unplanned dam and lack of placement of slwedge gate in priority area have the possibility to increase water logging condition in future. Besides this, inappropriate drainage system causes increase of water logging condition.

2.4 Vulnerability and Resilience:

Vulnerability refers to exsisting condition of corporeal, socioeconomic and enviornmental which indicate the loss of disasters and people become unable to deal with this situation.

Resilience means the condition or process created by coordination of natural, social, economical

and environmental situation by which people or any organization/ institution to deal with unfavorable condition by using their resources and decrease the appalling condition of disaster.

<i>Hazard</i>	<i>Vulnerability</i>	<i>Capability</i>
Cyclone	<ul style="list-style-type: none"> • weak infrastructure and unplanned homestead are damaged in cyclone. • absence of bushes around the house and presence of a big tree that being damaged in cyclone destroy the house • homestead-house, agriculture, fisheries, drinking water, plants and infrastructures become affected due to the position of upazilla near to the coast. • due to weak sanitation (raw), it is damaged by cyclone. • livestock losses by cyclone due to absence of cyclone tolerant homes. • lack of cyclone shelter causes life loss • during cyclone women, children and people with disabilities affect most. 	<ul style="list-style-type: none"> • Have the possibility to re-construct cyclone tolerant house • Have the opportunity to cultivate forest or fruit trees around the house for protection of heavy wind of cyclone • Have the opportunity to strengthen the embankments of the river surrounded with block and have a chance of tree plantation in dam and roadsides • Have the possibility to strengthen sanitation system • Have demesne to build up shelter house and small mound • Have the opportunity to build up strong shelter house for animals (cow, goat , sheep and buffalo) • Kalapara upazilla have disaster management committee and volunteer team based on union
Tidal surge	<ul style="list-style-type: none"> • there are so many loss happened including crops due to easy entrance of water from nearest coast. • apparently less than demand and weak embankments 	<ul style="list-style-type: none"> • Have a chance to plants tree or forestry around crop lands, home, canal and roadsides • People takes shelter in nearest village or high land before rise up tidal water during gloomy and moonlit

<p>Salinity</p>	<ul style="list-style-type: none"> • as a result of entry of salt water crops are greatly damaged because the primitive cultivar can't tolerate salinity • due to salinity scarcity of drinking water are seen in dry season • sudden increase in salinity level natural fishes being hindered • over all agricultural production become hampered because of unplanned fish cultivation • food crisis of animal-birds being created • health and skin diseases are seen due to salinity and create many diseases 	<ul style="list-style-type: none"> • Have a chance to cultivate salt tolerant crops • Have opportunity to produce grass for cattle in saline and bare lands • Have opportunity to re-dig the pond for drinking water. Increasing use of the source of drinking water according to area • Have opportunity to unite the shrimp cultivator and have a chance to encourage them in planned shrimp culture • Have community clinic based on upazilla and health care centre based on union • have a chance to build up and strengthen dam • Have a opportunity to plants fruit and forest seedlings in muddy area of char and homestead house • Have sub station and fund of animal resources
<p>Riverbank erosion</p>	<ul style="list-style-type: none"> • due to riverbank erosion people become totally ruined • most of the agriculture, house, roads, trees have vanished in the heart of the river • weak embankment 	<p>There have no proper facilities</p> <ul style="list-style-type: none"> • Have a great chance to plants herb like trees (extensive root system) that helps to catch the soil • Have the opportunity to plants

	<ul style="list-style-type: none"> • lack of trees around river • big crack present in the embankments 	<p>tree in dam/roadsides</p> <ul style="list-style-type: none"> • Have possibility to build block in river sides for protection of riverbank erosion • Have opportunity to transfer poor people in riversides demesne
Flood	<ul style="list-style-type: none"> • lack of river and pond • weak and lack of embankments • lack of trees around both side of embankments 	<ul style="list-style-type: none"> • Have dragging machine for increasing navigability of canal and river • Plants tree in both sides of dam and reapeare the embankment that strengthen the dam • Have space for build up new dam
Water logging	<ul style="list-style-type: none"> • unplanned fish cultivation • low land area • absence of slwedge gate of embankments • absence of water irrigation system • lack of water tolerant crops 	<ul style="list-style-type: none"> • Have opportunity to rise the area through dragging

2.5 Most vulnerable area

Detailed description of most vulnerable area of Kalapara upazilla are given below:

Hazard	Most vulnerable area	Reasons for Vulnerability	Vulnerable people
Cyclone	Kuakata pourasova union : Latachapli, Mohipur, Niljang, Lalua, Dhularsar, Mithajang, Champapur and Baliatali	<ul style="list-style-type: none"> • Near the sea and surrounded by the river • Lower and riskful embankments of union • almost unsuitable for use and riskful bridge and slwedge gates • very low land area • human residence besides roads and embankments and weak infrastructure of house • Irresponsibility of human • Weak infrastructure and unplanned home • Don't built tornado/ cyclone tolerant deployment • illegally cut trees without obstruction 	1,63,067 persons (according to population)
Tidal surge	Kuakata pourasova union : Latachapli, Mohipur, Niljang, Lalua, Dhularsar, Mithajang, Baliatali and Champapur	<ul style="list-style-type: none"> • Near the sea and surrounded by the river • Lower and riskful embankments of union • almost unsuitable for use and riskful bridge and slwedge gates • very low land area • human residence besides roads and 	1,63,067 persons (according to population)

		<p>embankments and weak infrastructure of house</p> <ul style="list-style-type: none"> • Irresponsibility of human • Coastal union • Weak and unplanned infrastructure of home and different institution • bulid house and different institution generally low land area 	
Salinity	<p>Union : Latachapli, Mohipur, Niljang, Dhularsar, Lalua, Champapur, Baliatali and Mithajang</p>	<ul style="list-style-type: none"> • Near the sea and srrounded by the river • Lower and riskful embankments and roads of union • almost unsuitable for use and riskful slwedge gates • Irresponsibility of human • Near the coastal area • Illegally to take possession of the fish enclosure in demesne • Restore salt water for shrimp cultivation 	<p>1,53,890 persons (according to population)</p>
Riverbank erosion	<p>Union : Latachapli, Mohipur, Niljang, Dhularsar, Lalua, Champapur, and Mithajang</p>	<ul style="list-style-type: none"> • Build different deployment as well as house in low land area and near the river • Weak infrastructure of idifferent deployment including home • erosion of embankments • Filled up the canal • Have no slwedge gate 	<p>1,37,598 persons (according to population)</p>

Flood	Union : Latachapli, Mohipur, Niljang, Dhulasar, Lalua, Champapur, Baliatali, Mithajang, Dhankhali, Dalbujang, chakamaia and kalapara pourasava	<ul style="list-style-type: none"> • Build different house as well as tube well in low land area • Illegal shrimp cultivation • Have no slwedge gate 	2,14,312 persons (according to population)
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(Source : CPP and Agriculture office of Kalapara)

2.6 Main sectors of development plan

Main sectors of development plans of upazilla are given below:

Major sectors	Detailed information	Adaptation & mitigation measures to reduce the risk of disaster
Agriculture	<ul style="list-style-type: none"> • Cultivable crops (aman rice, cereal crops, jujube, guava, vegetables) of 25300 ha acre land among 40940 ha in Kalapara upazilla may be damaged due to salinity • If kalapara upazilla is hit by cyclone or affected by sidr like 2007, 22568 ha land of cultivable crops (aman rice, cereal crops, jujube, guava, vegetables) among 40940 ha would extensively destroy • Cultivable crops (aman rice, cereal crops, jujube, guava, vegetables) of 30540 ha acre land among 40940 ha in 	<ul style="list-style-type: none"> • Agricultural rehabilitation, supplementary irrigation, well developed drainage system, cultivation of salt tolerant cultivar, prepared dry seed bed and transfer different technology. • Expansion of salt tolerant rice cultivar (aman, boro, aush) • To supply salt tolerant cultivar of wheat and jute • To use rain water for production of aman seedlings • To supply layered fruit trees (root cutting/ emasculation)

	<p>Kalapara upazilla may be damaged due to tidal surge</p> <ul style="list-style-type: none"> • Cultivable crops of 11915 ha land among 34538 ha in Kalapara upazilla may be destructed due to water logging condition 	<ul style="list-style-type: none"> • To use bio-fertilizer in the crop field • Before cyclone and tidal surge strait paddy covered with soil • To strengthen and strong dam, embankment and develop drainage system • To dig the canal and irrigation system
<p>Fish resources</p>	<ul style="list-style-type: none"> • Resources of Sea fish and enclosed water fish • 8540 fish small or big enclouser of Kalapara upazilla approximately 12740 ha cultivable land of fish among 40940 ha land will be destroyed due to salinity. besides this natural fish of that area may be vanished • 5098 acre fish cultivation of Kalapara upazilla may be destructed because of cyclone. • 7784 small or big fish enclouser of Kalapara upazilla may be extensively damaged due to tidal surge. 	<ul style="list-style-type: none"> • Fish farming being stagnant water. Fish farmers would be given free of pangash and telapia fries. • To strengthen the side of enclosure • To build and prepare the embankment • To increase awareness for making durable enclosure • To serve different training for fisherman • To manufacture durable enclosure • To drain out the water of enclosure in every year and apply bleaching powder if mud become black, increase the height of dam of enclosure • 3 layer fish farming

		<ul style="list-style-type: none"> • To keep the enclosure surrounded by net during flood/ tidal surge • To provide assistance to the affected poor fish farmer • To improve fish market
Animal Resources	<ul style="list-style-type: none"> • Livestock, meat and dairy market faces economic losses. • Due to salinity scarcity of feed of 1600 cow, 2000 goat, 1300 sheep, 450 buffalo and 350 pigs will be seen. As a result, because of scarcity of feed animal may be hampered.as a result Consequently agriculture production hampered due to this every single family will be indirectly affected • If kalapara upazilla is affected by cyclone or hit by sidr like 2007, 1500 cow, 1000 goat, 1200 sheep, 200 buffalo, 4500 goose, 5000 hen, 500 wild animal-bird and 1000 pig, would kill through attack of cyclone or drifting with water. So that each family of affected area have possibility to detrimental to the natural beauty • If kalapara upazilla affected by tidal surge or hit like Sidar 2007, 	<ul style="list-style-type: none"> • To provide appropriate cultivar specific vaccines • To build up grassing land for cattle in the fallow lands of the public • To encourage the people for build up feed industry • As well as to make intregated farming system in same land (Duck+ fish+ vegetable cultivation) • To encourage people for cultivation of hybrid animals those are tolerant to danger • To be sharpened the supply of animal breeds

	<p>2000 cow, 2300 goat, 1000 sheep, 40 buffalo, 3400 goose, 4000 hen, 500 wild animal-bird and 800 pig, would kill through drifting with water. So that each family of affected area have possibility to detrimental to the natural beauty</p> <ul style="list-style-type: none"> • If kalapara upazilla affected by flood or hit by sidr like 2007, 2100 cow, 2200 goat, 1100 sheep, 40 buffalo, 3500 goose, 4000 hen, 500 wild animal-bird and 200 pig, would kill through drifting with water. So that each family of affected area have possibility to detrimental to the natural beauty 	
<p>Health</p>	<ul style="list-style-type: none"> • Due to salinity in Kalapara upazilla among 2,02,078 persons, 5% peolpe in Diarrhea, 3% people in mucous diarrhea, 2% people in typhoid, 4% people in Jaundice, 6% people in virus-induced and 6% peolpe in skin disease may become sick and die. As a result, including a variety of financial hardship every family of this upazilla may affect 	<ul style="list-style-type: none"> • Measures have been taken to give vaccines of different incurable diseases including hepatitis B • To increase awareness in health • To give training for doctors in case of health risk of disaster • To improve the quality of service in community clinic and health care centre of

	<ul style="list-style-type: none"> • If Kalapara than affected by cyclone or knocked by sidr like 2007, among 2,02,078 persons, 20% peolpe in Diarrhea, 8% people in mucous diarrhea, 6% people in Jaundice, 5% people in virus-induced and 1% people in skin disease may become ill and die. • Due to tidal surge in Kalapara upazilla among 2,02,078 persons, 3% peolpe in Diarrhea, 2% people in mucous diarrhea, 2% peolpe in skin disease, 2% people in Jaundice, 8% people in virus-induced and may become ill and die. • If water logging condition was increased in Kalapara upazilla, among 2,02,078 persons, 3% peolpe in Diarrhea, 1% people in mucous diarrhea, 1% people in typhoid, 2% people in Jaundice, 1% people in virus-induced and 5% peolpe in skin disease may become sick and die. 	<p>union.</p> <ul style="list-style-type: none"> • To sharpen the supply of necessary medicine of primary treatment • To arrange pure drinking water • To arrange rehabilitation for disabled people • To supply proper vaccination and preventive measures
Livelihood	<ul style="list-style-type: none"> • Approximately people with 4 types of livelihood live in Kalapara upazilla. Among them 12645 are fisherman, 10008 	

	<p>persons are farmers, 9344 persons are small and middle business man and 9814 persons are agriculture labour.</p> <ul style="list-style-type: none"> ▪ Cyclone: <ul style="list-style-type: none"> Due to cyclone in Kalapara upazilla 4529 fisherman among 12645, 6933 farmer among 10008, 1371 small business man among 9144 and 2278 agriculture labour among 9114 are directly and indirectly affected. ▪ Salinity: <ul style="list-style-type: none"> Due to cyclone in Kalapara upazilla 4529 fisherman among 12645, 6933 farmer among 10008, 1371 small business man among 9144 and 2278 agriculture labour among 9114 are directly and indirectly affected. ▪ Tidal surge: <ul style="list-style-type: none"> Due to tidal surge 6322 fisherman among 10008, 450 small and middle business man may 	
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	<p>be face economic loss.</p> <ul style="list-style-type: none"> • Water logging causes 5264 fisherman, 4621 farmer among 12645 are directly and indirectly affected. • Riverbank erosion Due to riverbank erosion in Kalapara upazilla 7% agricultural land may vanish in the heart of the river. As a result, 25% farmers are directly and indirectly affected. • Flooding Due to flooding in Kalapara upazilla 6058 fisherman among 10008, 6933 farmer among 12645, 457 business man are directly and indirectly hampered. 	
Vegetation	<ul style="list-style-type: none"> • Due to salinity, average 6000 fruit trees, 5000 forest trees, 11000 medicinal plants and 5000 nursery seedlings of Kalapara upazilla may be damaged. • If Kalapara upazilla affected by cyclone or knocked by sidr like 2007, average 10000 fruit trees, 12000 forest trees, 12000 medicinal plants and 6000 nursery seedlings of that upazilla may be affected. • Due to tidal surge, average 4500 	<ul style="list-style-type: none"> • Plantation of trees on both sides of roads and dams • To encourage the people for tree plantation on surrounding the homestead • To create para forest • To increase awareness in environmental matters • To take legal agreement and apply law against illegally cutting trees • To increase the height of house. Side by side to

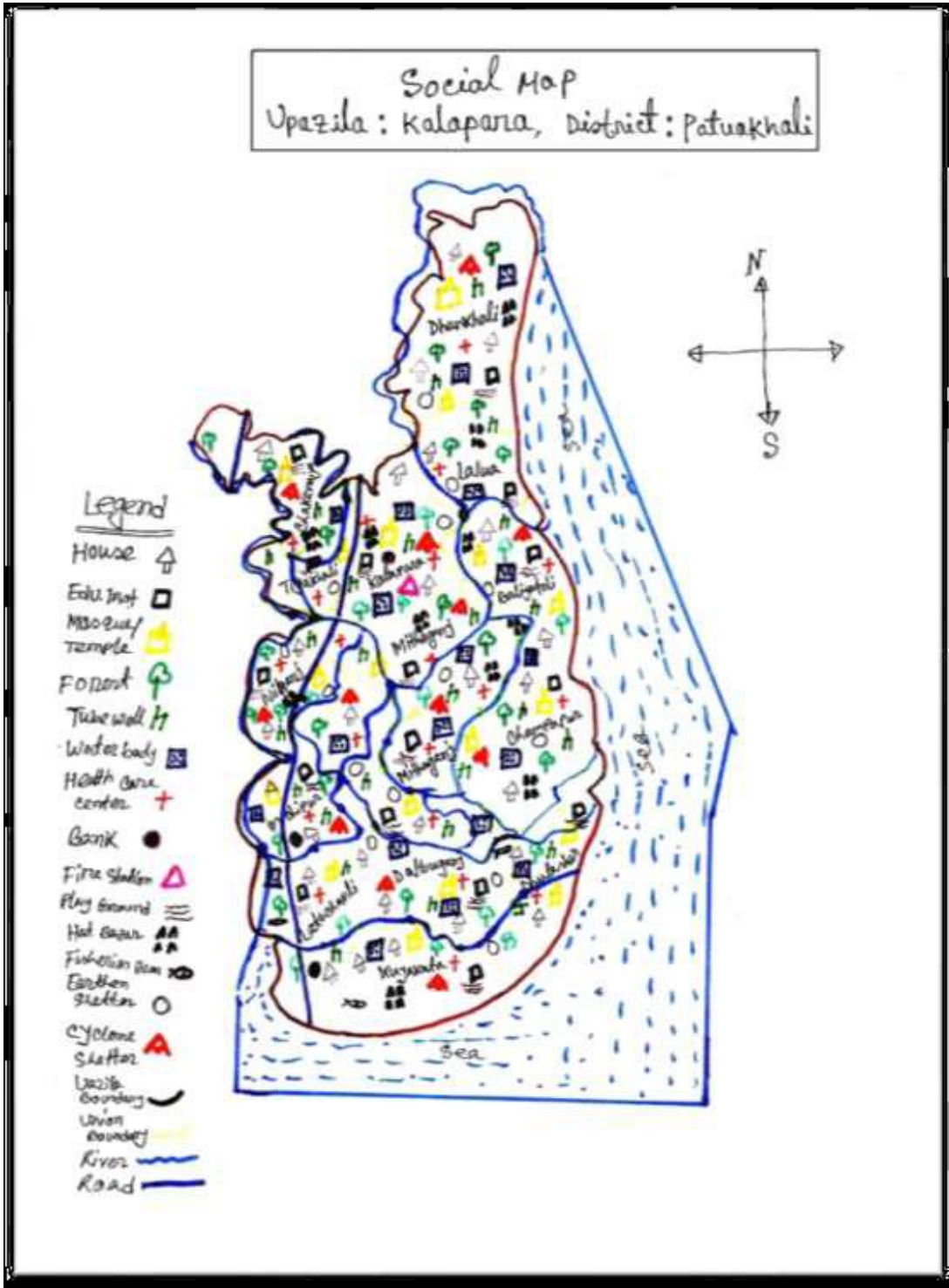
	<p>fruit trees, 5800 forest trees, 1000 medicinal plants and 1000 nursery seedlings of Kalapara upazilla may be damaged.</p> <ul style="list-style-type: none"> • Due to water logging, average 3600 fruit trees, 2000 forest trees, 800 medicinal plants and 800 nursery seedlings of Mangla upazilla may be affected. • Due to flooding, average 7000 fruit trees, 4000 forest trees, 900 medicinal plants and 1000 nursery seedlings of Kalapara upazilla may be injured. 	<p>prepare soil (1.5-2 feet width) for sowing of seedling and also increase height</p> <ul style="list-style-type: none"> • To plants big trees in low land like Chaila, Kakra and Keora • To decrease salinity cutting (main root cutting) of big fruit trees is done for that main root can't penetrate deeply into the soil • The base of the plant will be covered for conservation of soil moisture. Which prevents evaporation during drought • To plant herb type tree surrounding the house for lower the risk of cyclone. Side by side tightly bind the fruit seedlings with stick
Infrastructure	<ul style="list-style-type: none"> • If kalapara upazilla affected by cyclone or hit by sidr like 2007, average 35 primary schools, 12 secondary schools, 14 madrasha, 19 mosques, 18 temples, 2 pagodas, 5 govt. and non-govt. offices, 1 hospital, 8 health care centre, 2 clinics, 20 shelter 	<ul style="list-style-type: none"> • To increase the height of the road and develop them • To build and repair dams • To build necessary kalvert and bridge • To build up slwedge gate • To build up adequate cyclone centre

	<p>houses, 15 kalverts, 20 bridges, 20 km developed road, 75 km undeveloped road, 15 km half grown road might be ruined by cyclone</p> <ul style="list-style-type: none"> • Due to riverbank erosion in kalapara upazilla average 10 primary schools, 2 secondary schools, 3 madrasha, 8 mosques, 5 temples, 1 pagoda, 1 govt. and non-govt. office, 1 clinic, 2 shelter houses, 2 Kalverts, 2 powls, 25 km undeveloped road, 5 km half grown road may vanish in the heart of river. 	<ul style="list-style-type: none"> • Plantation of trees surrounding the infrastructure and both sides of roads as well as canal
Sanitaiton	<ul style="list-style-type: none"> • If salinity increases in Kalapara upazilla, average 11 pond, 100 full grown toilet may partly or fully destroy • If kalapara upazilla is affected by cyclone or hit by sidr like 2007, average 700 raw and 170 half grown toilet and 17 pond water may partly or fully destruct • If cyclone keeps increasing in Kalapara upazilla, average 16 ponds, 1200 half-grown toilet may partly or fully be ruined. • If water logging condition continues rising up in Kalapara upazilla, average 10 pond, 200 	<ul style="list-style-type: none"> • To increase awareness in case salinity • To excavate pond and re-excavate the pond • To set up adequate pond sand filter and rain water harvesting technology. • To build up disaster tolerant and hygienic toilet • To build up adequate cyclone centre to ensure the water and sewer drawn out system

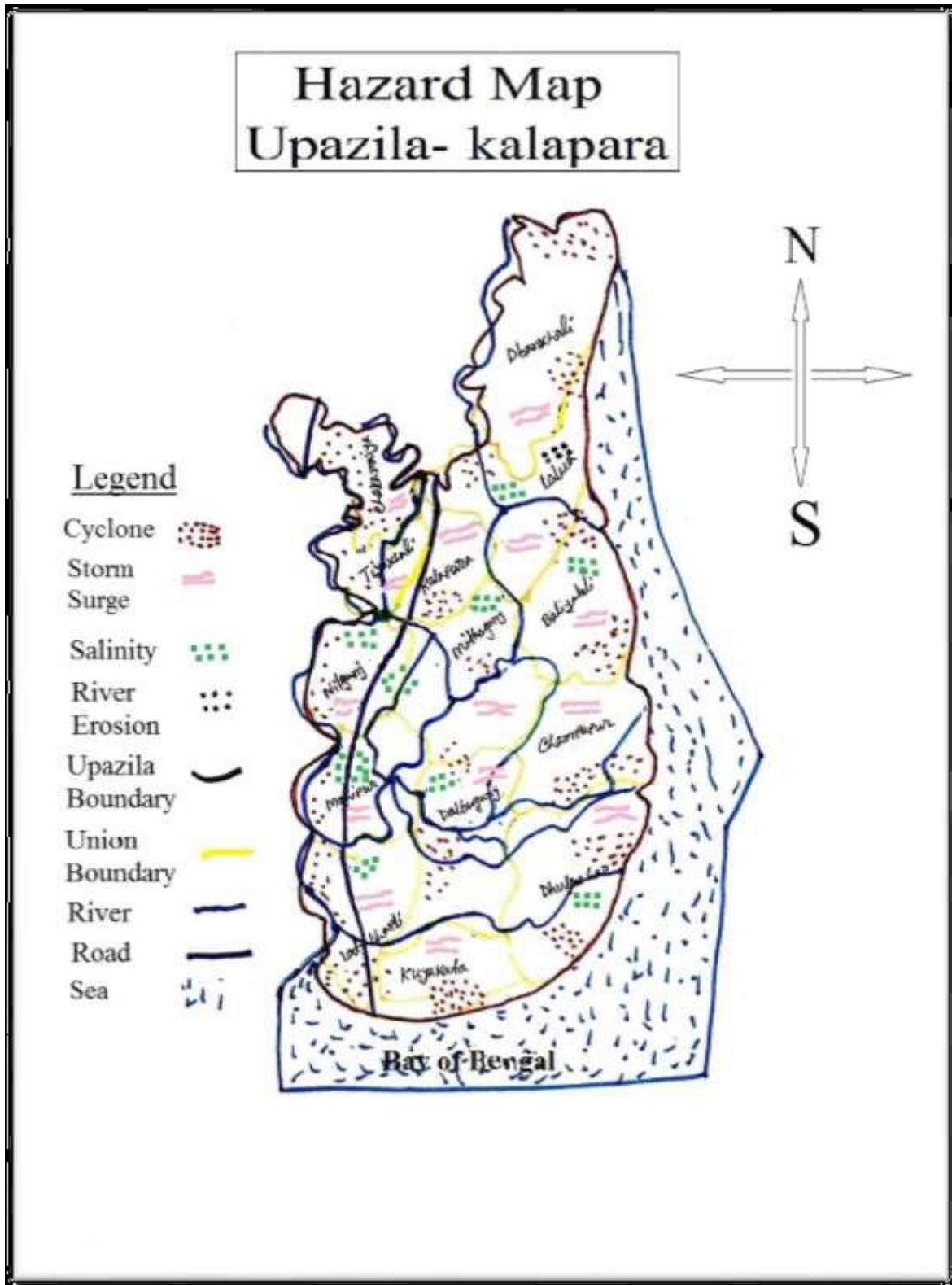
	<p>half grown toilet may partly or fully be spoiled.</p> <ul style="list-style-type: none"> • If flooding increases in Kalapara upazilla, average 18 pond, 3000 half grown toilet, 20 rain water plant and 20 PSf may partly or fully be damaged. 	
Houses	<ul style="list-style-type: none"> • In Kalapara upazilla 1800 immature, 30 full grown and 70 half grown house may be partly or fully destroyed due to salinity 	<ul style="list-style-type: none"> • To build different institution and also homestead buildings in higher place and far from coast

(Source: Upazilla Agriculture and Forest Department, Kalapara)

2.7 Social Map



2.8 Risk and Hazard Map



2.9 Seasonal calendar of hazard

Hazards take place in the area in which months in a year and in which months their effects become higher that is presented through draw line in seasonal calendar. Those are known from the participants associated with this work.

