



Development of Disaster Management Plan at Upazila Level

Upazila: Chandanaish, District: Chittagong

Plan Developed by-
Upazila Disaster Management Committee,
Chandanaish, Chittagong

Co-ordinated by:



GHARONI

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Ministry of Disaster Management & Relief



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PREFACE

Bangladesh is a disaster prone country. This country has been considered as a country highly vulnerable to disasters in the world. Recently the intensity and havoc of disasters has been gradually mounting. Large scale disasters like flood, cyclone, tidal surge, drought, tornado, river erosion are occurring more frequently in Bangladesh. That is why government of Bangladesh has undertaken appropriate actions underscoring the need to reduce risks. Government has been implementing a program titled "Comprehensive Disaster Management Program -2" realizing its importance. Under this program Disaster Management Committee have been organized from national to district, Upazila and union level.

Local level preparedness for risk reduction and response has been outlined in Standing orders on Disasters (SOD). Here more emphasis has been put on local level planning for Disasters (DM Plan) for risk reduction of disasters and adaptation process.

Necessary actions has been undertaken to develop "Disaster Management Plan" at district, Upazila and unions. To accomplish the task, an NGO named GHARONI has been assigned to support and assist Upazila Disaster Management Committee and Union Disaster Management Committee.


The NGO has undertaken necessary steps and perform different activities in preparing this DM Plan. This Plan has been developed in collaboration and coordination with UzDMCs and UDMCs.

I am convinced that due process has been followed in this respect and a more practical and pragmatic Plan has been comes up.

I take this opportunity to convey my thanks to all particularly members of UzDMCs and UDMCs and GHARONI officials and other relevant stalk holders for effective accomplishment of this critical task.

I hope that the disaster risks will be minimized and adaption activities would be more strengthen if this DM Plan is implemented.

Date: 13.09.2014


Signed 13.09.2014

Abdul Jabbar Chowdhury

Chairman, Upazila Parishad, Chandanaish, Chittagong &
Chairman, Upazila Disaster Management Committee

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Chapter - 1 : Local information

1.1 Background

Standing orders on Disasters (SOD) has clearly been stipulated to take initiative for formulating Disaster Management Action Plan at District, Upazila , Pourashava and City Corporation level incorporating Disaster Risk Reduction and contingency plan. Ministry of Disaster Management and Relief have taken this with serious focusing. The Disaster Management Plan will be developed for aperiod of 5 years.

Bangladesh is one of the most disaster prone countries in the world. In each and every year more or less all districts experiences different kinds of disasters. Among most vulnerable districts Chittagong is among them. Due to geographical location and impact of Climatic Change, almost every year this district has been affected by different natural disasters like Flood, excessive rain, Cyclone, tornado, tidal surge, intrusion of Salinity, Arsenicosis etc. As the district is most close to sea, there is huge risks for disasters like Cyclone, tidal surging, flood and all these in some way or other affect and damage this coastal areas.

Among all upazilas of Chittagong, Chandanaish upazila is more risky and vulnerable to disasters. There are nine Unions and one Pourashava under this Upazila. Each and every year one union or other has been severely affected by different natural disasters like flesh food, Tornado, salinity, water stagnation, drought, tidal surging etc.

1.2 Objectives of DM Planning

- Prepare a strategic document for certain areas and time
- It will act as a Comprehensive Plan for relevant all sectors including local and national level Disaster Management Committees.
- This Plan will provide guidance in formulating and implementing plan for all partners relevant to Disaster Management.
- Create effective partnership sense and participation in Disaster Planning of local communities and make development of risk reduction system by using local resources.
- Exercise and use locally developed planning for Need Assessment, Rescue, relief and rapid rehabilitation.
- Create awareness on disaster risks and to develop pragmatic means at union, upazila and district level for disaster risk reduction.

1. Introduction to local areas:

Chandanaish upazila is an important habitant of Chittagong district. The Chittagong and Coxsbazar road has crossed the Upazila. A large part of eastern part of Upazila is covered by hills and forest. It is said that once upon a time the areas was under Bay of Bengal. The areas were evolved 2000 years age. It was a sea port during reign of Arakan Mog rule. The traders from Middle East and Burma (now Myanmar) did beautiful and eccentric Sandan woods business at Munsef bazaar of the Upazila. It is said that Chandanaish was named after from Chandan woods. Once Chandanaish was a part of Patiya Upazila. New Chandanaish Upazila was created bifurcating Patiya in 1976. In 1983 the Chandanaish upazila was declared as another Upazila.