Seasonal calendar of hazards of upazilla are as follows:

Sl. No.	Hazards	Boishakh	Joist	Asar	Srabon	Vadra	Ashwin	Kartik	Agrahaon	Poush	Margashirsh	Falgun	
1	Cyclone	■	■				■	■	■				■
2	Tidal surge	■	■		■	■							■
3	Salinity	■						■	■			■	■
4	Heavy Downpour			■	■	■	■	■					
5	Riverbank erosion			■	■								

(Source: CPP office, Agriculture and Fisheries Department Kalapara)

Analysis of Calendar

- Cyclone is the main hazard in this area. It can be seen from the month of Chatra, Boishakh to the month of Joist. Cyclone does great loss in house, communication system and trees of Kalapara upazilla.
- Salinity is seen in month of Falgun-Chatra-Boishakh and Kartik-Agrahaon near here. The excessive level of salinity damaged agricultural production of the area. In rest of the time, the level of salinity remains lower.
- The person in this area identified tidal surge as another hazard. It happens in Chatra-Boishakh-Joist. Besides, in the month of Srabon and Vadra it happens.
- Including houses, roads, social and educational institution, crops and cattle's of Kalapara upazilla are disappearing in every year due to riverbank erosion. Here riverbank erosion happens in the month of Asar-Srabon.

2.10 Seasonal calendar of livelihood

Seasonal calendar of livelihoods of upazilla are as follows:

Sl. No	Source of livelihood	Boeshak	Joistho	Asar	Srabon	Vadra	Ashin	Kartik	Agrahaon	Poush	Magh	Falgun	Chaitra
1	Farmer	Summer vegetables		Aush	Aman						Cereal crops/ winter vegetables		
2	Fisherman	20%	20%	100%	100%	90%	80%	60%	30%	30%	30%	30%	20%
3	Day labor	90%	90%	20%	20%	20%	50%	50%	100%	100%	70%	70%	50%
4	Business man	90%	80%	20%	30%	50%	50%	50%	50%	60%	60%	60%	60%

(Source: Upazilla Agriculture and Fisheries Department, Kalapara)

2.11 Vulnerability related to life and livelihood

Hazards	Vulnerable social sectors									
	Crops	Vegetation	Animal resources	Fish resources	Houses	Roads	Bridge Culvert	Educational institution	Health	Shelter house
Cyclone	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Salinity	✓	✓	✓	✓					✓	
Drought	✓	✓	✓	✓					✓	
Riverbank erosion	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tidal surge	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

(Source: Upazilla Agriculture and Fisheries Department, Kalapara and FGD)

2.12 Description of hazard and risk based on sectors/sectors

Detection of vulnerable sectors of upazilla are as follows:

Sl. No.	Livelihoods	Hazards/ Disasters		
		Cyclone	Tidal surge	Salinity
1	Agriculture	Crops become ruined. As a result it exerts negative impact on farmers livelihood	Crops become ruined and cultivable land become water logged. As a result farmers trouble increases	Cultivable land becomes unable to grow for salinity. As a result farmers sufferings is increased
2	Fish	Due to cyclone fish cultivation excessively	Fish flows due to tidal surge. Fish died due to	Fish died due to enter the salt water

		affected. Fish flows for erosion of sides of fish enclosure. As a result fisherman experienced great loss	enter the salt water into the fish enclosure. As a result owner of fish enclosure faced huge loss.	into the fish enclosure and fish become unable to cultivate.
3	Day laborer	Crops as well as fish flows and water logged condition create in field due to cyclone and tidal surge for that day labors have no work which increase their suffering.	Water logged condition created for tidal surge which exerts negative impact on livelihood of day labors	Cultivable land becomes unable to produce for salinity for that day labors have no work.
4	Business man	Traders are fallen in danger due to crops being affected by cyclone. They can't properly trade their goods. Thereby it exerts negative impact on traders	As a result of tidal surge, farmers and fisher mans being affected which also exerts negative impact on business man	Business man's are greatly affected by salinity, due to this cultivable lands being unsuitable for cultivation and being lower the production of crops

The scenario of Kalapara upazilla if affected by cyclone or knocked by sidr like 2007

- In Lalua union 1500 ha cultivable agricultural land among 2732 ha may be extensively hampered.
- In Mohipur union 3200 ha cultivable agricultural land among 4520 ha may be extensively damaged.
- In Latachapali union 2255 ha cultivable agricultural land among 3550 ha may be extensively smashed. As a result, directly or indirectly 1000 families may become affected.

- In Dhankhali union 2000 ha cultivable agricultural land among 3111 ha may be extensively damaged. As a result, directly or indirectly 1150 families may become ruined.
- In Mithajang union 2650 ha cultivable agricultural land among 3355 ha may be extensively hampered. As a result, directly or indirectly 1250 families may become affected.
- In Champapur union 2190 ha cultivable agricultural land among 2943 ha may be extensively damaged. As a result, directly or indirectly 1300 families may become damaged.
- In Dhulashar union 1700 ha cultivable agricultural land among 3257 ha may be extensively damaged. As a result, directly or indirectly 900 families may become ruined.
- In Dalbujang union 2500 ha cultivable agricultural land among 3686 ha may be extensively smashed. As a result, directly or indirectly 1500 families may become damaged.
- In Baliatali union 2800 ha cultivable agricultural land among 3586 ha may be extensively damaged. As a result, directly or indirectly 1230 families may become affected.

The scenario of Kalapara upazilla if affected by cyclone or knocked by sidr like 2007

- In Baliatali union approximately 600 fish enclosures among 900 small or big fish enclosures may be extensively damaged. As a result, directly or indirectly 860 families may become affected.
- In Niljang union approximately 700 fish enclosures among 1200 small or big fish enclosures may be extensively injured. As a result, directly or indirectly 500 families may become damaged.
- In Champapur union approximately 600 fish enclosures among 1300 small or big fish enclosures may be extensively hampered. As a result, directly or indirectly 300 families may become damaged.
- In Mithajang union approximately 700 fish enclosures among 1050 small or big fish enclosures may be extensively damaged. As a result directly or indirectly 600 families may become affected.

- In Dhankhali union approximately 800 fish enclosures among 1500 small or big fish enclosures may be extensively damaged. As a result, directly or indirectly 800 families may become ruined.
- In Lalua union approximately 800 fish enclosures among 1000 small or big fish enclosures may be extensively affected. As a result, directly or indirectly 900 families may become damaged.
- In Tiakhali union approximately 300 fish enclosures among 700 small or big fish enclosures may be extensively hampered. As a result, directly or indirectly 200 families may become damaged.
- In Chakmaia union approximately 450 fish enclosures among 850 small or big fish enclosures may be extensively damaged. As a result, directly or indirectly 490 families may become ruined.

Consequences of Cyclone on trees

The scenario of Kalapara upazilla if affected by cyclone or stricken by sidr like 2007

In Dhankhali union 13450 fruit trees, 19350 forest trees and 6387 medicinal plants may be damaged. In Lalua union 4633 fruit trees, 6000 forest trees and 3750 medicinal plants may be hampered and in case of Tiakhali union 15678 fruit trees, 28670 forest trees and 6087 medicinal plants may become affected. In Champapur union 12250 fruit trees, 23350 forest trees and 5687 medicinal plants may be damaged. In Chakmaia union 12450 fruits trees, 15875 forest trees and 2075 medicinal plants may be hampered, In Baliatali union 21270 fruits trees, 24850 forest trees and 6080 medicinal plants may be damaged, In Niljang union 34800 fruits trees, 42400 forest trees and 4500 medicinal plants may be smashed, In Dalbujang union 38950 fruits trees, 39350 forest trees and 7087 medicinal plants may be damaged, In Mithajang union 16250 fruits tree, 13950 forest tree and 3587 medicinal plants may be damaged. Due to this, every family of those unions may be economically affected.

Because of Cyclone in Kalapara upazilla

The scenario of Kalapara upazilla if affected by cyclone or knocked by sidr like 2007

- In Dhankhali union average 6 primary schools, 2 secondary schools, 1 madrasha, 5 mosques, 1 temple & 1 non-govt. office have a chance to damage.
- In Champapur union average 5 primary schools, 2 secondary schools, 1 madrasha, 5 mosques have the possibility hamper.

- In Lalua union average 3 primary schools, 1 secondary school, 1 madrasha, 5 mosques have probability to affect.
- In Baliatali union average 4 primary schools, 2 secondary schools, 1 madrasha, 11 mosques, 1 temple, 3 pagoda, 1 health care centre, 3 shelter house, 3 kalvert, 2 bridge, 3 powl, 1 non-govt. office have a chance to damage.
- In Mithajang union average 3 primary schools, 1 secondary school, 1 madrasha, 5 mosques, 2 temples have the possibility hamper.
- In Dhulashar union average 3 primary schools, 1 secondary school, 1 madrasha, 5 mosques, 1 temple, 2 pagodas, 2 non-govt. office have probability to affect.
- In Dalbujang union average 4 primary schools, 1 secondary school, 2 madrasha, 9 mosques, 2 temples, 2 pagodas, 1 health care centre, 1 clinic, 4 powls, 13 k.m. underdone road, 5 k.m. half done road have a chance to damage.
- In Mohipur union average 4 primary schools, 1 secondary school, 1 madrasha, 5 mosques, 1 temple, 2 pagodas, 3 non-govt. offices have the possibility hamper.
- In Latachapali union average 6 primary schools, 2 secondary schools, 1 madrasha, 5 mosques, 1 temple, 2 pagodas have probability to affect.
- In Tiakhali union average 6 primary schools, 1 secondary school, 5 madrasha, 7 mosques, 2 temples, 2 shelter house, 8 pawns have probability to affect.
- In Chakmaia union average 5 primary schools, 1 secondary school, 1 madrasha, 5 mosques, 2 temples have the possibility to damage.
- In Niljang union average 7 primary schools, 1 secondary school, 1 madrasha, 14 mosques, 3 temples, 3 non-govt. offices, 1 health care centre, 4 shelter houses, 2 k.m. developed road, 14 k.m. undeveloped road have the probability to damage.

The scenario of Kalapara upazilla if affected by cyclone or stricken by sidr like 2007

In Dhankhali union average 1200 cow, 1300 goat, 130 sheep, 50 buffalo, 2000 goose, 1400 hen, 500 wild animal & bird; in Champapur union average 700 cow, 900 goat, 40 sheep, 48 buffalo, 200 pig, 1700 goose, 400 hen, 200 wild animal & bird; in Lalua union average 1200 cow, 1300 goat, 125 sheep, 40 buffalo, 1633 goose, 1283 hen, 210 wild animal & bird; in Baliatali union average 364 cow, 263 goat, 15 sheep, 55 buffalo, 676 goose, 231 hen, 100 wild animal & bird; in Mithajang union average 1200 cow, 1300 goat, 105 sheep, 40 buffalo, 1533 goose, 1283 hen, 208 wild animal & bird; in Dhularsar union average 399 cow, 911 goat, 104 sheep, 196 buffalo,

275 pig, 1630 goose, 2712 hen, 600 wild animal & bird; in Dalbujang union average 1140 cow, 1110 goat, 105 sheep, 46 buffalo, 1413 goose, 1243 hen, 111 wild animal & bird; in Mohipur union average 680 cow, 1425 goat, 390 sheep, 167 buffalo, 183 pig, 4512 goose, 14200 hen, 550 wild animal & bird; in Latachapali union average 1040 cow, 1560 goat, 125 sheep, 50 buffalo, 1443 goose, 1483 hen, 530 wild animal & bird; in Niljang union average 1225 cow, 2375 goat, 216 sheep, 358 buffalo, 400 pig, 1655 goose, 2250 hen, 480 wild animal & bird; in Tiakhali union average 1240 cow, 1210 goat, 115 sheep, 40 buffalo, 1143 goose, 1453 hen, 240 wild animal & bird, in Chakmaia union average 1240 cow, 1300 goat, 135 sheep, 40 buffalo, 1733 goose, 1383 hen, 300 wild animal & bird might die.

Because of Salinity in Kalapara upazilla

- In Lalua union 900 ha cultivable agricultural land among 2732 ha may be extensively affected.
- In Mohipur union 2200 ha cultivable agricultural land among 4520 ha may be extensively ruined.
- In Latachapali union 1800 ha cultivable agricultural land among 3550 ha may be extensively smashed. As a result, directly or indirectly 1100 families may become affected.
- In Dhankhali union 2300 ha cultivable agricultural land among 3111 ha may be extensively damaged. As a result, directly or indirectly 1350 families may become ruined.
- In Mithajang union 1950 ha cultivable agricultural land among 3355 ha may be extensively injured. As a result, directly or indirectly 1050 families may become affected.
- In Champapur union 2000 ha cultivable agricultural land among 2943 ha may be extensively disfigured. As a result, directly or indirectly 800 families may become damaged.
- In Dhulashar union 1700 ha cultivable agricultural land among 3257 ha may be extensively damaged. As a result directly or indirectly 1000 families may become ruined.
- In Dalbujang union 2200 ha cultivable agricultural land among 3686 ha may be extensively smashed. As a result, directly or indirectly 1000 families may become damaged.

- In Baliatali union 2650 ha cultivable agricultural land among 3586 ha may be extensively damaged. As a result directly or indirectly 1200 families may become affected.

Because of Water logging in Kalapara upazilla

- In Lalua union 500 ha cultivable agricultural land among 2732 ha may be extensively damaged.
- In Mohipur union 1500 ha cultivable agricultural land among 4520 ha may be extensively ruined.
- In Latachapali union 1100 ha cultivable agricultural land among 3550 ha may be extensively smashed. As a result, directly or indirectly 500 families may become affected.
- In Dhankhali union 1300 ha cultivable agricultural land among 3111 ha may be extensively damaged. As a result, directly or indirectly 750 families may become ruined.
- In Mithajang union 1130 ha cultivable agricultural land among 3355 ha may be extensively injured. As a result, directly or indirectly 850 families may become affected.
- In Champapur union 1000 ha cultivable agricultural land among 2943 ha may be extensively hampered. As a result, directly or indirectly 600 families may become damaged.
- In Dhulashar union 1200 ha cultivable agricultural land among 3257 ha may be extensively damaged. As a result, directly or indirectly 800 families may become ruined.
- In Dalbujang union 1200 ha cultivable agricultural land among 3686 ha may be extensively smashed. As a result, directly or indirectly 1000 families may become damaged.
- In Baliatali union 1150 ha cultivable agricultural land among 3586 ha may be extensively damaged. As a result, directly or indirectly 960 families may become affected.

Because of Tidal surge in Kalapara upazilla

- In Lalua union 900 ha cultivable agricultural land among 2732 ha may be extensively hampered.
- In Mohipur union 1700 ha cultivable agricultural land among 4520 ha may be extensively ruined.

- In Latachapali union 2500 ha cultivable agricultural land among 3550 ha may be extensively smashed. As a result, directly or indirectly 1500 families may become affected.
- In Dhankhali union 2200 ha cultivable agricultural land among 3111 ha may be extensively damaged. As a result, directly or indirectly 1750 families may become ruined.
- In Mithajang union 2030 ha cultivable agricultural land among 3355 ha may be extensively affected. As a result, directly or indirectly 1250 families may become affected.
- In Champapur union 1600 ha cultivable agricultural land among 2943 ha may be extensively injured. As a result, directly or indirectly 800 families may become damaged.
- In Dhulashar union 2400 ha cultivable agricultural land among 3257 ha may be extensively damaged. As a result, directly or indirectly 900 families may become ruined.
- In Dalbujang union 1500 ha cultivable agricultural land among 3686 ha may be extensively smashed. As a result, directly or indirectly 1050 families may become damaged.
- In Baliatali union 1800 ha cultivable agricultural land among 3586 ha may be extensively damaged. As a result, directly or indirectly 860 families may become affected.

(Source: Upazilla Forest, Livestock, Fisheries, LGED, Education, Health and Agriculture Department, Kalapara)

Because of Tidal surge in Kalapara upazilla

- In Baliatali union approximately 800 fish enclosures among 900 small or big fish enclosures may be extensively damaged. As a result directly or indirectly 900 families may become affected.
- In Niljang union approximately 900 fish enclosures among 1200 small or big fish enclosures may be extensively injured. As a result directly or indirectly 1000 families may become damaged.
- In Champapur union approximately 700 fish enclosures among 1300 small or big fish enclosures may be extensively hampered. As a result directly or indirectly 400 families may become damaged.

- In Mithajang union approximately 800 fish enclosures among 1050 small or big fish enclosures may be extensively damaged. As a result directly or indirectly 600 families may become affected.
- In Dhankhali union approximately 1200 fish enclosures among 1300 small or big fish enclosures may be extensively damaged. As a result directly or indirectly 800 families may become ruined.
- In Lalua union approximately 950 fish enclosures among 1000 small or big fish enclosures may be extensively injured. As a result directly or indirectly 700 families may become damaged.
- In Tiakhali union approximately 300 fish enclosures among 700 small or big fish enclosures may be extensively hampered. As a result directly or indirectly 200 families may become damaged.
- In Chakmaia union approximately 450 fish enclosures among 850 small or big fish enclosures may be extensively damaged. As a result directly or indirectly 490 families may become ruined.

Because of Tidal surge in Kalapara upazilla

In Dhankhali union average 1300 cow, 1400 goat, 150 sheep, 70 buffalo, 2200 goose, 1500 hen, 600 wild animal & bird; in Champapur union average 800 cow, 1000 goat, 100 sheep, 78 buffalo, 200 pig, 1700 goose, 400 hen, 300 wild animal & bird; in Lalua union average 1100 cow, 1200 goat, 120 sheep, 40 buffalo, 1433 goose, 1283 hen, 200 wild animal & bird; in Baliatali union average 364 cow, 263 goat, 15 sheep, 55 buffalo, 676 goose, 231 hen, 100 wild animal & bird; in Mithajang union average 1200 cow, 1300 goat, 105 sheep, 40 buffalo, 1433 goose, 1283 hen, 208 wild animal & bird; in Dhularsar union average 391 cow, 911 goat, 104 sheep, 196 buffalo, 275 pig, 1530 goose, 2012 hen, 500 wild animal & bird; in Dalbujang union average 1040 cow, 1000 goat, 105 sheep, 46 buffalo, 1213 goose, 1243 hen, 111 wild animal & bird; in Mohipur union average 680 cow, 1425 goat, 390 sheep, 167 buffalo, 183 pig, 4512 goose, 14200 hen, 550 wild animal & bird; in Latachapali union average 1040 cow, 1460 goat, 125 sheep, 50 buffalo, 1543 goose, 1383 hen, 530 wild animal & bird; in Niljang union average 1235 cow, 2375 goat, 216 sheep, 358 buffalo, 400 pig, 1655 goose, 2250 hen, 480 wild animal & bird; in Tiakhali union average 1240 cow, 1210 goat, 115 sheep, 40 buffalo, 1243 goose, 1453

hen, 240 wild animal & bird, in Chakmaia union average 1240 cow, 1300 goat, 135 sheep, 40 buffalo, 1633 goose, 1383 hen, 400 wild animal & bird may be died.

2.13 Climate change and its effect

How different departments are affected by alteration of weather that are shown below through chart-

Sectors/Departments	Hazard	Description
Agriculture	Cyclone	<p><u>Effect of Cyclone on Agriculture</u></p> <ul style="list-style-type: none"> • In Lalua union 1500 ha cultivable agricultural land among 2732 ha may be extensively hampered. • In Mohipur union 3200 ha cultivable agricultural land among 4520 ha may be extensively ruined. • In Latachapali union 2255 ha cultivable agricultural land among 3550 ha may be extensively smashed. As a result directly or indirectly 1000 families may become affected. • In Dhankhali union 2000 ha cultivable agricultural land among 3111 ha may be extensively damaged. As a result directly or indirectly 1150 families may become ruined. • In Mithajang union 2650 ha cultivable agricultural land among 3355 ha may be extensively injured. As a result directly or indirectly 1250 families may become affected. • In Champapur union 2190 ha cultivable agricultural land among 2943 ha may be extensively hampered. As a result directly or indirectly 1300 families may become damaged. • In Dhulashar union 1700 ha cultivable agricultural land among 3257 ha may be extensively damaged. As a result directly or indirectly 900 families may become ruined. • In Dalbujang union 2500 ha cultivable agricultural land

		<p>among 3686 ha may be extensively smashed. As a result directly or indirectly 1500 families may become damaged.</p> <ul style="list-style-type: none"> • In Baliatali union 2800 ha cultivable agricultural land among 3586 ha may be extensively damaged. As a result directly or indirectly 1230 families may become affected.
	Salinity	<p><u>Effect of Salinity on Agriculture</u></p> <ul style="list-style-type: none"> • In Lalua union 900 ha cultivable agricultural land among 2732 ha may be extensively hampered. • In Mohipur union 2200 ha cultivable agricultural land among 4520 ha may be extensively ruined. • In Latachapali union 1800 ha cultivable agricultural land among 3550 ha may be extensively smashed. As a result, directly or indirectly 1100 families may become affected. • In Dhankhali union 2300 ha cultivable agricultural land among 3111 ha may be extensively damaged. As a result, directly or indirectly 1350 families may become ruined. • In Mithajang union 1950 ha cultivable agricultural land among 3355 ha may be extensively injured. As a result directly or indirectly 1050 families may become affected. • In Champapur union 2000 ha cultivable agricultural land among 2943 ha may be extensively affected. As a result, directly or indirectly 800 families may become damaged. • In Dhulashar union 1700 ha cultivable agricultural land among 3257 ha may be extensively damaged. As a result directly or indirectly 1000 families may become ruined.

		<ul style="list-style-type: none"> • In Dalbujang union 2200 ha cultivable agricultural land among 3686 ha may be extensively smashed. As a result, directly or indirectly 1000 families may become damaged. • In Baliatali union 2650 ha cultivable agricultural land among 3586 ha may be extensively damaged. As a result directly or indirectly 1200 families may become affected.
	Tidal surge	<p><u>Effect of Tidal surge on Agriculture</u></p> <ul style="list-style-type: none"> • In Lalua union 900 ha cultivable agricultural land among 2732 ha may be extensively hampered. • In Mohipur union 1700 ha cultivable agricultural land among 4520 ha may be extensively ruined. • In Latachapali union 2500 ha cultivable agricultural land among 3550 ha may be extensively smashed. As a result directly or indirectly 1500 families may become affected. • In Dhankhali union 2200 ha cultivable agricultural land among 3111 ha may be extensively damaged. As a result directly or indirectly 1750 families may become ruined. • In Mithajang union 2030 ha cultivable agricultural land among 3355 ha may be extensively injured. As a result directly or indirectly 1250 families may become affected. • In Champapur union 1600 ha cultivable agricultural land among 2943 ha may be extensively affected. As a result directly or indirectly 800 families may become damaged. • In Dhulashar union 2400 ha cultivable agricultural land among 3257 ha may be extensively damaged. As a result directly or indirectly 900 families may become ruined.

		<ul style="list-style-type: none"> • In Dalbujang union 1500 ha cultivable agricultural land among 3686 ha may be extensively smashed. As a result directly or indirectly 1050 families may become damaged. • In Baliatali union 1800 ha cultivable agricultural land among 3586 ha may be extensively damaged. As a result directly or indirectly 860 families may become affected. <p><u>Because of Tidal surge in Kalapara upazilla</u></p> <ul style="list-style-type: none"> • In Baliatali union approximately 800 fish enclosures among 900 small or big fish enclosures may be extensively damaged. As a result directly or indirectly 900 families may become affected. • In Niljang union approximately 900 fish enclosures among 1200 small or big fish enclosures may be extensively injured. As a result directly or indirectly 1000 families may become damaged. • In Champapur union approximately 700 fish enclosures among 1300 small or big fish enclosures may be extensively hampered. As a result directly or indirectly 400 families may become damaged. • In Mithajang union approximately 800 fish enclosures among 1050 small or big fish enclosures may be extensively damaged. As a result directly or indirectly 600 families may become affected. • In Dhankhali union approximately 1200 fish enclosures among 1300 small or big fish enclosures may be extensively damaged. As a result directly or indirectly 800 families may become ruined. • In Lalua union approximately 950 fish enclosures among 1000 small or big fish enclosures may be extensively hampered. As a result directly or indirectly
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		<p>700 families may become damaged.</p> <ul style="list-style-type: none"> • In Tiakhali union approximately 300 fish enclosures among 700 small or big fish enclosures may be extensively injured. As a result directly or indirectly 200 families may become damaged. • In Chakmaia union approximately 450 fish enclosures among 850 small or big fish enclosures may be extensively damaged. As a result directly or indirectly 490 families may become ruined. <p>Because of Tidal surge in Kalapara upazilla, in Dhankhali union average 1300 cow, 1400 goat, 150 sheep, 70 buffalo, 2200 goose, 1500 hen, 600 wild animal & bird; in Champapur union average 800 cow, 1000 goat, 100 sheep, 78 buffalo, 200 pig, 1700 goose, 400 hen, 300 wild animal & bird; in Lalua union average 1100 cow, 1200 goat, 120 sheep, 40 buffalo, 1433 goose, 1283 hen, 200 wild animal & bird; in Baliatali union average 364 cow, 263 goat, 15 sheep, 55 buffalo, 676 goose, 231 hen, 100 wild animal & bird; in Mithajang union average 1200 cow, 1300 goat, 105 sheep, 40 buffalo, 1433 goose, 1283 hen, 208 wild animal & bird; in Dhulasar union average 391 cow, 911 goat, 104 sheep, 196 buffalo, 275 pig, 1530 goose, 2012 hen, 500 wild animal & bird; in Dalbujang union average 1040 cow, 1000 goat, 105 sheep, 46 buffalo, 1213 goose, 1243 hen, 111 wild animal & bird; in Mohipur union average 680 cow, 1425 goat, 390 sheep, 167 buffalo, 183 pig, 4512 goose, 14200 hen, 550 wild animal & bird; in Latachapali union average 1040 cow, 1460 goat, 125 sheep, 50 buffalo, 1543 goose, 1383 hen, 530 wild animal & bird; in Niljang union average 1235 cow, 2375 goat, 216 sheep, 358 buffalo, 400 pig, 1655 goose, 2250 hen, 480 wild animal & bird; in Tiakhali union average 1240 cow, 1210 goat, 115 sheep, 40 buffalo,</p>
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		1243 goose, 1453 hen, 240 wild animal & bird, in Chakmaia union average 1240 cow, 1300 goat, 135 sheep, 40 buffalo, 1633 goose, 1383 hen, 400 wild animal & bird might die.
	Water logging	<p>Because of Water logging in Kalapara upazilla</p> <ul style="list-style-type: none"> • In Lalua union 500 ha cultivable agricultural land among 2732 ha may be extensively hampered. • In Mohipur union 1500 ha cultivable agricultural land among 4520 ha may be extensively ruined. • In Latachapali union 1100 ha cultivable agricultural land among 3550 ha may be extensively smashed. As a result, directly or indirectly 500 families may become affected. • In Dhankhali union 1300 ha cultivable agricultural land among 3111 ha may be extensively damaged. As a result, directly or indirectly 750 families may become ruined. • In Mithajang union 1130 ha cultivable agricultural land among 3355 ha may be extensively injured. As a result directly or indirectly 850 families may become affected. • In Champapur union 1000 ha cultivable agricultural land among 2943 ha may be extensively hampered. As a result directly or indirectly 600 families may become damaged. • In Dhulashar union 1200 ha cultivable agricultural land among 3257 ha may be extensively damaged. As a result, directly or indirectly 800 families may become ruined. • In Dalbujang union 1200 ha cultivable agricultural land among 3686 ha may be extensively smashed. As a result, directly or indirectly 1000 families may become affected.

		<ul style="list-style-type: none"> • In Baliatali union 1150 ha cultivable agricultural land among 3586 ha may be extensively damaged. As a result directly or indirectly 960 families may become affected.
Fish	Cyclone	<p>Consequences of Cyclone on Fish Resources:</p> <ul style="list-style-type: none"> • In Baliatali union approximately 600 fish enclosures among 900 small or big fish enclosures may be extensively damaged. As a result, directly or indirectly 860 families may become affected. • In Niljang union approximately 700 fish enclosures among 1200 small or big fish enclosures may be extensively injured. As a result, directly or indirectly 500 families may become affected. • In Champapur union approximately 600 fish enclosures among 1300 small or big fish enclosures may be extensively hampered. As a result directly or indirectly 300 families may become damaged. • In Mithajang union approximately 700 fish enclosures among 1050 small or big fish enclosures may be extensively damaged. As a result directly or indirectly 600 families may become affected. • In Dhankhali union approximately 800 fish enclosures among 1500 small or big fish enclosures may be extensively damaged. As a result directly or indirectly 800 families may become ruined. • In Lalua union approximately 800 fish enclosures among 1000 small or big fish enclosures may be extensively injured. As a result directly or indirectly 900 families may become damaged. • In Tiakhali union approximately 300 fish enclosures among 700 small or big fish enclosures may be extensively hampered. As a result, directly or indirectly

		<p>200 families may become damaged.</p> <ul style="list-style-type: none"> In Chakmaia union approximately 450 fish enclosures among 850 small or big fish enclosures may be extensively damaged. As a result, directly or indirectly 490 families may become ruined.
Trees	Cyclone	<p>Consequence of cyclone on trees:</p> <p>The scenario of Kalapara upazilla if affected by cyclone or knocked by sidr like 2007. In Dhankhali union 13450 fruit trees, 19350 forest trees and 6387 medicinal plants may be damaged. In Lalua union 4633 fruit trees, 6000 forest trees and 3750 medicinal plants may be hampered and in case of Tiakhali union 15678 fruit trees, 28670 forest trees and 6087 medicinal plants may become affected. In Champapur union 12250 fruit trees, 23350 forest trees and 5687 medicinal plants may be damaged. In Chakmaia union 12450 fruits trees, 15875 forest trees and 2075 medicinal plants may be hampered, In Baliatali union 21270 fruits trees, 24850 forest trees and 6080 medicinal plants may be damaged, In Niljang union 34800 fruits trees, 42400 forest trees and 4500 medicinal plants may be smashed, In Dalbujang union 38950 fruits trees, 39350 forest trees and 7087 medicinal plants may be damaged, In Mithajang union 16250 fruits tree, 13950 forest tree and 3587 medicinal plants may be damaged. Due to this every family of those unions may be economically affected.</p>
	Salinity	<p><u>Impact of Salinity on water and sanitary system:</u></p> <p>If the level of salinity in kalapara upazilla keep increasing, In Champapur union average 2 conserved pond, 15 matured toilet; in Dhankhali union average 6 shallow tube well, 8 conserved pond, 1225 raw, 15 half grown, 42 matured toilet; in Baliatali union average 6 shallow tube well, 8 conserved pond, 1225 raw, 15 half grown, 42 matured toilet; in Lalua union average 13</p>

		<p>shallow tube well, 8 conserved pond, 1125 raw, 15 half grown, 32 matured toilet; in Mithajang union average 15 shallow tube well, 18 conserved pond, 1325 raw, 15 half grown, 42 matured toilet; in Dalbujang union average 5 conserved pond, 367 raw, 3 half grown, 1 matured toilet; in Dhulasar union average 19 shallow tube well, 9 conserved pond, 1325 raw, 15 half grown, 52 matured toilet; in Niljang union average 8 conserved pond, 966 raw, 37 matured toilet; in Mohipur union average 16 shallow tube well, 16 conserved pond, 1325 raw, 19 half grown, 52 matured toilet; in Latachapali union average 14 shallow tube well, 8 conserved pond, 1115 raw, 34 half grown, 32 matured toilet; in Tiakhali union average 10 shallow tube well, 8 conserved pond, 1425 raw, 25 half grown, 46 matured toilet; in Chakmaia union average 8 shallow tube well, 8 conserved pond, 1235 raw, 15 half grown, 32 matured toilet; in Kalapara pourasava average 5000 raw, 1500 half grown, 1000 matured toilet, 38 shallow tube well may be totally or partially destroyed. As a result, every family of those unions has the possibility to injure by different diseases including water-borne.</p>
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(Source: Upazilla Agriculture, Fisheries, Health, LGED and Forest Department, Kalapara)

Chapter 3: Disaster and Risk Reduction

3.1: Identify cause of risk

Risk factors of Kalapara Upzilla are given below:

Description of risk	Factors		
	Impulsive	Secondary	Ultimate
<p><i>Tornado</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Lalua Union's 1500 hectares cultivable land of 2732 hectares land might be damaged heavily in this union. <input type="checkbox"/> Mohipur Union's 3200 hectares agricultural land from 4520 hectares land might be damaged heavily in this union. <input type="checkbox"/> Lotachapli Union's 2255 hectares agricultural land from 3550 hectares might be damaged heavily in this union. As a result 1000 families will be sufferer directly 	<ul style="list-style-type: none"> <input type="checkbox"/> No early warning system before disaster. <input type="checkbox"/> About 40% of the communities are untaught about disaster. <input type="checkbox"/> Shelters and social structures are weak. <input type="checkbox"/> To Increase social awareness. <input type="checkbox"/> For air pollution. <input type="checkbox"/> For increase of temperature. <input type="checkbox"/> For climate change <input type="checkbox"/> For Green House effect . 	<ul style="list-style-type: none"> <input type="checkbox"/> As embankment and the road are weak in nature. <input type="checkbox"/> Lack of place which can be used as emergency shelter during disaster. <input type="checkbox"/> As the main livelihood of the community is fishing. <input type="checkbox"/> Insufficient trees. <input type="checkbox"/> People are not aware of deforestation. <input type="checkbox"/> As trees are cut intractably. <input type="checkbox"/> No tree 	<ul style="list-style-type: none"> <input type="checkbox"/> As sea is very closer <input type="checkbox"/> Low land rapid fluctuation of temperature. <input type="checkbox"/> Good concern expected from the forest department. <input type="checkbox"/> No steps have been taken by the government for social forestation. <input type="checkbox"/> Siltation of river. <input type="checkbox"/> No large trees

<p>or indirectly</p> <ul style="list-style-type: none"> <input type="checkbox"/> Dhankhali Union’s 2000 hectares cultivable land of 3111 hectares land might be damaged heavily in this union. As a result 1150 families will suffer directly or indirectly <input type="checkbox"/> Mithaganj Union’s 2650 hectares cultivable land of 3335 hectares land might be damaged heavily in this union. As a result 1250 families will suffer directly or indirectly. <input type="checkbox"/> Champapur Union’s 2190 hectares agricultural land from 2943 hectares might be damaged heavily in this union. As a result 1300 families will be sufferer directly or indirectly. 	<ul style="list-style-type: none"> <input type="checkbox"/> Agricultural land is lower than the river bed which is already silted. <input type="checkbox"/> As agricultural land are in the coastal bed. <input type="checkbox"/> Due to the damage of natural equilibrium <input type="checkbox"/> No embankment beside the river. <input type="checkbox"/> No drainage system. <input type="checkbox"/> Un pland fishing farm <input type="checkbox"/> As the salt water from the river enter into the agricultural land through the local canal directly. <input type="checkbox"/> Unplanned salt water GHER. <input type="checkbox"/> As the river is silted. 	<p>plantation with own arrangement.</p> <ul style="list-style-type: none"> <input type="checkbox"/> No tornado tolerant trees. <input type="checkbox"/> Grimy smoke from transport, mills, and factories. <input type="checkbox"/> No tornado early warning system. <input type="checkbox"/> Due to the lack of embankments. <input type="checkbox"/> Shortage of drainage system. <input type="checkbox"/> As sluice gate is inactive. <input type="checkbox"/> Salt water enters into the locality due to surge. <input type="checkbox"/> No sluice gate and main gate. <input type="checkbox"/> No maintains system on salt water. <input type="checkbox"/> Preserving salt water by self 	<p>available in the locality.</p> <ul style="list-style-type: none"> <input type="checkbox"/> No steps from the government to reduce Farrakka embankment. <input type="checkbox"/> Lack of right steps from water development board. <input type="checkbox"/> No steps from UNO to stop shrimp farming. <input type="checkbox"/> No fund/help from donors. <input type="checkbox"/> Community is not aware.
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<p><input type="checkbox"/> Dhularshar Union’s 1700 hectares agricultural land from 3257 hectares might be damaged heavily in this union. As a result 900 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Dalbuganj Union’s 2500 hectares agricultural land from 3686 hectares might be damaged heavily in this union. As a result 1500 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Baliatoli Union’ 2800 hectares agricultural land from 3586 hectares might be damaged heavily in this union. As a result 1230 families will suffer directly or indirectly.</p>	<p><input type="checkbox"/> No way of drainage the stagnant water.</p>	<p>eagerness</p>	
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<p><i>Probable impact in Kalapara upzilla if any tornado hit or hit like SIDR 2007.</i></p> <ul style="list-style-type: none"> ❑ Baliatoli Union: About 600 fishing farm/Gher of different size will face a great loss from 900. As a result 860 families might suffer directly and indirectly. ❑ Nilgonj Union About 700 fishing farm/Gher of different size will face a great loss from 1200. As a result 500 families might suffer directly and indirectly. ❑ Champapur Union About 600 fishing farm/Gher of different size will face a great loss from 1300. As a result 3000 families might suffer directly and indirectly. 			
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<p><input type="checkbox"/> Dhankhali Union, About 800 fishing farm/Gher of different size will face a great loss from 1500. As a result 800 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Mithaganj Union About 700 fishing farm/Gher of different size will face a great loss from 1050. As a result 600 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Lalua ,Dhankhali Mithaganj Union About 800 fishing farm/Gher of different size will face a great loss from 1000. As a result 900 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Tiakhali Lalua Dhankhali mithaganj Union</p>			
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<p>About 300 fishing farm/Gher of different size will face a great loss from 700. As a result 200 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Chakmaia Tiakhali Lalua Dhankhali Mithaganjj Union About 4500 fishing farm/Gher of different size will face a great loss from 850. As a result 490 families might suffer directly and indirectly.</p> <p>Tornado impact on vegetation:</p> <p><input type="checkbox"/> If any tornado hit in Kalapara Upzila or hit like SIDR 2007 there</p> <p><input type="checkbox"/> 1350 nos of fruit trees,19350 nos forest trees,6387 nos</p> <p><input type="checkbox"/> Herbal trees can be damaged in Dhankhali Union.</p>			
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<p><input type="checkbox"/> 4633 nos of fruit trees,6000 nos forest trees,3750 nos</p> <p><input type="checkbox"/> Herbal trees can be damage in Lalua Union. 15678 nos of fruit trees,28670 nos forest trees,6087 nos</p> <p><input type="checkbox"/> Herbal trees can be damage in Tiakhali Union. 12250 nos of fruit trees,23350 nos forest trees,5687 nos</p> <p><input type="checkbox"/> Herbal trees can be damage in Champapur Union. 12450 nos of fruit trees,15875 nos forest trees,2075 nos</p> <p><input type="checkbox"/> Herbal trees can be damage in Chakmaia Union. 21270 nos of fruit trees,24850 nos forest trees,6080 nos</p> <p><input type="checkbox"/> Herbal trees can be damage in Baliatoli Union. 34800 nos of fruit trees, 42400 nos forest trees 4500 nos Herbal trees can</p>			
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<p>be damage in Nilganj Union. 38950 nos of fruit trees, 39350 nos forest trees,7087 nos</p> <p>☐ Herbal trees can be damage in Dalbuganj Union. 16250 nos of fruit trees, 13950 nos forest trees,3587 nos Herbal trees can be damage in Mithaganj Union. As a result every families of these unions will suffer financially, directly and indirectly.</p> <p>If any tornado hit in Kalapara Upzila or hit like SIDR 2007 there 1299 nos of cows, 1300 nos gots, 130 nos sheep, 50 nos buffalo, 2000 duck, 1400 poultry and 500 wild animals in Dhankhali Union. 700 nos of cows, 900 nos gots, 40 nos sheep, 48 nos buffalo, 200 Pigs 1700 duck, 1400 poultry and 500 wild</p>			
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<p>animals in Champapure Union. 1200 nos of cows, 1300 nos goats, 125 nos sheep, 40 nos buffalos, 1633 duck, 1283 poultry and 210 wild animals in lalua Union. 364 nos of cows, 263 nos gots, 15 nos sheep, 55 nos buffalo, 676 duck, 231 poultry and 100 wild animals in Baliatoli Union. 1200 nos of cows, 1300 nos gots, 105 nos sheep, 40 nos buffalo, 1533 duck, 1283 poultry and 208 wild animals in Mithaganj Union. 391 nos of cows, 911 nos gots, 104 nos sheep, 196 nos buffalo, 1630 duck, 2712 poultry, 275 pigs and 600 wild animals in DhularsharUnion. 1140 nos of cows, 1110 nos gots, 105 nos sheep, 46 nos buffalo, 1413 duck, 1243 poultry and 111 wild animals in Dalbuganj Union680 nos of cows, 1425 nos gots, 390 nos sheep, 167 nos buffalo, 4512 duck, 14200</p>			
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<p>poultry,183 pigs and 550 wild animals in Mohipur Union. 1040 nos of cows, 1560 nos gots, 125 nos sheep, 50 nos buffalo, 1443 duck, 1483 poultry and 530 wild animals in Lotachapali Union. 1225 nos of cows, 2375 nos gots, 216 nos sheep, 358 nos buffalo, 1`655 duck, 22050 poultry, 400pigs and 480 wild animals in Nilganj Union. 1240 nos of cows, 1210 nos gots, 115 nos sheep, 40 nos buffalo, 1143 duck, 1453 poultry and 240 wild animals in Tiakhali Union. 1240 nos of cows, 1300 nos gots, 135 nos sheep, 40 nos buffalo, 1733 duck, 1383 poultry and 300 wild animals in Chakamia Union</p>			
<p><i>Surge;</i> Impact of surge on Agriculture: <input type="checkbox"/> Lalua Union Cultivation of 900 hectares agricultural land from 2732</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Lack of anterior idea about surge. <input type="checkbox"/> Due to the weak dwelling and infrastructure. 	<ul style="list-style-type: none"> <input type="checkbox"/> Due to the lack of consciousness and the number of sluice is 	<ul style="list-style-type: none"> <input type="checkbox"/> As sea is nearby <input type="checkbox"/> Low land <input type="checkbox"/> People under poverty line are living here.

<p>might be damaged heavily in this union.</p> <p><input type="checkbox"/> Mohipur Union Cultivation of 1700 hectares agricultural land from 4520 might be damaged heavily in this union.</p> <p><input type="checkbox"/> Lotachapli Union Cultivation of 2500 hectares agricultural land from 3550 might be damaged heavily in this union. As a result 1500 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Dhankhali Union Cultivation of 2200 hectares agricultural land from 3111 might be damaged heavily in this union. As a result 1750 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Mithaganj Union</p>	<p><input type="checkbox"/> Lack of places where community can take shelter temporarily during disaster.</p>	<p>high.</p> <p><input type="checkbox"/> The structure of embankment is low and weak.</p>	
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<p>Cultivation of 2030 hectares agricultural land from 3355 might be damaged heavily in this union. As a result 1250 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Champapur Union Cultivation of 1600 hectares agricultural land from 2943 might be damaged heavily in this union. As a result 800 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Dhularshar Union Cultivation of 2400 hectares agricultural land from 3257 might be damaged heavily in this union. As a result 900 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Dalbuganj Union Cultivation of 1500</p>			
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<p>hectares agricultural land from 3686 might be damaged heavily in this union. As a result 1050 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Baliatoli Union Cultivation of 1800 hectares agricultural land from 3586 might be damaged heavily in this union. As a result 860 families will suffer directly or indirectly.</p> <p>Impact of surge in Kalapara Upzilla:</p> <p><input type="checkbox"/> Baliatoli Union: About 800 fishing farm/Gher of different size will face a great loss from 900. As a result 900 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Nilgonj Union About 900 fishing</p>			
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<p>farm/Gher of different size will face a great loss from 1200. As a result 1000 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Champapur Union About 700 fishing farm/Gher of different size will face a great loss from 1300. As a result 400 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Dhankhali Union About 800 fishing farm/Gher of different size will face a great loss from 1500. As a result 800 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Mithaganj Union About 800 fishing farm/Gher of different size will face a great loss from 1050. As a</p>			
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<p>result 600 families might suffer directly and indirectly.</p> <p>❑ Lalua ,Dhankhali Mithaganj Union About 950 fishing farm/Gher of different size will face a great loss from 1000. As a result 700 families might suffer directly and indirectly.</p> <p>❑ Tiakhali Lalua suffer Dhankhali mithaganj Union About 300 fishing farm/Gher of different size will face a great loss from 700. As a result 200 families might directly and indirectly.</p> <p>❑ Chakmaia Tiakhali Lalua Dhankhali Mithaganjj Union About 4500 fishing farm/Gher of different size will face a great loss</p>			
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<p>from 850. As a result 490 families might suffer directly and indirectly.</p> <p>Impact of surge in Kalapara Upzilla:</p> <ul style="list-style-type: none"> ❑ there 1300 nos of cows, 1400 nos gots, 150 nos sheep, 70 nos buffalo, 2200 duck, 1500 poultry and 600 wild animals in Dhankhali Union. 700 nos of cows, 900 nos gots, 40 nos sheep, 48 nos buffalo, 200 Pigs 1700 duck, 1400 poultry and 500 wild animals in Champapure Union. 1200 nos of cows, 1300 nos gots, 125 nos sheep, 40 nos buffalo, 1633 duck, 1283 poultry and 210 wild animals in lalua Union. 364 nos of cows, 263 nos gots, 15 nos sheep, 			
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<p>55 nos buffalo, 676 duck, 231 poultry and 100 wild animals in Baliatoli Union. 1200 nos of cows, 1300 nos gots, 105 nos sheep, 40 nos buffalo, 1533 duck, 1283 poultry and 208 wild animals in Mithaganj Union. 391 nos of cows, 911 nos gots, 104 nos sheep, 196 nos buffalo, 1630 duck, 2712 poultry, 275 pigs and 600 wild animals in DhularsharUnion. 1140 nos of cows, 1110 nos gots, 105 nos sheep, 46 nos buffalo, 1413 duck, 1243 poultry and 111 wild animals in Dalbuganj Union680 nos of cows, 1425 nos gots, 390 nos sheep, 167 nos buffalo, 4512</p>			
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<p>duck, 14200 poultry, 183 pigs and 550 wild animals in Mohipur Union. 1040 nos of cows, 1560 nos gots, 125 nos sheep, 50 nos buffalo, 1443 duck, 1483 poultry and 530 wild animals in Lotachapali Union. 1225 nos of cows, 2375 nos gots, 216 nos sheep, 358 nos buffalo, 1`655 duck, 22050 poultry, 400pigs and 480 wild animals in Nilganj Union. 1240 nos of cows, 1210 nos gots, 115 nos sheep, 40 nos buffalo, 1143 duck, 1453 poultry and 240 wild animals in Tiakhali Union. 1240 nos of cows, 1300 nos gots, 135 nos sheep, 40 nos buffalo, 1733 duck, 1383 poultry and</p>			
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300 wild animals in Chakamia Union			
<p><i>Water logging impact on Kalapara Upzilla:</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Lalua Union Cultivation of 500 hectares agricultural land from 2732 might be damaged heavily in this union. <input type="checkbox"/> Mohipur Union Cultivation of 1500 hectares agricultural land from 4520 might be damaged heavily in this union. <input type="checkbox"/> Lotachapli Union Cultivation of 1100 hectares agricultural land from 3550 might be damaged heavily in this union. As a result 500 families will suffer directly or indirectly <input type="checkbox"/> Dhankhali Union Cultivation of 1300 hectares agricultural 	<ul style="list-style-type: none"> <input type="checkbox"/> Due to heavy rain fall <input type="checkbox"/> Not well arrangement for water draining. <input type="checkbox"/> Unplanned establishment of Gher <input type="checkbox"/> Siltation of river and canals 	<ul style="list-style-type: none"> <input type="checkbox"/> No sluice gate. <input type="checkbox"/> No culvert for continuing the flow of water. <input type="checkbox"/> Most of the agricultural lands are low. <input type="checkbox"/> Alluvial siltation on the sluice gate. 	<ul style="list-style-type: none"> <input type="checkbox"/> Lack of supervision of the agricultural department. <input type="checkbox"/> Lack of agricultural research center. <input type="checkbox"/> LGED ministry did not take any steps for constructing sluice gate <input type="checkbox"/> Lack of awareness of the local community.

<p>land from 3111 might be damaged heavily in this union. As a result 750 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Mithaganj Union Cultivation of 1130 hectares agricultural land from 3355 might be damaged heavily in this union. As a result 850 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Champapur Union Cultivation of 1000 hectares agricultural land from 2943 might be damaged heavily in this union. As a result 600 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Dhularshar Union Cultivation of 1200 hectares agricultural land from 3257</p>			
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<p>might be damaged heavily in this union. As a result 900 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Dalbuganj Union Cultivation of 1200 hectares agricultural land from 3686 might be damaged heavily in this union. As a result 1000 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Baliatoli Union Cultivation of 1150 hectares agricultural land from 3586 might be damaged heavily in this union. As a result 960 families will suffer directly or indirectly.</p> <p><i>Probable impact in Kalapara upzilla if any tornado hit or hit like SIDR 2007.</i></p> <p><input type="checkbox"/> Baliatoli Union:</p>			
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<p>About 600 fishing farm/Gher of different size will face a great loss from 900. As a result 860 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Nilgonj Union About 700 fishing farm/Gher of different size will face a great loss from 1200. As a result 500 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Champapur Union About 600 fishing farm/Gher of different size will face a great loss from 1300. As a result 3000 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Dhankhali Union About 800 fishing farm/Gher of different size will face a great loss</p>			
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<p>from 1500. As a result 800 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Mithaganj Union About 700 fishing farm/Gher of different size will face a great loss from 1050. As a result 600 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Lalua ,Dhankhali Mithaganj Union About 800 fishing farm/Gher of different size will face a great loss from 1000. As a result 900 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Tiakhali Lalua Dhankhali mithaganj Union About 300 fishing farm/Gher of different size will face a great loss from 700. As a</p>			
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<p>result 200 families might suffer directly and indirectly.</p> <p>❑ Chakmaia Tiakhali Lalua Dhankhali Mithaganjj Union About 4500 fishing farm/Gher of different size will face a great loss from 850. As a result 490 families might suffer directly and indirectly.</p>			
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(Source: FGD with community,2014)

3.2 Identification of means for risk reduction

Means of risk reduction are as follows:

Predicytion of risk	Probable methods for risk reduction		
	Short term (1-2)	Midterm (3-5)	Long term (5+)
<p>Tornado</p> <p>❑ Lalua Union Cultivation of 1500 hectares agricultural land from 2732 might be damaged</p>	<ul style="list-style-type: none"> • Tree plantation for maintaining environmental equilibrium • To Prevent from green house effect. 	<ul style="list-style-type: none"> • Sufficient tree plantation needed in the area. • Community needs to be aware about social 	<ul style="list-style-type: none"> • Good initiative s need to ba taken from the forest department. • Steps need to be taken

<p>heavily in this union.</p> <p>❑ Mohipur Union Cultivation of 3200 hectares agricultural land from 4520 might be damaged heavily in this union.</p> <p>❑ Lotachapli Union Cultivation of 2255 hectares agricultural land from 3550 might be damaged heavily in this union. As a result 1000 families will suffer directly or indirectly</p> <p>❑ Dhankhali Union Cultivation of 2000 hectares agricultural land from 3111 might be damaged heavily in this</p>	<ul style="list-style-type: none"> • Present deforestation of locality • Tree plantation activities in the area to maintain natural equilibrium through Government, non-government and personal initiatives. • Weather department need to be more vigilant. • Most of the houses need to be seasoned and more protective. • Houses and shelters need to be constructing in a planned way. 	<p>forestation.</p> <ul style="list-style-type: none"> • Prevent cutting down trees. • More tree plantation needed through personal initiatives. • More tree plantation needed through government initiatives. • Preventing polluted smoke of mills and factories and transport. • Arrange declaration for transferring early warning. • Prevent environmental pollution. • Need to try to 	<p>from government for increasing social forestation.</p> <ul style="list-style-type: none"> • Needed government support? • Good initiative s need to be taken from government agricultural department • Agricultural research center need to start in the locality by the assistance of donor. • Building awareness among farmers through proper training arranged by the
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<p>union. As a result 1150 families will suffer directly or indirectly</p> <p>❑ Mithaganj Union Cultivation of 2650 hectares agricultural land from 3355 might be damaged heavily in this union. As a result 1250 families will suffer directly or indirectly</p> <p>❑ Champapur Union Cultivation of 2943 hectares agricultural land from 2943 might be damaged heavily in this union. As a result 1300 families will suffer directly or indirectly</p>	<ul style="list-style-type: none"> • Roads should be constructed considering height and potency. • Religious and educational institutions should be made in a planned way. 	<p>prevent extreme draught.</p> <ul style="list-style-type: none"> • Make strong the pillars of the house. • Need to start disaster management activities. • The pillars of the houses should be strong. • Road and social infrastructure need to make with concrete and considering height. 	<p>government.</p> <ul style="list-style-type: none"> • Hazard and risk management guidelines need to be implemented by the government. • Arrange mike for transferring early warning. • Prevent environmental pollution. • Need to prevent extreme draught. • Make strong pillars of the house. • Need to start disaster management activities • Implementin g Government
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<p><input type="checkbox"/> Dhularshar Union Cultivation of 2190 hectares agricultural land from 3257 might be damaged heavily in this union. As a result 1300 families will suffer directly or indirectl</p> <p><input type="checkbox"/> Dalbuganj Union Cultivation of 2500 hectares agricultural land from 3686 might be damaged heavily in this union. As a result 1500 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Baliatoli Union Cultivation of 2800 hectares agricultural land from 3586 might</p>			<p>enactment policy to construct infrastructure depending on risk and hazard</p> <ul style="list-style-type: none"> • House constructing material should be tornado tolerant.
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<p>be damaged heavily in this union. As a result 1230 families will suffer directly or indirectly</p> <p>If any tornado hit in Kalapara Upzila or hit like SEDOR 2007</p> <p>There 1350 nos of fruit trees,19350 nos forest trees,6387 nos</p> <p>Herbal trees can be damage in Dhankhali Union.</p> <p>4633 nos of fruit trees,6000 nos forest trees,3750 nos</p> <p>Herbal trees can be damage in Lalua Union. 15678 nos of fruit trees,28670 nos forest trees,6087 nos</p> <p>Herbal trees can be damage in Tiakhali Union. 12250 nos of fruit trees,23350 nos forest trees,5687 nos.</p>			
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<p>Herbal trees can be damage in Champapur Union. 12450 nos of fruit trees,15875 nos forest trees,2075 nos</p> <p>Herbal trees can be damage in Chakmaia Union. 21270 nos of fruit trees,24850 nos forest trees,6080 nos</p> <p>Herbal trees can be damage in Baliatoli Union. 34800 nos of fruit trees, 42400 nos forest trees 4500 nos</p> <p>Herbal trees can be damage in Nilganj Union. 38950 nos of fruit trees, 39350 nos forest trees,7087 nos</p> <p>Herbal trees can be damage in Dalbuganj Union. 16250 nos of fruit trees, 13950 nos forest trees,3587 nos</p> <p>Herbal trees can be damage in Mithaganj Union. As a result every families of these unions will suffer financially,</p>			
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<p>directly and indirectly.</p> <p>If any tornado hit in Kalapara Upzila or hit like SEDOR 2007 there 1299 nos of cows, 1300 nos gots, 130 nos sheep, 50 nos buffalo, 2000 duck, 1400 poultry and 500 wild animals in Dhankhali Union. 700 nos of cows, 900 nos gots, 40 nos sheep, 48 nos buffalo, 200 Pigs 1700 duck, 1400 poultry and 500 wild animals in Champapure Union. 1200 nos of cows, 1300 nos gots, 125 nos sheep, 40 nos buffalo, 1633 duck, 1283 poultry and 210 wild animals in lalua Union. 364 nos of cows, 263 nos gots, 15 nos sheep, 55 nos buffalo, 676 duck, 231 poultry and 100 wild animals in Baliatoli Union. 1200 nos of cows, 1300 nos gots, 105 nos sheep, 40 nos buffalo, 1533 duck,</p>			
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<p>1283 poultry and 208 wild animals in Mithaganj Union. 391 nos of cows, 911 nos gots, 104 nos sheep, 196 nos buffalo, 1630 duck, 2712 poultry, 275 pigs and 600 wild animals in Dhularshar Union. 1140 nos of cows, 1110 nos gots, 105 nos sheep, 46 nos buffalo, 1413 duck, 1243 poultry and 111 wild animals in Dalbuganj Union 680 nos of cows, 1425 nos gots, 390 nos sheep, 167 nos buffalo, 4512 duck, 14200 poultry, 183 pigs and 550 wild animals in Mohipur Union. 1040 nos of cows, 1560 nos gots, 125 nos sheep, 50 nos buffalo, 1443 duck, 1483 poultry and 530 wild animals in Lotachapali Union. 1225 nos of cows, 2375 nos gots, 216 nos sheep, 358 nos buffalo, 1`655 duck, 22050 poultry, 400pigs</p>			
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<p>and 480 wild animals in Nilganj Union. 1240 nos of cows, 1210 nos goats, 115 nos sheep, 40 nos buffalo, 1143 duck, 1453 poultry and 240 wild animals in Tiakhali Union. 1240 nos of cows, 1300 nos goats, 135 nos sheep, 40 nos buffalo, 1733 duck, 1383 poultry and 300 wild animals in Chakamia Union</p>			
<p>Surge: Impact of surge on Agriculture:</p> <ul style="list-style-type: none"> ❑ Lalua Union Cultivation of 900 hectares agricultural land from 2732 might be damaged heavily in this union. ❑ Mohipur Union Cultivation of 1700 hectares agricultural land from 4520 might 	<ul style="list-style-type: none"> • Huge tree plantation is needed to re-establish the natural equilibrium • Unplanned fishing farms/Gher need to be eradicated from the locality. • Redressing arrangement for stagnant 	<ul style="list-style-type: none"> • Constructing strongest embankment by the assistance of Government and the donors • Arranging rapid drainage system • All sluice gate need to be set in motion. • Salt-water need to be 	<ul style="list-style-type: none"> • Excavating river through government support • Institutions should be assembled according to the policy of government and L.G.E.D. • Local community need to be aware by the assistance of

<p>be damaged heavily in this union.</p> <p>❑ Lotachapli Union</p> <p>Cultivation of 2500 hectares agricultural land from 3550 might be damaged heavily in this union. As a result 1500 families will suffer directly or indirectly</p> <p>❑ Dhankhali Union</p> <p>Cultivation of 2200 hectares agricultural land from 3111 might be damaged heavily in this union. As a result 1750 families will suffer directly or indirectly</p> <p>❑ Mithaganj Union</p>	<p>salt water.</p> <ul style="list-style-type: none"> • Strong embankment needs to be constructed by Government. • Ensuring salt water free area. • Community need to be made aware for being saved from salinity. • Ensuring salt water free area through government and community initiatives. • Forbidding cultivation of salt water Fish farming/ Gher should be in a pland way • Illegal pata 	<p>drained</p> <ul style="list-style-type: none"> • Arrangement of sluice gate in the connecting point of river and canal by the assistance of UNO • Stopping cultivation of salt water fishing farm/Gher • Alternative arrangement of saline water by the assistance of Government and donors • Arrangement of water drainage by re-excavating the particular canals • Sluice gate constructing on the identifying 	<p>government.</p> <ul style="list-style-type: none"> • Government should be abiding by the code of infrastructure construction. • Good concern expected from the government health department. • Health center needs to be established in ward level by the assistance of government and donors. • Disaster reduction needs to be included in all type of plan. • Steps need to be taken for implementin
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<p>Cultivation of 2030 hectares agricultural land from 3355 might be damaged heavily in this union. As a result 1250 families will suffer directly or indirectly</p> <p>❑ Champapur Union Cultivation of 1600 hectares agricultural land from 2943 might be damaged heavily in this union. As a result 800 families will suffer directly or indirectly</p> <p>❑ Dhularshar Union Cultivation of 2400 hectares agricultural land from 3257 might be damaged</p>	<p>need to be eradicated from canals by advocacy.</p> <ul style="list-style-type: none"> • Arrangement for quick relief of stagnant water • Arrangement of constructing sluice gets. • Increase the number of necessary culvert. 	<p>canals</p> <ul style="list-style-type: none"> • Ensuring sufficient health support at union level • Tree plantation arrangement on the embankment • Excavating canal • Forbidding government lease 	<p>g land using policy</p> <ul style="list-style-type: none"> • Final step needs to be taken by the government • Needed help from the donors
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<p>heavily in this union. As a result 900 families will suffer directly or indirectly</p> <p>❑ Dalbuganj Union Cultivation of 1500 hectares agricultural land from 3686 might be damaged heavily in this union. As a result 1050 families will suffer directly or indirectly</p> <p>❑ Baliatoli Union Cultivation of 1800 hectares agricultural land from 3586 might be damaged heavily in this union. As a result 860 families will suffer directly or</p>			
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<p>indirectly.</p> <p>Impact of surge in Kalapara Upzilla:</p> <p><input type="checkbox"/> Baliatoli Union: About 800 fishing farm/Gher of different size will face a great loss from 900. As a result 900 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Nilgonj Union About 900 fishing farm/Gher of different size will face a great loss from 1200. As a result 1000 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Champapur Union About 700 fishing farm/Gher of different size</p>			
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<p>will face a great loss from 1300. As a result 400 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Dhankhali Union About 800 fishing farm/Gher of different size will face a great loss from 1500. As a result 800 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Mithaganj Union About 800 fishing farm/Gher of different size will face a great loss from 1050. As a result 600 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Lalua ,Dhankhali Mithaganj</p>			
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<p>Union About 950 fishing farm/Gher of different size will face a great loss from 1000. As a result 700 families might suffer directly and indirectly.</p> <p><input type="checkbox"/> Tiakhali Lalua Dhankhali mithaganj Union About 300 fishing farm/Gher of different size will face a great loss from 700. As a result 200 families might directly and indirectly.</p> <p><input type="checkbox"/> Chakmaia Tiakhali Lalua Dhankhali Mithaganjj Union About 4500 fishing farm/Gher of</p>			
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<p>different size will face a great loss from 850. As a result 490 families might suffer directly and indirectly.</p> <p>Impact of surge in Kalapara Upzilla:</p> <p>❑ there 1300 nos of cows, 1400 nos gots, 150 nos sheep, 70 nos buffalo, 2200 duck, 1500 poultry and 600 wild animals in Dhankhali Union. 700 nos of cows, 900 nos gots, 40 nos sheep, 48 nos buffalo, 200 Pigs 1700 duck, 1400 poultry and 500 wild animals in Champapure Union. 1200 nos of cows, 1300 nos gots, 125 nos</p>			
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<p>sheep, 40 nos buffalo, 1633 duck, 1283 poultry and 210 wild animals in lalua Union. 364 nos of cows, 263 nos gots, 15 nos sheep, 55 nos buffalo, 676 duck, 231 poultry and 100 wild animals in Baliatoli Union. 1200 nos of cows, 1300 nos gots, 105 nos sheep, 40 nos buffalo, 1533 duck, 1283 poultry and 208 wild animals in Mithaganj Union. 391 nos of cows, 911 nos gots, 104 nos sheep, 196 nos buffalo, 1630 duck, 2712 poultry, 275 pigs and 600 wild</p>			
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<p>animals in Dhularshar Union . 1140 nos of cows, 1110 nos gots, 105 nos sheep, 46 nos buffalo, 1413 duck, 1243 poultry and 111 wild animals in Dalbuganj Union 680 nos of cows, 1425 nos gots, 390 nos sheep, 167 nos buffalo, 4512 duck, 14200 poultry, 183 pigs and 550 wild animals in Mohipur Union. 1040 nos of cows, 1560 nos gots, 125 nos sheep, 50 nos buffalo, 1443 duck, 1483 poultry and 530 wild animals in Lotachapali Union. 1225 nos</p>			
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<p>of cows, 2375 nos gots, 216 nos sheep, 358 nos buffalo, 1`655 duck, 22050 poultry, 400pigs and 480 wild animals in Nilganj Union. 1240 nos of cows, 1210 nos gots, 115 nos sheep, 40 nos buffalo, 1143 duck, 1453 poultry and 240 wild animals in Tiakhali Union. 1240 nos of cows, 1300 nos gots, 135 nos sheep, 40 nos buffalo, 1733 duck, 1383 poultry and 300 wild animals in Chakamia Union</p>			
<p><i>Water logging impact on Kalapara Upzilla:</i></p>			

<p><input type="checkbox"/> Lalua Union Cultivation of 500 hectares agricultural land from 2732 might be damaged heavily in this union.</p> <p><input type="checkbox"/> Mohipur Union Cultivation of 1500 hectares agricultural land from 4520 might be damaged heavily in this union.</p> <p><input type="checkbox"/> Lotachapli Union Cultivation of 1100 hectares agricultural land from 3550 might be damaged heavily in this union. As a result 500 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Dhankhali Union</p>			
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<p>Cultivation of 1300 hectares agricultural land from 3111 might be damaged heavily in this union. As a result 750 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Mithaganj Union</p> <p>Cultivation of 1130 hectares agricultural land from 3355 might be damaged heavily in this union. As a result 850 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Champapur Union</p> <p>Cultivation of 1000 hectares agricultural land from 2943 might be damaged</p>			
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<p>heavily in this union. As a result 600 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Dhularshar Union</p> <p>Cultivation of 1200 hectares agricultural land from 3257 might be damaged heavily in this union. As a result 900 families will suffer directly or indirectly</p> <p><input type="checkbox"/> Dalbuganj Union</p> <p>Cultivation of 1200 hectares agricultural land from 3686 might be damaged heavily in this union. As a result 1000</p>			
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<p>families will suffer directly or indirectly</p> <p><input type="checkbox"/> Baliatoli Union</p> <p>Cultivation of 1150 hectares agricultural land from 3586 might be damaged heavily in this union. As a result 960 families will suffer directly or indirectly.</p>			
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3.3 Development plan of NGO's

Development plan of NGO's are as follows:

SI No	NGO	Work in Disaster	No of Beneficiary	Amount/Nos	Implementation period
01	Muslim Aid	<ul style="list-style-type: none"> ✓ School based S.M.C meeting. ✓ Awareness meeting and training along with school students. ✓ Training about disaster. ✓ Increase 	33567	3	April 2013 - January 2016

		<p>awareness and tolerance on disaster.</p> <ul style="list-style-type: none"> ✓ Ward disaster management committee. ✓ Firing line about disaster ✓ Day observance ✓ Increase facilities based on school. ✓ Compile disaster management plan on Upzilla and district level. ✓ I.G.A ✓ Cash for work and cash for training 			
02	Avash	<ul style="list-style-type: none"> ✓ Disaster awareness meeting ✓ Increase awareness about climate change. ✓ Emergency support during disaster ✓ Day observance ✓ Emergency support for the MOHASSEN affected people. 	490	1	April 2010 - December 2015

		<ul style="list-style-type: none"> ✓ Re-construction of damaged houses ✓ Re-construction of damaged latrine 			
03	F.H	<ul style="list-style-type: none"> ✓ Training about disaster ✓ Increase awareness about disaster. ✓ Rehabilitation 	350	1	January 2008 - January 2020
04	Friendship	<ul style="list-style-type: none"> ✓ Village disaster management committee ✓ Arrange awareness meeting with the students of secondary level. 	37500	1	June 2013- May 2014
05	Wave foundation	<ul style="list-style-type: none"> ✓ Training about disaster ✓ Increase awareness about disaster ✓ Re-construction of the damaged houses 	1598	1	June 2010- June2016
06	J.J.S.	<ul style="list-style-type: none"> ✓ Training about disaster ✓ Increase awareness about 	3200	1	October 2013- March 2014

		<p>disaster.</p> <ul style="list-style-type: none"> ✓ Re-construction of the damage houses ✓ Support for the fishermen 			
07	World concern	<ul style="list-style-type: none"> ✓ Training about disaster ✓ Increase awareness about disaster ✓ Re-construction of the damage houses 	18777	2	July 2013- December 2016
08	Polli gana unnayn kendro (P.J.U.K)	<ul style="list-style-type: none"> ✓ Training about disaster ✓ Increase awareness about disaster 	1890	1	April 2007- January 2020
09	Speed trust	<ul style="list-style-type: none"> ✓ Village disaster management committee ✓ Courtyard session ✓ Construction or repair cyclone shelter. ✓ Repairing of road and earthen rampart ✓ Firing line about 	37555	1	May 2011- March 2015

		<ul style="list-style-type: none"> disaster ✓ Day observance 			
10	Codeck	<ul style="list-style-type: none"> ✓ Training about disaster ✓ Increase awareness about disaster ✓ Awareness theater outreach ✓ Preparing list and identity card of the fisher man 	3235	1	November 2013- April 2014
11	Karitash	<ul style="list-style-type: none"> ✓ Village disaster management committee ✓ Courtyard session ✓ Construction or repair cyclone shelter. ✓ Repairing of road and earthen rampart ✓ Arrange firing line about disaster ✓ Day observance 	38000	1	May 2011- March 2015

3.4: Disaster management work plan

3.4.1: Disaster preparedness

SI No	Activity	Target in Nos	Probable budget (BDT)	Place of Implementation	Probable Period	Who will do what				Coordination with development plan
						Upzilla administration	Community	U.P	N.G.O.	
1	Maintenance of cyclone shelter	105	2,00,00,00	In selected Unions	2014 to 2016	80%	-	15%	5%	Activities will make the people aware and active for taking preparedness on disaster in order to reduce emergency disaster risk. Which minimize the loss of wealth and human causulty. If the activities implement perfectly it will
2	Radiate the Volunteer group	300	20,00,000	In selected Unions	2014 to 2015	50%	20%	20%	10%	
3	Sluice gate , Embankment and road repeating	40	3,00,00,000	In selected Unions	2014 to 2016	50%	10%	30%	10%	
4	Radiate the earthen rampart	25	1,00,000	In selected Unions	2014 to 2016	70%	10%	20%	-	
5	Marking the news disseminated place in local level	50	25,000	In selected Unions, Ward and Villages	2014 to 2015	35%	5%	30%-	30%	
6	Develop early warning system through	50	10.000	UP, ward and village	2014 to 2015	35%	5%	30%	30%	

	projection										place role in the
7	Taking plan to announce the earlywarning for flood and regular disaster	60	1,14,000	UP and Powroshova	2014 to 2015	35%	5%	30%	30%		development of socio and economic development and also in national
8	Emergency shelter repeating	40	12,00,000	UP	2014 to 2015	35%	5%	30%	30%		development
9	Introducing/ operating mobile health clinic	7	7,00,000	UP, ward and village	2014 to 2015	35%	5%	30%	30%		
10	Fringe line arrangement for disaster	12	3,20,000	UP	2014 to 2015	35%	5%	30%	30%		
11	Arranging training on disaster and first aid	8 in 8 Unions	25000	U.P	2014 to 2015	35%	5%	30%	30%		
12	Collecting dry food and emergency medicine	Dry-4 tons, Rice/pul s-5 tons	4,00,000	U.P	2014 to 2015	55%	5%	30%	1%		
13	Preach earlywarning and emergency warning ▪ Strong	60	1,50,000	In all wards of the union	Just before the disaster happen	35%	5%	30%	30%		

	<p>announcement to take the fisherman to safer place</p> <ul style="list-style-type: none"> ▪ Order to make strong flank of GHER ▪ Guide to move domestic animal in a safe place ▪ Guide to transfer PWD, pregnant and the elderly people to the emergency shelter. ▪ Advice to preserve pure drinking water ▪ Advice to get prepared for shifting to the Cyclone shelter according to the warning 									
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3.4.2: During disaster

SI No	Activity	Target in Nos	Probable budget (BDT)	Place of Implementation	Probable Period	Who will do what				Co-ordination with development plan
						Upzilla administration	Community	U.P	N.G.O	
1	Arrange meeting at emergency signal no 4.	65	20,000,	In all Unions	Depending on natural situation	50%	-	40%	10%	
2	Early warning circulate in every area	65	50,000	In all Unions	Depending on natural situation	50%	-	40%	10%	
3	Inspiration for shifting on a safe place	100	5,00,000	In all shelter	Depending on natural situation	60%	-	40%		
4	Arranging dry	100/accordi	20,00	On selected	Depending	50%	-	30%	20%	

	food in emergency shelter	ng to the need	,000	unions	on natural situation					
5	Arranging pure drinking water and sanitary latrine	13000	-	On selected unions	On disaster time	30%	5	50%	15%	
6	Arrangement for pure drinking water in the temporary shelter	Depending on situation	100000	On selected unions	Depending on natural situation	-	-	-	-	
7	Proscribe the fisher man to catch fish	20000		On selected unions	On disaster time	35%	5	30%	30%	
8	Rescue the effected people and take them to the emergency shelter or health clinic					50%	-	40%	10%	

3.4.3: After disaster

SI No	Activity	Target in Nos	Probable budget (BDT)	Place of Implementation	Probable Period	Who will do what				Co-ordination with development plan
						Upzilla administration	Community	U.P	N.G.O	
1	Start rescue activities as early as possible	60	2,00,000	--	After disaster	35%	5%	30%	30%	<p>If the activities after the disaster has been completed it will helps them to minimize the losses.</p> <p>If emmiare rehabilitation and livelihood support provides , they will recover the losses and it will make a positive impact on socioeconomic sector and national economic</p>
2	Rescue the injured people and give them first aid if necessary ensure well treatment for them	60	1,30,000	U.P, Powroshova	After disaster	35%	5%	30%	30%	
3	Taking steps to bury dead bodies and retract the animal's body	5000	120000	U.P, Powroshova	After disaster	35%	5%	30%	30%	
4	Damage and need assessment report preparation within 72 hour and place	60	--	U.P, Powroshova	After disaster	35%	5%	30%	30%	

	it to proper authority									
5	Arrangement of rehabilitation for the extreme loser	6000	1,20,00000	U.P, Powroshova	After disaster	35%	5%	30%	30%	
6	Removing all debris	60	2,85,000	U.P, Powroshova	After disaster	35%	5%	30%	30%	
7	Administration re-establishment	60	-	U.P, Powroshova	After disaster	35%	5%	30%	30%	
8	Emergency rehabilitation and lively hood support	60	-	U.P, Powroshova	After disaster	35%	5%	30%	30%	
9	Stop credit installment and arrange credit without interest	5000 families	-	----	After disaster	35%	5%	30%	30%	

3.4.4 Timeframe of risk reduction activities

SI No	Activity	Target in Nos	Probable budget (BDT)	Place of Implementation	Probable Period	Who will do what				Coordination with development plan
						Upzilla administration	Community	U.P	N.G.O.	
1	Village social structure construction and repair of Embankment	3	-	In selected Unions (Tiakhali, Mohipur, Llua and Dhankhali)	2014 to 2017	50%	20%	30%	-	
2	Construction and repair the link road of the Emergency shelter	10		In selected Unions (Chakmaia, Tiakhali, Mohipur, Llua and Dhankhali, Mithakhali, Nilganj, Lotachapali)	2014 to 2016	70%	-	30%		
3	Repairing sluice gate band repair	8		In selected Unions (Mohipur, Dhankhali,	-	Responsible department				

	embankment			Lotachapali, Dhulsdhar,Baliatoli)						
4	Repair old culvert and bridge and construct new	20		In selected Unions (Chakmaia,Tiakhali,Mohipur, Llua and DhankhaliMithakhali,Lotachapali)	2014 to 2017					
5	Earthen rampart	13	80,00,000 for each	4 in Tiakhali union (ward no 1,2,3 &5) 3 in Lotachapali union (ward no2,3 & 8) 2 in Baliatoli union (ward no 6&7) 2 in Nilganj union (ward no 2,8)	2014 to 2016	20%	--	--	80%	
6	River/ canal excavation or re-excavation	30	17,00,000 per Kilometer	Tiakhali;I union <ul style="list-style-type: none"> • 1canale excavation in ward no 2 • 2 canals excavation in ward no 3 • 1 canal excavation in 	December and January	30%	10%	20%	40%	

				<p>ward no 5</p> <ul style="list-style-type: none"> • 2 canal excavation in ward no 6 • 2canale excavation in ward no 8 • 1 canal re-excavation in ward no 5 • Small Hoeata canal re-excavation <p>Lotachapali Union</p> <ul style="list-style-type: none"> • 3 canals excavation in ward no 3 • 2canale excavation in ward no 6 • 1 canals excavation in ward no 9 <p>Nilganj Union</p> <ul style="list-style-type: none"> • 2 canals excavation in ward no 1 • 3 canals excavation in ward no 2 • 2 canals re- 						
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				<p>excavation in ward no 3</p> <ul style="list-style-type: none"> • 2 canals re-excavation in ward no 5 • 2 canals excavation in ward no 8 • 3 canals re-excavation in ward no 9 						
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Chapter- 4 Emergency response

4. Emergency Operations Center (EOC):

Emergency operation center (EOC) always remains active and coordinate during the emergency time and remain open for 24 hours. EOC collects data and necessary information examines and acts upon resources management at its end. EOC has one operation room, one control and one communication room with equipments. Station, responsible person and their contact number given below:

SI #	Name	Designation	Mobile
1.	A.Motaleb Talukdar	Upazilla Chairperson	01716538157
2.	Md. Jahangir Hossain	UNO	01712533153
3.	Pronob Kumar Sorkar	Upazilla Engineer	01749717203
4.	Sumon Chondro Debonath	Program Manager	01912940894
5.	Munshi Nur Mohammad	Asst. Director-CPP	01720581014

(Source: UNO Office, Kalapara)

4.1 Emergency Control Room Operation:

ECR should always communicate with divisional office.

- The control room is supposed to generate right away on the district office premises during the disaster hits where duties should be ensured with 3 to 8 volunteers and polices members rotationally
- Responsible person of the district would take overall responsibility of the ECR and total 3 voluntary groups will be formulated by 3 person each who will escorts the ECR for 24 hours by rotationally
- ECR should always communicate with divisional office
- Control room register will be maintained in the ECR where information about responsible persons would mention accordingly. Receive and dispatch news will be written down in the registers.
- District map should hang up on the wall demarking upazilla, union, roads, river and channels, embankments and above all include the map. Places/area of the district damaged by disaster will also be marked in this map specifically.

- Ensure necessary stocks as emergency toolkits like radio, hezak light, charge light, number of 5 big size torchlight, gumboot, lifejacket, battery, raincoat etc in the ERC.

4.2 Contingency plan:

A short look on contingency plan is charter below:

SI No	Task	Coverage	When	Who will do	Who will cooperate	How to do	Communication
1.	Keeping Voluntee Prepared.	2100 nos. (DRRO Office, Patuakhali	On , before and after disaster	C.P.P	Communit y people	By team leaders of every Union of relevant Upazilla	Mobile, Telephone/ warless
2.	Early Warning announce ment	Whole upazilla and district.	Before disaster	Volunteer team	Local community	By using flag, hand mike, radio and announcemen t mike	Mobile, Telephone/ warless
3.	Ready Boat, Car and Van	Depending on the need and number of the vulnerable people	On, Before and after disaster	Volunteer team and community.	Communit y	Cyclone shelter and medical treatment.	Mobile, Telephone/ warless
4.	Rescue	Depending on the affected people	After disaster	Volunteer team and community.	Local people and administrat ion.	By using required instrument and technique.	Mobile, Telephone/ warless
5	First Aid	Depending on the affected people	After disaster	Volunteer team, community, nurse and doctors.	Union and Upazilla .	Medical support and interment arrangement.	Mobile, Telephone/ warless

6	Collecting and equipped dry food and medicine.	Depending on the affected and vulnerable people	Before disaster	Volunteer team, union, upazilla, klinik and hospital and community.	Union and Upazilla .	Collecting and distributing dry food and medicine.	Mobile, Telephone/warless
7	Treatment for cattle	Depending on the affected and vulnerable number of cattle.	Before and after disaster	Community people.	Volunteer team, union, upazilla, klinik and hospital and community	Identifying diseases and providing treatment.	Mobile, Telephone/warless
8	Maintenance of Cyclone/Temporary shelter.	126 nos. (Source: DRRO Office, Patuakhali)	On, before and after disaster	Cyclone shelter management comity and local community.	Union and Upazilla.	Cleanliness, repair and regular observation.	Mobile, Telephone/warless
9	Relief work	Depending on the affected and vulnerable	After disaster	Union and Upazilla and NGO	Volunteer team and community	By discipline and proper distribution.	Mobile, Telephone/warless
10		In inaccessible Unions	General time	CPP and NGO	Union, Upazilla, NGO and community people.	Through required equipments and participation.	Mobile, Telephone/warless
11	Operating emergency control room	8	During disaster	DRRO, UNO, responsible person	DRRO, UNO, CPP and weather office.	Through direction and management	Mobile, Telephone/warless

Direction of contingency plan:

4.2.1 Prepare volunteers:

- Form a volunteers group lead by elected union members
- Disseminate warning message to the villages by the volunteers
- Arrange training on warning message, rescue, evacuation, cyclone center management, duties and responsibility issues for the volunteers

4.2.2 Publish warning message:

- UP members will take responsibility personally to disseminate warning message every houses in their respective wards
- Ensure miking for every hour when the signal number 5 will broadcasts in the radio and television. Miking and belling of school, Madrasha will be started instantly when radio and television channels cast danger signal.

4.2.3 Evacuation management process:

- Respective UP members and volunteers will take initiatives to evacuate and remove peoples who lives in more vulnerable area by getting the announcement from radio and television
- Miking and initiates strong attempt to move peoples to the cyclone center as emergency basis during the announcing of signal no. 8 from radio and television

4.2.4 Rescue and first aid service:

- Duty and responsibility should devolve to the respective UDMC (Upazilla Disaster Management Committee) in the extreme vulnerable upazilla/area
- Create a fund and subsidizing sources leaded by UDMC to manage rescue operation in the disaster
- Direction and operate temporary health camp
- Refer to hospital to the ailing people, ages, children and pregnant women for batter treatment
- Respective UP members and volunteers will take steps to buries people dead body as well as dead animals

4.2.5 Cyclone center maintenance:

- Ensure full functional and necessary repairing works would contend for the cyclone center before yearly disaster seasons

- Emergency shelter plan and measures of effective protection would be taken earlier
- Special care and safety measures should be taken for women, children and person with disability who takes shelter in the centers
- Ensure safe drinking water and other services in the shelter center
- Helps people to remove and safe sheltering their cattle and livestock in the period

4.2.6 Prepare boat and water transport:

- Upazilla Disaster Management Committee (UDMC) will arrange and maintain engine boats and to be prepare for emergency use during the disaster
- Local owners of the boats will assist to the UDMC
- Contact number of boatmen and owners should preserve in the Emergency Control Room (ECO)

4.2.7 Provide damage and demand status:

- SOS form within 24 hours after disaster hit and D form will send to the UP Chairman within 7 days
- UP Chairman will accumulates ward wise report with assistance by UP Secretary and send to the Chairman of Upazilla Disaster Management Committee (UDMC) within 12 hours short time

4.2.8 Coordinate relief works:

- UP Chairman will coordinate the groups who works relief & rehabilitation program in the respective unions
- Chairman will also maintain a register book and keep information about relief goods and quantity comes from different outside relief providers
- To ensure the accountability Union Disaster Management Committee (UDMC) will estimate relief goods based on ward wise damage situations and destitutions. Steps should be taken to publish the relief estimation to the people of respective union

4.2.9 Collect and keep ready dry food, emergency medicine:

- Collect dry food like chira, muri etc. from local market to distribute in emergency time instantly
- Collect food items such as rice, dal, wiet, edible oil etc. as well as sectors for hours and shelter repair like tin, nylon threite, perek from local market

- Prepare medicine list by union level health workers and collect necessary medicine from local market to meet the emergency

4.2.10 Treatment and vaccination for domestic animals:

- Collect necessary medicine for domestic animals from upazilla animal resource hospital and preserve in the union parishad bhavan or health center
- Members of UDMC should provide training on basic health treatment for the domestic animal
- Experience person of animal health may include with the animals treatments in the emergency period

4.2.11 Arrange mock drill/simulation drill:

- Mock drill program will arrange with community people on the issue of signal warning/cyclone forecasting, evacuation, rescue, first aid and relief management regularly
- frequent mock drill program should arrange with the people of cyclone and flood prone area
- Assess and measure community level preparation by arranging mock drill in April and September every year
- Mock drill program on sheltering in cyclone center will arrange in the place of vulnerable villages instead UP offices.

4.2.12 Direction on Emergency Control Room (ECR)

- Emergency control room will be instigated after disaster instantly on the premises of district/upazilla or union parishad offices where 3/4 volunteers and villager polices should engage to duty by rotationally
- UP secretary and other responsible person of the union would take overall responsibility of the ECR and total 3 voluntary groups will be formulated by 3 person each who will escorts the ECR for 24 hours by rotationally

4.2.13 Cyclone center and safe places:

- Cyclone center or shelter should be protected and out of harm's way from flooding, riverbank erosions or any kind of natural disaster
- Local school, college, Govt. institute or infrastructures, high level embankment or road and particular cyclone center can be use as shelter center in the disaster

4.3 Details of district safe secure places:

Details of safe and secure places for the districts is given below (see annexure)

4.4 Formation of cyclone center management committee:

Shelter management is very important issue in overall disaster management activity and absence of proper maintenance certainly the shelter center could be damaged and lost its usability.

Consider the circumstances shelter management concept gets to an essential part of activity in the total disaster management. Shelter management is important because of:

- Safe life and assets during the disaster
- Safe cattle, livestock and other domestic animals
- Ensure proper maintenance for shelter center and its use as well

Management committee of shelter center:

- Total member of the shelter center committee are 7 to 9
- The committee will comprise by 7 to 9 members including UP Chairman, members, social elites, social-worker, teacher, NGOs worker, land donor, volunteers
- The committee will perform the responsibility with full consents by local people and community
- Committee will be figured by 50% female members as mandatory among the total
- Committee will fully aware as well as to be clear concept of duty about the shelter management
- The committee will perform overall duties and responsibility to maintain the shelter center by assistance of community people
- Committee will call regular meeting, make regulation properly and distribute the duty and responsibility to the concern person or groups mentioning time and duration of the course of action
- The list/chart of shelter management committee will be included with the central disaster management plan

Which places will be used for shelter center?

- Particular shelter center for the area
- Local school and college
- Govt. institute and infrastructures
- High road and embankment

Important points of the shelter management:

- Ensure tent, polyethylene, ORS, alum/fitkari, essential drugs (paracetamol, flazil etc.), water purification tablet, blicing powder in the shelter center
- Cooking facility should be ensured in the center
- Separate male female toilet facilities must be ensure in the center
- Separate male female bathroom facilities must be ensure in the center
- Keep shelter net and clean and ensure good waste management
- Ensure necessary security
- Ensure sufficient lighting
- Shelter should be healthy environment
- Storage facility of commodity and belongings should available in the shelter center and maintain register accordingly. Ensure accurate returns to the sheltered person when they will back to their own home after the disaster
- Assign person and volunteers will work in the shelter center
- Ensure food and health care for the sheltered person
- Special care should be taken for the pregnant women, children, physically challenge and ages persons

Shelter center use:

- Ensure require maintenance and keep shelter center net and clean
- Steps should be taken by locally to protect door and widows from damage and spoils
- Use open space of shelter center for tree plantation
- Shelter center should be locked when it will not be use
- Shelter center management committee will form as per following the guideline
- List of shelter center management committee would be attached with the disaster management plan

4.5 List of upazilla's asset (useful in time of disaster)

Details descriptions of upazilla's asset are as follows:

Structure/asset	Number	Responsible person	Brief details
Cyclone shelter	105	No List of responsible person was found	Sufferings of the community become broad during disaster due to the insufficient number of Cyclone shelter in this Upazilla.
Stock	01	Md. Mizanur rohman	Government relief goods are stored in the Godaon during disaster
Boat	In Kolapara upazilla there are 65 ferry, in this 24 are with motor and 41 are without motor	Solo property	As the major livelihood of the community of this district is fishing, boat is available here.
Clay fort	21	No List of responsible person was found	Not sufficient in respect of demand.
Car	A huge number of cars of different size are available in this Upazilla but no specific data found		A huge number of cars of different size are available in this Upazilla but no specific data found
Speed boat	There are no speed boat in this area

(Source: PIO and CPP Office, Kalapara)

4.6 Fund

Income source of union parishad is from the lease of local village market/hat, leased of channels, trade license of various trades and business house. Income sources of union parishad have been declined gradually due to change of authority. Government handover 1% land registration fee as remuneration cost for the secretary and village polices which 100% bear by UP it earlier. Government provides tk.4/5 lack to union parishad to meet its operation coast.

Income source of union parishad:

Reserve fund should be created for the union parishad as like upazilla parishad.

A. Own source (Union tax, rate and fees)

	Annual Income(Approximate)											
Source/ type	Chak amaiy a	Tiakhal i	Lalua	Nilgo nj	Mith agonj	Mohi pur	Lotac hapal i	Dhan khali	Dhul arsar	Dalbug onj	Chompa pur	Total
Annual Househol d Tax	45517 8 /=	525195 /=	5034 56 /=	2500 00 /=	4551 78 /=	6034 56 /=	5034 56/=	4551 78/=	5251 95/=	555178/ =	503456/ =	52519 5/=
License issued by UP & License permit fee	47000 /=	53000 /=	5450 00 /=	2160 00 /=	4700 0 /=	5500 0 /=	5600 0/=	4700 0/=	5300 0/=	47000/ =	46000/=	53000 /=
	31000 /=	38000 /=	4600 0/=	3500 0/=	3100 0/=	5400 0/=	5000 0/=	3100 0/=	3800 0/=	31000/ =	34000/=	38000 /=
	30000 0/=	400000 /=	2300 00 /=	2700 000 /=	3000 00 /=	3500 000/=	2300 00/=	3000 00/=	4000 00/=	400000/ =	230000/ =	40000 0/=
	70365 /=	6334 5 /=	8764 4 /=	1856 404 /=	7036 5 /=	7376 0 /=	8754 4/=	7036 5/=	6334 5/=	70365/ =	87544/=	63345 /=
	40000 /=	42000 /=	4000 0 /=	2000 00 /=	4000 0 /=	5000 0 /=	4000 0/=	4000 0/=	4200 0/=	39000/ =	40000/=	41000 /=

Honarium rate of the Chairman and members of UP:

Chairman: Govt-1475 BDT and from Parisad-1525 BDT per person.

M.UP: Govt-950 BDT and from Parisad-1200 BDT per person.

Secretary: 7062BDT

Dafadar : 2100 BDT

Village Police: 1900 BDT

Foreign and other donors are usually providing fund to the local government bodies i.e. union and upazilla level under their local government strengthening program. Such aid depends on capacity, transparency and good governance practice of respective union. UP authority will give preference regarding the fund mobilization entire the union to consider their disaster and its magnitudes. Development projects will design by considering the DRR issues in the respective union as priority basis.

4.7 Update and verification of Action Plan:

Create a follow-up committee to develop Action Plan.

Follow-up committee:

1. Committee for plan follow-up
2. Committee for plan implementation & maintenances

SI no.	Name	Designation	Mobile
01.	A. Motaleb Talukdar	President, Upazilla Chairman	01716538157
02.	Md. Jahangir Hossain	Member, UNO	01712533153
03.	Md. Shafikul Islam	Secretary, Upazilla PIO	01718150542
04.	Alhaz Md. Sultan Mahmud	Member, Upazilla Vice Chairman	01819459528
05.	Md. Kalam Gazi	Member, NGO representative	01719562583

Source: PIO Office, Kalapara

Function of the committee:

- Review draft action plan and then do for finalization
- Receive assistance from difference resources such as agriculture officer for agriculture, livestock, aquaculture etc.
- Give importance to realistic DRR implementation and financing

Committee for plan implementation & maintenance:

The committee will form by 7 members, which are as:

1. Chairman
2. Secretary
3. Female UP member
4. Govt. representative
5. NGO representative
6. Member 2 person (from general committee)

SI no.	Name	Designation	Mobile
01.	A. Motaleb Talukdar	President, Upazilla Chairman	01716538157
02.	Md. Shafikul Islam	Secretary, Upazilla PIO	01718150542
03.	Mrs. Bilkis Jahan	Member, Upazilla Vice Chairman	01710703241
04.	Alhaz Md. Sultan Mahmud	Member, Upazilla Vice Chairman	01819459528
05.	Md. Kalam Gazi	Member, NGO representative	01719562583
06.	Jesmin Akhtar		01556365044
07.	Md. A. Rohim		01716244677

Source: PIO Office, Kalapara

Function of the committee:

- Committee will update, review, examine, necessary inclusion and exclusion of the total action plan in the month of April or May every year. Secretary of the committee will takes the initiatives to call the meeting, find out weakness and review the action plan after disaster occurred.
- Arrange mock drill program in every year as per the direction of disaster management bureau in the disaster day celebration
- Disaster management committee will be approved by district disaster management committee
- Take active initiatives to implement action plan and proper monitoring as well as necessary communication to the stakeholders.

Chapter5: Rescue and Rehabilitation Plane

5.1 Loss Assesment

<i>Sectors</i>	<i>Description</i>
Agriculture	<p>Alternative crops which can be cultivated instand of damage crops are rehabilitated for one time only.</p> <ul style="list-style-type: none"> • If kalapara upazilla is hit by cyclone or affected by sidr like 2007, 32768 ha land of cultivable crops (aman rice, cereal crops, jujube, guava, vegetables) among 40940 ha would extensively destroy • Cultivable crops (aman rice, cereal crops, jujube, guava, vegetables) of 28090 ha acre land among 40940 ha in Kalapara upazilla may be damaged due to tidal surge • If any deevastating flood flood over Kalapara upazilla like 1988 it will make damage of about 22900 Hac agricultural land among 40940 hac
Fish	<p>Fish feeding, fisheries fries, fartelizer, lime and some times boats are donated to the fishermen. Will provide training</p> <ul style="list-style-type: none"> • 8540 fish small or big enclouser of Kalapara upazilla approximately 12740 ha cultivable land of fish among 40940 ha land will be destroyed due to salinity. besides this natural fish of that area may be vanished • 6758 acre fish cultivation of Kalapara upazilla may be destructed because of cyclone. • 9786 small or big fish enclouser of Kalapara upazilla may be extensively damaged due to tidal surge.
Trees	<p>Tree plantation through personal and government inetiatives.</p> <ul style="list-style-type: none"> • Due to salinity, average 6000 fruit trees, 5000 forest trees, 11000 medicinal plants and 5000 nursery seedlings of Kalapara upazilla may be damaged. • If Kalapara upazilla affected by cyclone or knocked by sidr like 2007,

	<p>average 10000 fruit trees, 12000 forest trees, 12000 medicinal plants and 6000 nursery seedlings of that upazilla may be affected.</p> <p>Due to tidal surge, average 4500 fruit trees, 5800 forest trees, 1000</p>
<p>Health</p>	<p>Providing health facilities through hospital and community clinic</p> <ul style="list-style-type: none"> • Due to salinity in Kalapara upazilla among 2,02,078 persons, 5% people in Diarrhea, 3% people in mucous diarrhea, 2% people in typhoid, 4% people in Jaundice, 6% people in virus-induced and 6% people in skin disease may become sick and die. As a result, including a variety of financial hardship every family of this upazilla may affect • If Kalapara than affected by cyclone or knocked by sidr like 2007, among 2,02,078 persons, 20% people in Diarrhea, 8% people in mucous diarrhea, 6% people in Jaundice, 5% people in virus-induced and 1% people in skin disease may become ill and die. • Due to tidal surge in Kalapara upazilla among 2,02,078 persons, 3% people in Diarrhea, 2% people in mucous diarrhea, 2% people in skin disease, 2% people in Jaundice, 8% people in virus-induced and may become ill and die.
<p>Livelihood</p>	<p>Creates supportive environment for livelihood.</p> <ul style="list-style-type: none"> • Approximately people with 4 types of livelihood live in Kalapara upazilla. Among them 12645 are fisherman, 10008 persons are farmers, 9344 persons are small and middle business man and 9814 persons are agriculture labour. <ul style="list-style-type: none"> ▪ Cyclone: <p>Due to cyclone in Kalapara upazilla 4529 fisherman among 12645, 6933 farmer among 10008, 1371 small business man among 9144 and 2278 agriculture labour among 9114 are directly and indirectly affected.</p> ▪ <u>Salinity:</u> <p>Due to cyclone in Kalapara upazilla 4529 fisherman among 12645, 6933 farmer among 10008, 1371 small business man</p>

	<p>among 9144 and 2278 agriculture labour among 9114 are directly and indirectly affected.</p> <ul style="list-style-type: none"> ▪ <u>Tidal surge:</u> Due to tidal surge 6322 fisherman among 10008, 450 small and middle business man may be damaged. ▪ Water logging 5264 fisherman, 4621 farmer among 12645 are directly and indirectly damaged. ▪ Riverbank erosion Due to riverbank erosion in Kalapara upazilla 7% agricultural land may vanish in the heart of the river. As a result, 25% farmers are directly and indirectly affected. ▪ Flooding Due to flooding in Kalapara upazilla 6058 fisherman among 10008, 6933 farmer among 12645, 457 business man are directly and indirectly hampered.
Cattale	<ul style="list-style-type: none"> • Due to salinity scarcity of feed of 1600 cow, 2000 goat, 1300 sheep, 450 buffalo and 350 pigs will be seen. As a result, because of scarcity of feed animal may be hampered.as a result Consequently agriculture production hampered due to this every single family will be indirectly affected • If kalapara upazilla is affected by cyclone or hit by sidr like 2007, 1500 cow, 1000 goat, 1200 sheep, 200 buffalo, 4500 goose, 5000 hen, 500 wild animal-bird and 1000 pig, would kill through attack of cyclone or drifting with water. So that each family of affected area have possibility to detrimental to the natural beauty • If kalapara upazilla affected by tidal surge or hit like Sidar 2007, 2000 cow, 2300 goat, 1000 sheep, 40 buffalo, 3400 goose, 4000 hen, 500 wild animal-bird and 800 pig, would kill through drifting with water. So that each family of affected area have possibility to detrimental to the natural beauty

	<ul style="list-style-type: none"> • If kalapara upazilla affected by flood or hit by sidr like 2007, 2100 cow, 2200 goat, 1100 sheep, 40 buffalo, 3500 goose, 4000 hen, 500 wild animal-bird and 200 pig, would kill through drifting with water. So that each family of affected area have possibility to detrimental to the natural beauty
Infrastructure	<p>Steps taken for repair and new infrastructural support.</p> <ul style="list-style-type: none"> • If kalapara upazilla affected by cyclone or hit by sidr like 2007, 2820 immature, 20 full grown and 166 half grown houses may damage. • In the surge increase in kalapara upazilla there 3300 immature, 10 full grown and 40 half grown houses may damage fully or partially. • . Due to riverbank erosion in kalapara upazilla there 400 immature, 18 full grown and 24 half grown houses may damage fully or partially. • 3000 immature, 30 full grown and 200 half grown houses may damage fully or partially if the upazilla is flowed by devastating flood like 1988.
Sanitation	<ul style="list-style-type: none"> • If salinity increases in Kalapara upazilla, average 11 pond, 100 full grown toilet may partly or fully destroy • If kalapara upazilla is affected by cyclone or hit by sidr like 2007, average 700 raw and 170 half grown toilet and 17 pond water may partly or fully destruct • If cyclone keeps increasing in Kalapara upazilla, average 16 ponds, 1200 half-grown toilet may partly or fully be ruined. • If water logging condition continues rising up in Kalapara upazilla, average 10 pond, 200 half grown toilet may partly or fully be spoiled. • If flooding increases in Kalapara upazilla, average 18 pond, 3000 half grown toilet, 20 rain water plant and 20 PSf may partly or fully be damaged.

5.2 Quick/Advance Rescue

No specific list of responsible person found for the respective work (5.2.1,5.2.2, 5.2.3, 5.2.4) in upazilla and union level below. But during the information collection period in Upazilla and union level it came to know from the relevant stakeholders that those work done by the union

secretary along others UP members under the leading od the Union Chairman. The whole process is observed by the Upazilla personal like Upazilla Chairman, UNO, PIO, LGEDE, CPP, Upazilla agriculture officer, Upazilla fishiries officer, Upazilla education officer etc.

5.2.1 Administrative re-establishment

SI no.	Name	Designation	Mobile
01.	A. Motaleb Talukdar	Upazillz Chairman	01716538157
02.	Md. Jahangir Hossain	UNO	01712533153
03.	Md. Moshiur Rohman	Upazilla Agriculture Officer	01740894828
04.	Md. Ruhul Amin	Upazilla Education Officer	01720510429
05.	Munshi Nur Mohammad	Asst. Director-CPP	01720581014
06.	Pronob Kumar Sorkar	Upazilla Engineer	01749717203
07.	Sumon Chondro Debonath	PIO	01912940894
08.	Md. Shohel Rana	Upazilla people health Engineer	01740978118
09.	Md. Shofikul Islam	Senior Fishery Officer	01734310808

5.2.2 Removal of debris

SI No.	Name	Designation	Mobile
01.	Kazi Hemayetuddin Hiron	Chairman-Mithagonj Union Porisod	01712765230
02.	Md. A. Malek Khan	Chairman-Nilgonj Union Porisod	01712459138
03.	Md. Mir Tarikur Jaman	Chairman-Lalua Union Porisod	01723377118
04.	Abdus Salam Sikdar	Cairman-Dalbugonj Union Porisod	01715097407
05.	Md. Mahmudul Hasan Sujon Molla	Chairman-Tiakhali Union Porisod	01717711690
06.	A.B.M Humayun Kobir	Chairman-Baliatoli Union Porisod	01728195300
07.	Md. Rintu Talukdar	Chairman-Chompapur Union Porisod	01716743566
08.	K.M. Khalekujjaman	Chairman-Dularsar Union Porisod	01712791759
09.	A. Lotif Gazi	Chairman-Dhankhali Union Porisod	01716174763
10.	Rashida Begum	Chairman-Lotachapali Union Porisod	01757835229

11.	Md. Nizam	Secretary-Mohipur Union Porisod	01715214184
12.	Md. Keramot Ali	Chairman-Chakamaiya Union Porisod	01713951081

5.2.3 Regenerating Public Service

SI No.	Name	Designation	Mobile
01.	Kazi Hemayetuddin Hiron	Chairman-Mithagonj Union Porisod	01712765230
02.	Md. A. Malek Khan	Chairman-Nilgonj Union Porisod	01712459138
03.	Md. Mir Tarikur Jaman	Chairman-Lalua Union Porisod	01723377118
04.	Abdus Salam Sikdar	Chairman-Dalbugonj Union Porisod	01715097407
05.	Md. Mahmudul Hasan Sujon Molla	Chairman-Tiakhali Union Porisod	01717711690
06.	A.B.M Humayun Kobir	Chairman-Baliatoli Union Porisod	01728195300
07.	Md. Rintu Talukdar	Chairman-Chompapur Union Porisod	01716743566
08.	K.M. Khalekujjaman	Chairman-Dularsar Union Porisod	01712791759
09.	A. Lotif Gazi	Chairman-Dhankhali Union Porisod	01716174763
10.	Rashida Begum	Chairman-Lotachapali Union Porisod	01757835229
11.	Md. Nizam	Secretary-Mohipur Union Porisod	01715214184
12.	Md. Keramot Ali	Chairman-Chakamaiya Union Porisod	01713951081

5.2.4 Emergency Livelihood Support

SI No.	Name	Designation	Mobile
01.	Kazi Hemayetuddin Hiron	Chairman-Mithagonj Union Porisod	01712765230
02.	Md. A. Malek Khan	Chairman-Nilgonj Union Porisod	01712459138
03.	Md. Mir Tarikur Jaman	Chairman-Lalua Union Porisod	01723377118
04.	Abdus Salam Sikdar	Chairman-Dalbugonj Union Porisod	01715097407
05.	Md. Mahmudul Hasan Sujon	Chairman-Tiakhali Union Porisod	01717711690

	Molla		
06.	A.B.M Humayun Kobir	Chairman-Baliatoli Union Porisod	01728195300
07.	Md. Rintu Talukdar	Chairman-Chompapur Union Porisod	01716743566
08.	K.M. Khalekujjaman	Chairman-Dularsar Union Porisod	01712791759
09.	A. Lotif Gazi	Chairman-Dhankhali Union Porisod	01716174763
10.	Rashida Begum	Chairman-Lotachapali Union Porisod	01757835229
11.	Md. Nizam	Secretary-Mohipur Union Porisod	01715214184
12.	Md. Keramot Ali	Chairman-Chakamaiya Union Porisod	01713951081

Annex:-01

Brief description of Upazilla/Union's government, non government, primary, high school, madrasha, college and library

School no.	School/Madrasha/College	Name of Institute	Student	Teacher	Situation/Union	Are used as Flood Shelter Home ()
01	Government	Majherpara Gov. Primary School	182	4	Baliyatoli	
02		Azhumpara Gov. Primary School	191	4	Baliyatoli	✓
03		Digor Baliyatoli Gov. Primary School	261	4	Baliyatoli	✓
04		Bhoro Baliyatoli Gov. Primary School	372	6	Baliyatoli	✓
05		Chotto Baliyatoli Gov. Primary School	216	4	Baliyatoli	✓
06		Kankunipara Gov. Primary	185	4	Baliyatoli	✓

	School				
07	Tulatoli-1 Gov. Primary School	368	4	Baliyatoli	✓
08	Boidhowpara Gov. Primary School	183	4	Baliyatoli	
09	South East Chotto Baliyatoli Gov. Primary School	201	4	Baliyatoli	
10	West Digor Baliyatoli Gov. Primary School	195	4	Baliyatoli	
11	Pokhiyapara Gov. Primary School	231	4	Baliyatoli	
12	North East Anipara Gov. Primary School	173	4	Chakamaiya	
13	Betmor Gov. Primary School	297	5	Chakamaiya	✓
14	Chakamaiya Nishanbaria Gov. Primary School	247	6	Chakamaiya	✓
15	East Chakamaiya Gov. Primary School	194	6	Chakamaiya	✓
16	Gamuri Bunia Gov. Primary School	212	5	Chakamaiya	✓
17	South Chakamaiya Gov. Primary School	130	3	Chakamaiya	✓
18	Anipara Gov. Primary School	103	3	Chakamaiya	
19	East Gamuri Bunia Gov. Primary School	172	4	Chakamaiya	
20	West Chakamaiya Gov. Primary School	123	4	Chakamaiya	
21	Amtola Gov. Primary School	178	4	Chakamaiya	✓
22	Kathalpara Gov. Primary School	180	4	Chakamaiya	
23	Kasimkhali Gov. Primary	160	4	Chakamaiya	

		School				
24		South Chakamaiya Guschogram Gov. Primary School	171	4	Chakamaiya	
25		Neowapara Gov. Primary School	181	4	Chakamaiya	
26		Dhankhali Hai A. Gov. Primary School	242	5	Chompapur	✓
27		Debpur Gov. Primary School	187	4	Chompapur	✓
28		East Patua Gov. Primary School	285	4	Chompapur	✓
29		Dhankhali Board Gov. Primary School	175	3	Chompapur	✓
30		Patua Gov. Primary School	298	5	Chompapur	✓
31		South-East Chaltabunia Gov. Primary School	175	4	Chompapur	✓
32		South Deppur Gov. Primary School	253	6	Chompapur	
33		South Golbunia Gov. Primary School	193	4	Chompapur	✓
34		North Chaltabunia Gov. Primary School	152	4	Chompapur	✓
35		Golbunia Gov. Primary School	184	3	Chompapur	✓
36		Masuakhali Gov. Primary School	185	4	Chompapur	
37		Central Patuakhali Gov. Primary School	184	4	Chompapur	✓
38		East Deppur Gov. Primary School	181	5	Chompapur	
39		Central Masuakhali Gov. Primary School	152	4	Chompapur	

40		Khpravhanga Hazikanda Gov. Primary School	164	4	Dalbugonj	
41		North Khpravhanga Gov. Primary School	248	5	Dalbugonj	✓
42		Meherpur Gov. Primary School	228	4	Dalbugonj	✓
43		Dalbugonj Gov. Primary School	261	5	Dalbugonj	✓
44		Fulbunia Gov. Primary School	171	4	Dalbugonj	✓
45		Roshulpur Gov. Primary School	140	4	Dalbugonj	✓
46		South Khpravhanga Gov. Primary School	224	4	Dalbugonj	
47		Peyarpur Amena Khatun Gov. Primary School	143	4	Dalbugonj	
48		Borkutia Gov. Primary School	180	4	Dalbugonj	
49		Dalbugonj Market Gov. Primary School	183	4	Dalbugonj	
50		Khechaopara Gov. Primary School	181	4	Dalbugonj	
51		Chor Nishanbaria Gov. Primary School	180	4	Dhankhali	
52		Morisbunia Gov. Primary School	138	3	Dhankhali	✓
53		Dasher Hawla Gov. Primary School	132	3	Dhankhali	
54		Nishanbaria Gov. Primary School	126	4	Dhankhali	
55		Dhankhali Gov. Primary School	155	5	Dhankhali	✓
56		Gilatola Gov. Primary School	167	3	Dhankhali	✓

57		Londa Gov. Primary School	146	3	Dhankhali	
58		West Dhankhali Gov. Primary School	180	3	Dhankhali	✓
59		South Chaltabunia Gov. Primary School	249	6	Dhankhali	✓
60		Nishanbaria Mashuakhali Gov. Primary School	187	4	Dhankhali	✓
61		North Nishanbaria Gov. Primary School	193	4	Dhankhali	✓
62		Pachajunia Gov. Primary School	183	4	Dhankhali	✓
63		South Dhankhali Shalehia Gov. Primary School	186	4	Dhankhali	✓
64		North East Londa Gov. Primary School	124	4	Dhankhali	✓
65		Central Pachajunia Gov. Primary School	185	4	Dhankhali	✓
66		Central Dhanhali Gov. Primary School	140	4	Dhankhali	✓
67		South Londa Hashem Ali Gov. Primary School	189	4	Dhankhali	
68		East Londa Gov. Primary School	151	5	Dhankhali	
69		Chapli Market Gov. Primary School	296	4	Dhularshar	
70		Dhularshar Gov. Primary School	451	6	Dhularshar	✓
71		Anontowpara Gov. Primary School	334	5	Dhularshar	✓
72		Chorchaply Gov. Primary	495	6	Dhularshar	✓

	School				
73	Notunpara Gov. Primary School	189	5	Dhularshar	✓
74	Noyakata Ebdetaya Madrasaha	120	6	Dhularshar	✓
75	Chor Dhularsar Gov. Primary School	209	4	Dhularshar	✓
76	Boltoli Gov. Primary School	223	4	Dhularshar	✓
77	Boltoli Soyodpur Gov. Primary School	179	4	Dhularshar	✓
78	Bedkatapara Gov. Primary School	189	5	Dhularshar	✓
79	Lalua Board Gov. Primary School	77	3	Lalua	✓
80	Lalua Rohim uddin Gov. Primary School	450	6	Lalua	✓
81	Charipara Gov. Primary School	324	6	Lalua	
82	Chandu para Gov. Primary School	346	4	Lalua	
83	Noyapara Momena Khatun Gov. Primary School	176	4	Lalua	✓
84	Meherunnesha Gov. Primary School	183	4	Lalua	✓
85	Soyadgazi Gov. Primary School	215	4	Lalua	✓
86	Lalua Hatkhola Gov. Primary School	334	4	Lalua	✓
87	Chor Chandupara Gov. Primary School	255	4	Lalua	✓
88	Doskani Gov. Primary School	178	4	Lalua	✓
89	Banatipara Gov. Primary	179	4	Lalua	✓

	School				
90	West Hachna Para Gov. Primary School	155	4	Lalua	✓
91	Panjupara Gov. Primary School	190	4	Lotachapli	✓
92	Anjupara Lotachapli Gov. Primary School	198	5	Lotachapli	
93	Lotachapli Gov. Primary School	494	9	Lotachapli	✓
94	Musullibad Gov. Primary School	304	6	Lotachapli	
95	Azimpur Gov. Primary School	248	6	Lotachapli	
96	Mistrypara Gov. Primary School	355	5	Lotachapli	
97	Khajura Gov. Primary School	225	6	Lotachapli	✓
98	Kuyakata Sorifpur Gov. Primary School	211	4	Lotachapli	✓
99	Hoshen Para Gov. Primary School	195	4	Lotachapli	✓
100	Taherpur Gov. Primary School	198	4	Lotachapli	✓
101	East Koschoppara Gov. Primary School	242	4	Lotachapli	✓
102	Lokhipara Islampur Gov. Primary School	242	4	Lotachapli	✓
103	Tulatoli-3 Gov. Primary School	186	3	Lotachapli	✓
104	Powrogoja Gov. Primary School	297	4	Lotachapli	✓
105	Rosulpur Gov. Primary School	185	5	Lotachapli	
106	Might Danga AI-Mamun Gov. Primary School	176	4	Lotachapli	

107	Amzedpur Gov. Primary School	372	4	Lotachapli	✓
108	West Diyar Amkhola Gov. Primary School	180	4	Lotachapli	✓
109	Hatempur Gov. Primary School	324	4	Lotachapli	✓
110	Fashipara Gov. Primary School	385	4	Lotachapli	✓
111	Tulatoli-2 Gov. Primary School	216	4	Lotachapli	✓
112	East Modhukhali Gov. Primary School	184	5	Mithagonj	✓
113	West Modhukhali Gov. Primary School	210	4	Mithagonj	✓
114	Mithagonj Gov. Primary School	124	3	Mithagonj	
115	Chorpara Pokhipara Gov. Primary School	138	3	Mithagonj	✓
116	Golbunia Gov. Primary School	74	3	Mithagonj	✓
117	Tegasia Gov. Primary School	348	6	Mithagonj	✓
118	Chorpara safakhali Gov. Primary School	195	4	Mithagonj	✓
119	Aramgonj Gov. Primary School	183	4	Mithagonj	✓
120	Monohorpur Gov. Primary School	237	5	Mohipur	✓
121	Nizampur Gov. Primary School	315	5	Mohipur	✓
122	Moyajjempur Gov. Primary School	225	5	Mohipur	
123	Lotifpur Gov. Primary School	151	3	Mohipur	✓

124	Sirajpur Gov. Primary School	267	5	Mohipur	✓
125	Mohipur Gov. Primary School	538	9	Mohipur	✓
126	Sudhirpur Gov. Primary School	243	4	Mohipur	✓
127	South Komorpur Gov. Primary School	251	4	Mohipur	✓
128	Nij Shib Baria Gov. Primary School	236	4	Mohipur	✓
129	Kolapara Gov. Primary School	202	6	Powrosovha	
130	Monggol Shuk Gov. Primary School	585	1 5	Powrosovha	✓
131	Rohmotpur K. G. A. Gov. Primary School	306	7	Powrosovha	✓
132	Rajendrow Proshad Gov. Primary School	198	4	Powrosovha	
133	Badurtoli Colony Gov. Primary School	166	4	Powrosovha	✓
134	Nachnapara Basonti Mondol Gov. Primary School	215	4	Powrosovha	✓
135	West Kumirpara Gov. Primary School	161	4	Nilgonj	✓
136	Nobipur Gov. Primary School	156	4	Nilgonj	✓
137	Nilgonj Gov. Primary School	292	6	Nilgonj	✓
138	Foridgonj Gov. Primary School	267	5	Nilgonj	✓
139	Gamertola Gov. Primary School	121	3	Nilgonj	✓
140	Amirabad Gov. Primary School	252	5	Nilgonj	✓
141	Mostofapur Gov. Primary School	140	3	Nilgonj	✓

142	South dowlotpur Gov. Primary School	210	4	Nilgonj	✓
143	Fotepur Gov. Primary School	272	4	Nilgonj	✓
144	West Hazipur Gov. Primary School	357	7	Nilgonj	
145	Akkelpur Gov. Primary School	252	3	Nilgonj	✓
146	Tungi Bariya Gov. Primary School	215	4	Nilgonj	✓
147	South goiyatola Gov. Primary School	168	4	Nilgonj	✓
148	Loskorpor Gov. Primary School	187	5	Nilgonj	✓
149	East Sonatola Gov. Primary School	189	5	Nilgonj	✓
150	Umedpur Gov. Primary School	140	4	Nilgonj	✓
151	West Sonatola Hamiydia Madrasha	88	9	Nilgonj	✓
152	Sultangonj Gov. Primary School	198	4	Nilgonj	✓
153	Nij Kata R. K. Gov. Primary School	161	4	Nilgonj	✓
154	Islampur Gov. Primary School	168	4	Nilgonj	
155	Adompur Gov. Primary School	173	4	Nilgonj	✓
156	North Taherpur Gov. Primary School	167	4	Nilgonj	✓
157	Anjupara Tiakhali Gov. Primary School	172	4	Tiakhali	✓
158	Badurtoli-2 Gov. Primary School	175	4	Tiakhali	✓
159	South Tiakhali-2 Gov. Primary School	160	4	Tiakhali	✓

160		Eatbaria Gov. Primary School	240	5	Tiakhali	✓
161		South Tiakhali-1 Gov. Primary School	131	3	Tiakhali	
162		Central Tiakhali Gov. Primary School	119	4	Tiakhali	
163		Badurtoli-1 Gov. Primary School	194	4	Tiakhali	
164		North Tiakhali Gov. Primary School	133	4	Tiakhali	
165		West Tiakhali Gov. Primary School	153	4	Tiakhali	

Annex:-02

List of the safe places in upazilla

Shelter	Name	Name of Union	Capacity	Comment
Clay fort/Flood shelter	Newyapara's clay fort	Chakamoiya	250	Useable
	Kachimkhali's clay fort	Chakamoiya	250	Useable
	East badurtoli clay fort in front of daroga'sswies	Tiakhali	200	Unusable
	East badurtoli clay fort in front of lamiopara haji eyasin road	Tiakhali	200	Unusable
	East tiakhali clay fort in front of altafpeyda's house	Tiakhali	200	Useable
	Chandupara clay fort	Laluya	200	Unusable
	Naowapara clay fort	Laluya	200	Useable
	Taherpur clay fort	Nelgong		Unusable

			200	
	Nobipur clay fort	Nelgong	100	Unusable
	West sonatola clay fort	Nelgong	110	Unusable
	Kumirmara clay fort	Nelgong	120	Unusable
	Goiyatola clay fort	Nelgong	150	Unusable
	Usufpur clay fort	Mohipur	300	Useable
	Sherajpur clay fort	Mohipur	300	Useable
	Khajurakanchon clay fort in front of alihawladar house	Lotachapli	2500	Unusable
	Chotobaliyatoli clay fort	Baliyatoli	250	Useable
	Bouddopara clay fort	Baliyatoli	250	Useable
	Sonapara clay fort	Baliyatoli	250	Useable
	Nolbunia clay fort	Baliyatoli	250	Useable
	Khpravanga clay fort	Dalbugong	250	Useable
	Mirpur clay fort	Dalbugong	250	Useable
School building that can be used as shelter	Amtola reg. primary school	Chakamoiya	300	Useable, Scarcity of toilet and tube well
	North Chakamoiya govt. primary school	Chakamoiya	300	Useable

	Gamurbunia govt. primary school	Chakamoiya	300	Useable, Scarcity of toilet and tube well
	East chakamoiya cyclone center	Chakamoiya	300	Useable
	Batmorkaritash cyclone center	Chakamoiya	300	Useable, less than the need
	Batmor high school	Chakamoiya	300	Useable, Scarcity of toilet and tube well
	Nishanbaria govt. primary school	Chakamoiya	300	Useable
	Kathalpara govt. primary school	Chakamoiya	300	Useable
	ModdhoTiakhali govt. primary school	Tiakhali	300	Useable
	Etbariagovt.primary school	Tiakhali	300	Useable
	Nachnaparakaritash asylum	Tiakhali	300	Useable
	Chandupara asylum	Laluya	300	Useable, need sufficient toilets
	Chandupara asylum	Laluya	300	Useable
	Monjupara asylum	Laluya	300	Useable
	Jonata high school	Laluya	300	Useable, Scarcity of toilet and tube well
	Laluya union parishod asylum	Laluya	300	Useable
	Charipara asylum	Laluya	300	Useable

Noyapara asylum	Laluya	300	Useable
North laluya asylum	Laluya	300	Useable
Chonkol asylum	Laluya	300	Useable
S.k.j.b high school	Laluya	300	Useable, Scarcity of tube well
Chandupara govt. primary school	Laluya	300	Useable
Tagasiya govt. primary school asylum	Mithagong	300	Useable
Golbunia govt. primary school asylum	Mithagong	300	Useable
East modhukhali high school	Mithagong	300	Useable
Mojidbarioasharalo masjid/asylum	Mithagong	300	Useable, Scarcity of toilet and tube well
Akkelpur asylum	Nelgong	300	Unusable
Sodorpur asylum in front of rupchad house	Nelgong	300	Unusable
West hajipur asylum/high school	Nelgong	300	Unusable
Loshkorpor asylum	Nelgong	300	Unusable
Doulotpur asylum	Nelgong	300	Unusable

Amerabad asylum	Nelgong	300	Unusable
Umedpur cyclone center	Nelgong	300	Unusable
Pakimarapb high school / cyclone center	Nelgong	300	Needed to reparaire
Tungibaria govt. primary school / cyclone center	Nelgong	300	Needed to repair , Scarcity of toilet and tube well
Nojibpurkhalgoramadrasha / cyclone center	Mohipur	300	Useable
Mohipur govt. primary school/ cyclone center	Mohipur	300	Useable
Sherajpur govt. primary school / cyclone center	Mohipur	300	Useable, cyclone shelter , Needed to be repaired and Scarcity of toilet and tube well
Nijampur govt. primary school / cyclone center	Mohipur	300	Useable
Monohorpur govt. primary school / cyclone center	Mohipur	300	Useable, Scarcity of toilet and tube well
Moyajjem govt. primary school/ cyclone center	Mohipur	300	Useable

	Lotifpur govt. primary school / cyclone center	Mohipur	300	Useable, cyclone shelter , Needed to reparaire and Scarcity of toilet and tube well
	Misripara govt. primary school / cyclone center	Lotachapli	300	Useable
	Tulatuli reg. primary school / cyclone center	Lotachapli	300	Useable
		Lotachapli	300	Useable
	Punamapara cyclone asylum	Lotachapli	300	Useable, Needed to repair.
	Ajimpur cyclone center	Lotachapli	300	Useable
	Mu.bad govt. primary school	Lotachapli	300	Useable
	Gora amkhola cyclone center	Lotachapli	300	Useable, cyclone shelter , Needed to repair and Scarcity of toilet and tube well
	Amjedpur reg. primary school	Lotachapli	300	Useable

	Noyaparakawmimadrasha	Lotachapli	300	Useable
	Hatempur reg. primary school	Lotachapli	300	Useable
	Hatempur reg. primary school	Lotachapli	300	Useable
	Farshipara reg. primary school	Lotachapli	300	Useable
	Shorifpur reg. primary school	Lotachapli	300	Useable
	Khajuragovt.primary school	Lotachapli	300	Useable
	Khajura cyclone center	Lotachapli	300	Useable, Scarcity of toilet and tube well
	Lotachapli union parishod complex building	Lotachapli	300	Useable
	Mombiparasotsongo temple	Lotachapli	300	Useable
	Pachjuniadhankhali high school	Dhankhali	300	Useable , cyclone center , needed to be repaired
	South chalitabuniagovt.primary school	Dhankhali	300	Useable
	Londa hafiz uddin high school	Dhankhali	300	Useable
	Nishanbaria Dakhil Madrasha	Dhankhali	300	Useable , Scarcity of

				toilet and tube well
	Dhankhali technical and BM college	Dhankhali	300	Useable
	Gazimannan and hafizia girls	Dhankhali	300	Useable
	Machuakhalireg.primary school	Dhankhali	300	Useable
	Morichbuniya red seckretsocity	Dhankhali	300	Useable , Scarcity of toilet and tube well
	Chordhulashar cyclone center	Dhulashar	300	Useable
	East dhulashar cyclone center	Dhulashar	300	Useable
	East dhulashar school/ cyclone center	Dhulashar	300	Useable
	West dhulasharkaritash cyclone center	Dhulashar	300	Useable , Scarcity of tube well
	West dhulashar school/ cyclone center	Dhulashar	300	Useable
	Onontopara cyclone center	Dhulashar	300	Useable
	Onontopara school/ cyclone center	Dhulashar	300	Useable
	Chorchapligovt.primary school / cyclone center	Dhulashar	300	Useable , Scarcity of tube well
	Dhulashar union parishod/	Dhulashar		Useable

	cyclone center		300	
	Chorchapliislamia high school/ cyclone center	Dhulashar	300	Useable
	Chorogongamotikaritash cyclone center	Dhulashar	300	Useable , Scarcity of tube well
	Notunpara govt. primary school / cyclone center	Dhulashar	300	Useable
	South chotobaliyatoli reg. primary school/ cyclone center	Baliyatoli	300	Useable , Scarcity of toilet and tube well
	Aiumpara govt. primary school / cyclone center	Baliyatoli	300	Useable
	Tulatuli high school / cyclone center	Baliyatoli	300	Useable
	Digorbaliyatoli govt. primary school/ cyclone center	Baliyatoli	300	Useable
	Chorbaliyatoli reg. primary school	Baliyatoli	300	Useable
	West digorbaliyatoli reg. primary school	Baliyatoli	300	Useable
	Borobaliyatoli govt. primary school/ cyclone center	Baliyatoli	300	Useable , Scarcity of tube well
	Kangkuni reg. primary school/ cyclone center	Baliyatoli	300	Useable
	Pokkhipara cyclone center	Baliyatoli	300	Useable
	Dalbugonj govt. primary school / cyclone center	Dalbugong	300	Useable

	Meherpur govt. primary school / cyclone center	Dalbugong	300	Useable , Scarcity of toilet and tube well
	Rosulpur govt. primary school/ cyclone center	Dalbugong	300	Useable
	Fulpur govt. primary school / cyclone center	Dalbugong	300	Useable
	North khapravanga govt. primary school / cyclone center	Dalbugong	300	Useable
	Monshatoligovt. primary school / cyclone center	Dalbugong	300	Useable , Scarcity of toilet and tube well
	North east patuya high school / cyclone center	Chompapur	300	Useable
	Patuya all amin high school/ cyclone center	Chompapur	300	Useable
	Moddhopatuya reg. primary school / cyclone center	Chompapur	300	Useable
	Golbuniya reg. primary school / cyclone center	Chompapur	300	Useable
	Masuyakhali board govt. primary school / cyclone center	Chompapur	300	Useable
	U.chalitabuniya reg. primary school	Chompapur	300	Useable
	U.debpur govt. primary school/ cyclone center	Chompapur	300	Useable
	South debpur govt. primary school / cyclone center	Chompapur	300	Useable , Scarcity of toilet and tube

				well
	U. chalitabuniyagovt.primary school / cyclone center	Chompapur	300	Useable
	Primary high school in front of M.U /cyclone center	Chompapur	300	Useable
	Tagasiya high school / cyclone center	Mithagong	300	Useable , Scarcity of toilet and tube well
	Amtola reg. primary school	Chakamoiya	300	Useable
	Aiumpara govt. primary school	Baliyatoli	200	Useable
	Digor Baliyatoli govt. primary school	Baliyatoli	200	Unusable
	Boro Baliyatoli govt. primary school	Baliyatoli	200	Unusable
	Choto Baliyatoli govt. primary school	Baliyatoli	200	Unusable
	Kankunipara govt. primary school	Baliyatoli	200	Useable , Scarcity of toilet and tube well
	Tulatuli-1 govt. primary school	Baliyatoli	200	Useable
	Batmor govt. primary school	Chakamoiya	200	Unusable
	Chakamoianishanbariya govt. primary school	Chakamoiya	200	Useable , Scarcity of toilet and tube well
	East chakamoiya govt. primary school	Chakamoiya	200	Unusable

	Gamuribuniya govt. primary school	Chakamoiya	200	Useable
	North chakamoiya govt. primary school	Chakamoiya	200	Unusable
	Amtola govt. primary school	Chakamoiya	200	Useable , Scarcity of toilet
	Dhankhali govt.primary school	Chompapur	200	Useable
	Debpur govt. primary school	Chompapur	200	Unusable
	East patuya govt. primary school	Chompapur	200	Unusable
	Dhankhali board govt. primary school	Chompapur	200	Unusable
	Patuya govt. primary school	Chompapur	200	Useable
	North-east chaltabuniya govt. primary school	Chompapur	200	Useable , Scarcity of toilet and tube well
	South depur govt. primary school	Chompapur	200	Unusable
	North chaltabuniya govt. primary school	Chompapur	200	Unusable
	Golbuniyagovt. primary school	Chompapur	200	Useable , Scarcity of toilet and tube well
	Moddhopatuyakhali govt. primary school	Chompapur	200	Unusable
	North khapravanga govt. primary school	Dalbugong	200	Useable
	Meherpur govt. primary school	Dalbugong	200	Useable , Scarcity of

				toilet and tube well
	Dalbugong govt. primary school	Dalbugong	200	Useable
	Fulbuniya govt. primary school	Dalbugong	200	Unusable
	Rosulpur govt. primary school	Dalbugong	200	Useable , Scarcity of toilet and tube well
	Morichbuniya govt. primary school	Dhankhali	200	Unusable
	Dhankhali govt. primary school	Dhankhali	200	Useable
	Gilatola govt. primary school	Dhankhali	200	Unusable
	West dhankhali govt. primary school	Dhankhali	200	Unusable
	Nishanbariyamasuyakhali govt. primary school	Dhankhali	200	Useable
	South dhankhalisalehiya govt. primary school	Dhankhali	200	Useable
	North east londa govt. primary school	Dhankhali	200	Unusable
	Moddhopachajuniya govt. primary school	Dhankhali	200	Useable , Scarcity of toilet and tube well
	Moddhodhankhali govt. primary school	Dhankhali	200	Useable
	South londahasemali govt. primary school	Dhankhali	200	Unusable
	Dhulashar govt. primary school	Dhulashar	200	Useable
	Onontopara govt. primary school	Dhulashar	200	Unusable
	Chorochapli govt. primary school	Dhulashar	200	Unusable

	Chordhulashar govt. primary school	Dhulashar	200	Unusable
	Laluyarohimuddin govt. primary school	Laluya	200	Useable
	Charipara govt. primary school	Laluya	200	Unusable
	Chandupara govt. primary school	Laluya	200	Useable
	Ajimpur govt. primary school	Lotachapli	200	Unusable
	Mistripara govt. primary school	Lotachapli	200	Useable , cyclone shelter, Needed to be repaired
	Khajura govt. primary school	Lotachapli	200	Unusable
	Kuyakatasorif pur govt. primary school	Lotachapli	200	Useable
	Tulatuli-3 govt. primary school	Lotachapli	200	Useable
	Amjedpur govt. primary school	Lotachapli	200	Useable , Scarcity of toilet and tube well
	Hatempur govt. primary school	Lotachapli	200	Useable
	Fashipara govt. primary school	Lotachapli	200	Unusable
	East modhukhali govt. primary school	Mithagong	200	Useable
	Chorpara pokkhipara govt. primary school	Mithagong	200	Useable , Scarcity of toilet and tube well
	Golbuniya govt. primary school	Mithagong	200	Useable
	Tegasiya govt. primary school	Mithagong	200	Unusable
	Mohonpur govt. primary school	Mohipur	200	Useable

	Nijampur govt. primary school	Mohipur	200	Useable , Scarcity of toilet and tube well
	Moyajjempur govt. primary school	Mohipur	200	Unusable
	Lotifpur govt. primary school	Mohipur	200	Useable
	Sherajpur govt. primary school	Mohipur	200	Unusable
	Mohipur govt. primary school	Mohipur	200	Useable
	Kolaparagovt.primary school	Pourosova	200	Unusable
	Mongol sukhgovt.primary school	Pourosova	200	Useable , Need tube well
	Rohmotpurk.ggovt.primary school	Pourosova	200	Useable , Scarcity of toilet and tube well
	Nobipur govt. primary school	Nelgong	200	Useable
	Nelgong govt. primary school	Nelgong	200	Unusable
	Amirabad govt.primary school	Nelgong	200	Useable
	South doulotpur govt. primary school	Nelgong	200	Unusable
	West hajipur govt. primary school	Nelgong	200	Useable
	Tungibariya govt. primary school		200	Unusable
	Loshkorpur govt .primary school	Nelgong	200	Useable

	East shonatola govt. primary school	Nelgong	200	Useable , Scarcity of toilet and tube well
	Umedpur govt. primary school	Nelgong	200	Useable
	Badurtoli-2 govt. primary school	Tiakhali	200	Useable , cyclone shelter , Scarcity of toilet and tube well and repaired
	South Tiakhali-2 govt.primary school	Tiakhali	200	Useable , Scarcity of toilet and tube well
	Etbariya govt. primary school	Tiakhali	200	Useable , Scarcity of toilet and tube well
	Hajipur high school	Nelgong	200	Useable , Scarcity of toilet and tube well
	Pakhimarap.v high school	Nelgong	200	Unusable
	Khepuparanesaruddin fazil Madrasha	Kolapara powroshova	200	Useable , Scarcity of toilet and tube well

	Doulotpur s. alimmadrasha	Nilgong	200	Useable , Scarcity of toilet and tube well
Gover nment institute	Kolapara union parishod	Kolapara	800	Useable , Scarcity of toilet and tube well
U.P building	Nelgong union parishod	Nilgong	300	Useable , Scarcity of toilet and tube well
	Tiakhali union parishod	Tiakhali	300	Useable , Scarcity of toilet and tube well
	Chompapur union parishod	Chompapur	300	Useable
	Chakamoiya union parishod	Chakamoiya	300	Useable
	Dalbugong union parishod	Dalbugong	300	Useable , Scarcity of toilet and tube well
	Baliyatoli union parishod	Baliyatoli	300	Useable
	Mithagong union parishod	Mithagong	300	Useable
	Dhulashar union parishod	Dhulashar	300	Useable
	Lotachapli union parishod	Lotachapli		Useable

			300	
	Dhankhali union parishod	Dhankhali	300	Useable
	Mohipur union parishod	Mohipur	300	Useable
	Laluya union parishod	Laluya	300	Useable , Scarcity of toilet and tube well
	Kolapara union parishod	Kolaparapouro shova	300	Useable
	Kuyakata union parishod	Kuyakatapur oshova	300	Useable
Road	➤ Shapla khali Feroj Matabbar's house to Islam pure road	Nilgong		Road
	➤ Shaplakhali Jafor Hoalader's house to salman's house Tegasia	Tiakhali		1508k.m (
	➤ Tegasia bazaar to purbo madhhakhali Nur paloan's house	Chompapur		
	➤ Baisa khola bridge to Baida para sluice gate through Pondidari road.	Chakamia		
	➤ Tegasia bazaar to Jamai nagar Road	Dalbugang		
	➤ Aliganj lanch gaht to Tegasia bazaar through matin Sikdar road	Baliyatoli		
	➤ Shapur khea ghat to Tegasia Chouyrasta.	Mithagong		
		Dhulashar		
		Lotachapli		
		Dhankhali		
		Mohipur		
		Lalua		

	➤ Aram ganj Riaj uddin Mridha's house to Ajij Sarders house road			
	➤ Jamal howlader's house to West road.			
	➤ Katakhalī sluice gate to Jhangir Baiati's house through Alaluddin's house road.			
Emban kment	There are 22 embankments are in Kalapara Upazilla. Those are protecting 12 Unions and 2 powrashava and the Upazilla Town. Ex- Embankments no-46, Embankments no-43/1, Embankments no-54/A, Embankments no-44,	Nilgong Tiakhali Chompapur Chakamia Dalbugang Baliyatoli Mithagong Dhulashar Lotachapli Dhankhali Mohipur Lalua Kalapara Powrashova, Kuakata Powrashava.,		Total length of embankment is 685 Km (Approximate) ,Average height- 20 ft.

(Source: UNO Office, LGED, WDB, UEO, PIO and CPP Office, Kalapara)

Annex-03:

List of Cyclone shelter management comity

No specific list of responsible person found for the respective work in upazilla and union level below. But during the information collection period in Upazilla and union level it came to know from the relevant stakeholders that those work done by the union secretary along others UP members under the leading of the Union Chairman. The whole process is observed by the Upazilla personal like Upazilla Chairman, UNO, PIO, LGEDE, CPP, Upazilla agriculture officer, Upazilla fisheries officer, Upazilla education officer etc.

Clay fort

Name of shelter Home	Responsible Person	Mobile	Comment
Clay fort in Neowapara village	Md. Keramot Ali	01713951081	
Clay fort in Kashimkhali village	Md. Keramot Ali	01713951081	
Clay fort in front of East Badurtoli Daroga Embankment	Md. Mahmudul Hasan Sujon Mollah	01717711690	
Clay fort in front of East Badurtoli Lamiopara Hazi Yasin Road	Md. Mahmudul Hasan Sujon Mollah	01717711690	
Clay fort in front of East Tiakhali Altaf pada house	Md. Mahmudul Hasan Sujon Mollah	01717711690	
Clay fort in Chandupara	Md. Mir Tarikur Jaman	01723377118	
Clay fort in Naowapara	Md. Mir Tarikur Jaman	01723377118	
Clay fort in Taherpur	Md. A. Malek Khan	01712459138	
Clay fort in Nobipur	Md. A. Malek Khan	01712459138	
Clay fort in West Sonatola	Md. A. Malek Khan	01712459138	
Clay fort in Kumirmara	Md. A. Malek Khan	01712459138	
Clay fort in Goiyatola	Md. A. Malek Khan	01712459138	
Clay fort in Yousufpur	Md. Nizam	01715214184	
Clay fort in Serajpur	Md. Nizam	01715214184	
Clay fort in front of Bajura Kanchan Ali Haowladar house	Rashida Begum	01757835229	

Clay fort in chotto Baliyatoli	A. B. M. Humayun Kobir	01728195300
Clay fort in Boddhopara	A. B. M. Humayun Kobir	01728195300
Clay fort in Senpara	A. B. M. Humayun Kobir	01728195300
Clay fort in Nolbunia	A. B. M. Humayun Kobir	01728195300
Clay fort in Khapravanga	Abdus Salam Sikdar	01715097407
Clay fort in Mirpur	Abdus Salam Sikdar	01715097407

School cum Shelter

Name of Shelter Home	Responsible person	Mobile	Comment
Azhumpara Gov. Primary School			No specific list of responsible person found for the respective work in upazilla and union level below. But during the information collection period in Upazilla and union level; it came to know from the relevant stakeholders that those work done by the union secretary along others UP members under the leading of the Union Chairman. The whole process is observed by the Upazilla personal like Upazilla Chairman, UNO, PIO, LGEDE,
Digor Baliyatoli Gov. Primary School			
Bhoro Baliyatoli Gov. Primary School			
Chotto Baliyatoli Gov. Primary School			
Kankunipara Gov. Primary School			
Tulatoli-1 Gov. Primary School			
Betmor Gov. Primary School			
Chakamaiya Nishanbaria Gov. Primary School			
East Chakamaiya Gov. Primary School			
Gamuri Bunia Gov. Primary School			
South Chakamaiya Gov. Primary School			
Amtola Gov. Primary School			
Dhankhali Hai A. Gov. Primary School			
Debpur Gov. Primary School			
East Patua Gov. Primary School			

Dhankhali Board Gov. Primary School	CPP, Upazilla agriculture officer, Upazilla fisheries officer, Upazilla education officer etc.
Patua Gov. Primary School	
South-East Chaltabunia Gov. Primary School	
South Debpur Gov. Primary School	
Golbunia Gov. Primary School	
Central Patuakhali Gov. Primary School	
North Khapravhanga Gov. Primary School	
Meherpur Gov. Primary School	
Dalbugonj Gov. Primary School	
Fulbunia Gov. Primary School	
Roshulpur Gov. Primary School	
Morisbunia Gov. Primary School	
Dhankhali Gov. Primary School	
Gilatola Gov. Primary School	
Nishanbaria Mashuakhali Gov. Primary School	

Government Institute

Name of Shelter Home	Responsible Person	Mobile
Kolapara Upazilla Porisod	A. Motaleb Talukdar	01716538157
Mithagonj Union Porisod	Kazi Hemayetuddin Hiron	01712765230
Nilgonj Union Porisod	Md. A. Malek Khan	01712459138
Lalua Union Porisod	Md. Mir Tarikur Jaman	01723377118
Dalbugonj Union Porisod	Abdus Salam Sikdar	01715097407
Tiakhali Union Porisod	Md. Mahmudul Hasan Sujon Molla	01717711690
Baliatoli Union Porisod	A.B.M Humayun Kobir	01728195300

Chompapur Union Porisod	Md. Rintu Talukdar	01716743566
Dularsar Union Porisod	K.M. Khalekujjaman	01712791759
Dhankhali Union Porisod	A. Lotif Gazi	01716174763
Lotachapali Union Porisod	Rashida Begum	01757835229
Mohipur Union Porisod	Md. Nizam	01715214184
Chakamaiya Union Porisod	Md. Keramot Ali	01713951081

Annex-4:

The Checklist for Contingency plane

Checklist

The following checklist is to be examined and necessary immediate actions should be taken right after the broadcast of danger signal no. 5 through radio and television.

Serial no.	Particulars	Yes/No
1	The members of voluntary team have been said to announce about the approaching hazard	yes
2	Whether the responsible persons are ready to save the people of risky zone	yes
3	Dry food and drinkable water are announced to put under the surface of earth for one or two days	yes
4	The life jackets have been provided to voluntary team members	yes
5	Necessary numbers of people are gathered to keep union control office always open.	yes
6	Is there enough security in union food or relief warehouse	yes
7	Others	-

Checklist

Each year within April/15th May, filing up the checklist through discussion in union disaster management committee, they will send the following checklist to UNO and district commissioner.

Serial No.	Particulars	Put a tick mark in right place
1	There is enough food in union food warehouse	✓
2	The children of risky zone are given vaccine	✓
3	The children of 1-6 years old and their mothers are given vitamin	✓
4	Sufficient saline is stored in UP clinic	✓
5	Voluntary team members have been provided yearly training	✓
6	Every shelter has necessary first aid kit/utensils	✓
7	Selected paramedical doctors are present in each shelter	✓
8	There is a tube well in every shelter	✓
9	Doors and windows are in good condition in every shelter	✓
10	In every shelter, there is an alternative care taker	✓
11	There is separate arrangements for women in every shelter	✓
12	There is a paramedical gynecologist for pregnant women in every shelter	✓
13	For cattle, there is a fort placed in a higher place	✓
14	Voluntary team members are made aware about their responsibility	✓
15	There is toilet in every shelter	✓
16	Necessary microphone is arranged to announce weather and danger signal	✓
17	People are made aware about preserving dry food, drinkable water for one or two days	✓
18	Others	✓

Annex-5

Upazilla Disaster Management Committee

Upazilla-Kalapara.

<i>Serial no.</i>	<i>Name</i>	<i>Designation</i>	<i>Position in the committee</i>	<i>Mobile</i>
01.	A. Motaleb Talukdar	Upazillz Chairman	Chair person	01716538157
02.	Md. Jahangir Hossain	UNO	Member	01712533153
03.	Sumon Chondro Debonath	PIO	Secretary	01912940894
04.	Md. Shohel Rana	Upazilla public health Engineer	Member	01740978118
05.	Md. Moshiur Rohman	Upazilla Agriculture Officer	Member	01740894828
06	Md. Aminul Islam	BRDB officer, Kalapara.	Member	01714244355
07	Md. Ferdous Rahman	Youth development officer, Kalapara	Member	01756065525
08	Md. Ohidul Islam	Upazilla co- operative officer, Kalapara	Member	01717886116
09	Shila Rani Das	Upazilla social wealfear officer, Kalapara.	Member	01711113397
10.	Md. Ruhul Amin	Upazilla Education Officer	Member	01720510429
11	Pronob Kumar Sorkar	Upazilla Engineer - LGED	Member	01749717203

12	Dr. Md. Imrul Islam	Upazilla animal resource officer, Kalapara	Member	01718686969
13	Md. Sahalom haolader	Upazilla family planing officer, Kalapara	Member	01715041439
14	Md. A.rahim	Upazilla health and family wealfearofficer, Kalapara	Member	01716244677
15	Kazi Ruhol Amin	Upazilla Secondary education officer, Kalapara	Member	01716483421
16	Md. kamrul Islam	Upazilla animal fishiries officer, Kalapara	Member	01734310808
17.	Munshi Nur Mohammad	Asst. Director-CPP	Member	01720581014
18.	Khandaker Yeakub Ali	Upazilla forest officer, Kalapara	Member	01718587591
19.	Md.saidur Rahman	Upazilla project officer, Bangladesh Redcricent societyKalapara	Member	01768912714
20	Md. Kalam Gaji	NGO representative	Member	01719562583
21	Md. Abul Basar	Upazilla Engineer – Water development board, Kalapara.	Member	01712272650

22	Md. Maksudur Rahman	OC. Kalapara	Member	01713374323
23	Kazi Hemayetuddin Hiron	Chairman-Mithagonj Union Porisod	Member	01712765230
24	Md. A. Malek Khan	Chairman- Nilgonj Union Porisod	Member	01712459138
25	Md. Mir Tarikur Jaman	Chairman-Lalua Union Porisod	Member	01723377118
26	Abdus Salam Sikdar	Chairman- Dalbugonj Union Porisod	Member	01715097407
27	Md. Mahmudul Hasan Sujon Molla	Chairman-Tiakhali Union Porisod	Member	01717711690
28	A.B.M Humayun Kobir	Chairman-Baliatoli Union Porisod	Member	01728195300
29	Md. Rintu Talukdar	Chairman- Chompapur Union Porisod	Member	01716743566
30	K.M. Khalekujjaman	Chairman-Dularsar Union Porisod	Member	01712791759
31	A. Lotif Gazi	Chairman-Dhankhali Union Porisod	Member	01716174763
32	Rashida Begum	Chairman- Lotachapali Union Porisod	Member	01757835229
33	Md. Nizam	Secretary-Mohipur Union Porisod	Member	01715214184
34	Md. Keramot Ali	Chairman- Chakamaiya Union Porisod	Member	01713951081

Source: UNO and CPP Office, Kalapara

Annex-6**List of Volunteers of the Union****Kalapara, Patuakhali**

Si No	Name	Fathers name	Union	Trainin g	Mob
1	Md.Tufajjal hossain	Let. Hazi Mokter Ali Ha	Chakmia	Rescue	01720013842
2	Mrs.Surjo Bano	Md. Anech Ha	Chakmia	First Aid	01739908931
3	Md.sapan hang	Md.Subhan Ha	Chakmia	Cyclone shelter Management	01728289316
4	Mrs. Morshada Akter	Md. Abdur Razzak sikder	Chakmia	Alerts Promotion	01720353314
5	Md. Anwar khan	Md. Meraz jKhan	Chakmia	Rescue	01926394562
6	Md.Jasim uddin	Mafuj Uddin	Mithaganj	First Aid	01735776743
7	Md. Mokibul	A. Salam farazi	Mithaganj	Cyclone shelter Management	01731937987
8	Labina	Md. Deloar Hossain	Mithaganj	Alerts Promotion	01736460058
9	Md. Sekander Akon	Md.Habibur Rahman	Mithaganj	Rescue	01735540129
10	Nikhil Dash	Subal Chandra das	Mithaganj	First Aid	01747718022
11	Imdadur Rahim Khan	Let Sarif Ali Khan	Lalua	Cyclone shelter Management	01725417458
12	Md. Amlek fakir	Arsel	Lalua	Alerts Promotion	01748247334
13	Lalmon Begum	Nijam haolader	Lalua	Rescue	01916915055
14	Hanih Hawlader	Sone ali Haolader	Lalua	First Aid	01710179290
15	Sohidul	Shaalam kha	Lalua	Cyclone shelter Management	01724431060
16	Younos	A.Rahim	Nilganj	Alerts	01725417485

				Promotion	
17	Shamsul hoq Munsi	Alki8 Ahmed Minsi	Nilganj	Rescue	01725417548
18	Monjue Rani	Amlendu Howlader	Nilganj	First Aid	01710580459
19	Abul Basar	Shadat Ali	Nilganj	Cyclone shelter Management	01725414548
20	Sohidul	Hasan Ali	Nilganj	Alerts Promotion	01710625612
21	Abu ntaleb	Abu Bakkar	Dalbuganj	Rescue	01728811612
22	Rafikul Islam	Gagan Ali	Dalbuganj	First Aid	01734266726
23	Soilani Majumdar	Amal majumdar	Dalbuganj	Cyclone shelter Management	01718668829
24	Lavelly Yaesmin	Jahidul Islam	Dalbuganj	Alerts Promotion	01735590263
25	Alomgir matobbar	Murdaraj matobbar	Dalbuganj	Rescue	01740840611
26	Mrs. Shana Begu,m	Gias uddin	Tiakhali	First Aid	01712877399
27	Md.manjur billah	Abdul mannan	Tiakhali	Cyclone shelter Management	01734857824
28	Tofajjal hossain	Akkel Ali	Tiakhali	Alerts Promotion	01748265534
29	Nurjahan Begum	Zahangir Hossain	Tiakhali	Rescue	01739621696
30	Habibur Rahman	Akkel Ali Mia	Tiakhali	First Aid	01721430577
31	Nirmal Chandra	Nirade Chandra	Baliatoli	Cyclone shelter Management	01713932287
32	Shamsunnahar	Sirajul Haq	Baliatoli	Alerts Promotion	01718152855
33	Sahalam Faraji	Let Kadak Ali Farazi	Baliatoli	Rescue	01719938656
34	Abul hossain	Sobhan Khan	Baliatoli	First Aid	01722657940

35	Putol Rani	Vabaranjan Kibonia	Baliatoli	Cyclone shelter Management	01712877399
36	Aiub matabbar	Let.Munsur Ali matabbar	Champapur	Alerts Promotion	01917203238
37	Rejaul Karim	Khalil Sikder	Champapur	Rescue	01917203238
38	Piara Begum	Abu Basar ha	Champapur	First Aid	01713951876
39	Sombue nath	Suvaranjan Haw	Champapur	Cyclone shelter Management	01724807559
40	Gopl Chandra Hawlder	Let Vubenassar Howalader	Champapur	Alerts Promotion	01725459945
41	Abala rani sarker	Krisni kato sarker	Dhulshar	Rescue	01191295140
42	Uttam kumar	Binud kumar	Dhulshar	First Aid	01728195311
43	Abul Kashem	Let.Akramali	Dhulshar	Cyclone shelter Management	01191295140
44	Sima rani Ozha	Nepal Howlader	Dhulshar	Alerts Promotion	01190701464
45	Younus	Let.A.Rahman	Dhulshar	Rescue	01746440755
46	Shamsul haq Munsu	Ali Ahamad Munsu	Dhankhali	First Aid	01191295140
47	Manjue Rani	Amelandue Hawlder	Dhankhali	Cyclone shelter Management	01191295140
48	Abul basar	Shadat Ali	Dhankhali	AlertsPromotion	01728805673
49	Saiful i	Hasan A	Dhankhali	Rescue	01191295140
50	Amena begum,	Faruk sarde3r	Dhankhali	First Aid	01916259636
51	Ahsan Jalil	Md. Hamej Uddin	Lotachapali	Cyclone shelter Management	01927418291
52	Alomgir	Habibur rahman	Lotachapali	Alerts Promotion	01748264968
53	Jasmin	Nurrajjaman	Lotachapali	Rescue	01558371206
54	Md. Younos Mia	Abul Hasem	Lotachapali	First Aid	01710783219
55	Sahjahan	Ismail mia	Lotachapali	Cyclone shelter	01745056730

				Management	
56	Shafia	Sona mia	Mohipur	Alerts Promotion	01718187357
57	Saleh Akon	Let Hamid uddin akan	Mohipur	Rescue	01734617716
58	Md. Altaf Hossain	Let. Mukter Ali Mia	Mohipur	First Aid	01915087466
59	Rahima	Sahajahan	Mohipur	Cyclone shelter Management	01719633898
60	Md. Chan Mia	A.halim Haowladeer	Mohipur	Alerts Promotion	01718187357

Source: UNO and CPP Office, Kalapara

Annex-7

Fire defense Committee

Name of fire station	Responsible person	Mobile	Comment
Khepupara fire services and civil defense	Md. A.Khalek	01719565280	Station Officer
	Md.Shahidul Islam	01788803542	Leader
	Md. Nasir Uddin	01721870179	Driver
	Md.younos Khan	01727195302	Driver
	Md, Badiujjaman	01742121313	Fire man
	A.malek mia	01714664312	Fire man
	Jahurul Islam	01711245486	Fire man
	Jakir Hossain	01914417874	Fire man
	Khalilur Rahman	01725631260	Fire man
	Masum Billah	01734412532	Fire man
Abu Khandaker	01776735267	Fire man	

Source: Fire Service and Civil Defense Office, Kalapara

Engine Boats

Union	Responsible person	Mob
Tiuakhali	Md. Jamal Gaji	01746667273
Dhankhali	Md. Awal Gaji	01754490034

Dalbuganj	Md. Abul Hossain	01791080478
Champapure	Md. Joinal Ha	01726524874
Chakmia	Md. A.majid	01738166770
Lalua	Md. Farid	01748247785
Mohipure	Md. Basir Hawlader	01685770748
Nilganj	Md. Limon Gaji	01736831529
Baliatoli	Md. Alamin Sarder	01725439401
Mithaganj	Md. Kamrul Gaji	01734686580
Dhulshar	Md. Deloar Hossain	01762593422
Lotachapali	Md. Rasel	01743917080

Local business man

Upazilla	Name	Mob
Kalapara	Chanchal Chandra hawlader	01716745208
	Md.mamunur Rahman	01840513636
	Haridas Sarker	01746235329
	Gautam Kumar Saha	01715436707
	Md. Nasir Uddin	01716910170
	Mostofa Mollah	01729647098
	Sahidul Islam	01716947531
	Uzal Chabdra Howlader	01745056678

Annex-8:

Kalapara Upazilla at a glance

River	3 (Andharmanik, Purbo sonatola, Tiakhali)
Canal	39
Bill	No
Haor	No
Pond	17234

	No
Deep tubewell	Cotinuing-2801 and 116 damage
Shello tuebewell	No
Hand tubewell	No

(Source: DPHE and Fisheries Department, Kalapara)

Statistics of kalapara Upazilla

1	Total area of Kalapara Upazilla	492,102 sq Km
2	Total number of Powrashava in	2 nos
3	Number of Unions	12
4	Number of Mowjas	57
5	Number of villages	247
6	Number of House holds	42,980 nos
7	Total population	237831 person (male-1,20,514 and female- 1,17,317)
8	Total Muslims	1,93,896 person
9	Total Hindues	7484 person
10	Total Rakhain	964 person
11	Total Christian	114 person
12	Total number of government primary school	158
13	Total number of junior school	4
14	Total number of High schools	29
15	Total number of Collages	6
16	Polytechenical collages	2
17	Total number of Madrashas	26
18	Total number of Abadetio Madrasha	37
19	Literary rate	52%
20	Total agricultural land	49,210,20 hect

21	Total number of farmers family	35,318
22	Total number of hospitals	2
23	Total number of community clinic	22
24	Total number of phone user	397
25	Total number of post offices	27
26	Total number of village markets and hat	17
27	Total number of Mosques	294
28	Total number of Temple	46
29	Total number of Girza	3
30	Total number of pagoda	6
31	Total number of Freedom fighters who received the Honorarium	84 person
32	Total number of PWD	1921 person

Anex-9

Some important programs schedule of Radio Bangladesh.

Radio Center	Name of the Program	Time schedule	Day
Dhaka-ka	Krishi Shomachar	Sokal 6.00-7.00	EveryDay
	Shukher Thikana	Sokal 7.25-7.30	EveryDay
	Health Is Wealth	Sokal 11.30-12.00	FriDay
	Sonali Fashol	Shondha 6.05-6.35	EveryDay
	Abohaowa barta	Shondha 6.50-7.00	EveryDay
Chittagong	Krishi kotha	Sokal 6.55-7.00	EveryDay
	Krishi Khamar	Shondha 6.10-6.50	EveryDay-Gaps With Monday
	Shukhi Songsar	Rat 8.10-8.30	EveryDay-Gaps With Friday
Rajshahi	KhetKhamar Shamacher	Sokal 6.55-7.00	EveryDay
	Shobuj Bangla	Shondha 6.05-6.50	EveryDay
Khulna	Data Of Health	Sokal 6.55-7.00	EveryDay
	Krishi shamachar	Bikal 4.20-4.30	EveryDay
	Chashabad	Shondha 6.10-6.50	EveryDay
RongPur	Shukhar Thikana	Sokal 7.25-7.30	EveryDay

	Khet Khamare	Shondha 6.05-6.30	EveryDay
Shyllet	Ajker Chashabad	Sokal 6.10-6.50	EveryDay
	Shukher Thikana	Sokal 7.25-7.30	EveryDay
	Shamol Shyllet	Shondha 6.05-6.50	EveryDay-Gaps With Friday
Thakurgaon	Kishan Matir Desh	Shondha 6.05-6.25	Sat,Mon & Wed.Day
Cox'sBazar	Ajker Krishi	Bikal 3.07-3.10	EveryDay
	Sonali Prantor	Bikal 3.40-3.45	Tues & Thu.Day
BariShal	Krishi Kotha	Bikal 3.15-3.30	EveryDay-Gaps With Sat,&Wed.day
	Choto Paribar	Bikal 3.35-3.50	EveryDay-Gaps With Mon,Wed,&FriDay
Rangamati	Jibonar Jonno	Dupur 01.50-01.55	EveryDay
	Khamar Bari	Bikal 3.05-3.15	EveryDay

***The weather report is broadcast from all radio station at a time at 6:50 pm**