1.3.1. Geographical locations of Chandanaish Upazila.

In the north of Chandanaish Upazila are Patiya and Rangunia upazila, in the south Satkania, Bandarban and Rangunia are in the east and Anwara is in the west. It is 35 Km south of Chittagong district and the areas are 201.99 Sq. KM.

1.3.2 Areas

The Chittagong district was formally created in 1966 and its areas are 5282.98 Sq. KM. There are 14 Upazila under Chittgaong district and Chandanaish is one of them. Its areas are 201.99 Sq. KM. There are 9 unions and 38 Mouzas under this Upazila. A list of Mouzas are provided below-

Sl. No.	Name of Unions	Union based Mouzas
1	Kanchanabad	Kanchannagar, 41 no lot Alahabad, Muradabad, Pachim Alahabad, Purba Alahabad, and Patjora.
2	Joara	Uttar Joara, Morpura, Fathanagar
3	Barkal	Kanaimadari, Barkal, Pathannandi, Kulal danga
4	Bailtalli	Jafarabad, Bailtali, Basatnagar
5	Satbaria	Satbaria, Hasandandi, Mohammadkari
6	Hashimpur	Hashimpur
7	Dohazari	Jamirjuri, Diakul, Raizoyara, Jangale Jamirjuri, Dohazari, Chagachar & Hatiakola
8	Dopachari	Purba Dopachari, Pachim Dopachari, Chringgatta, Jungle Dopachari
9	Barma	Keshua, Bainjuri, Barma, Shovandandi, Maigata, Aralia

3.3 Population

Total populations under 9 (nine) unions of Chandanaish upazila are 240730. Among them male are 122514 and women 118216, children 28256, old 14051, and disabled are 3035. Peoples of different levels are exhibited in below table-

Sl No.	Name of Unions	Male	Female	Children (0-15)	Old (60+)	Disabled	Total Population	Households	Total voters
1	Kanchanabad	13060	11641	3120	1365	298	24701	4505	14729
2	Joara	7706	7664	2755	1175	205	15370	2130	7150
3	Barkal	12785	12165	3244	1412	321	24950	3571	15240
4	Bailtoli	12465	12237	2945	1778	495	24702	7000	14000
5	Satbaria	10053	9278	2786	1352	335	19331	4868	9400
6	Hashimpur	13485	12895	3658	1972	221	26380	2817	11540
7	Dohazari	28070	26130	4115	2125	570	54200	8500	24000
8	Dopachari	9300	11066	2615	1277	343	20366	2160	5157
9	Barma	15590	15140	3018	1595	247	30730	4704	14383
Total		122514	118216	28256	14051	3035	240730	40255	115599

Kha) Sources of information- All UP Chairmen and Secretaries

1.4 Infrastructure and brief detail of infrastructures

4.1 Infrastructures:

Ka) Embankment-

There are embankments on rivers and Cannel to protect intrusion of flood and tidal / Joar water to Chandanaish upazila. Total length of embankment is 17 KM. Number of embankments and its locations are exhibited below-

- There is a 4 KM embankment from Purba Dohazari to Chagachar at 2, 3 and 7 no wards of Dohazari union. Its height is 15 feet.
- There is a 2 KM embankment from Boiltali to Gaogar at 3 no wards of Boiltali union. Its height is 14 feet.
- There is one 4.5 KM embankment from Kanaimadari to Purba Pathandandi at 4,5,6,7 and 8 no wards of Barkal union. Its height aew 12 feet and another one of 2.5 KM is from Kanaimadari to Kulalnag. Its height is 12 feet.
- There is another 4 KM embankment from Barma College to Charti Pacchim Char barma at 6 and 9 no wards of Barma union.

Kha) Sluice gate

There are 8 sluice gates at 8 unions of Chnadanaish.

- Kanchanabad union: There is only 1 sluice gate. It is located at guillah khal of 9 no ward.
- Joara union: There is only 1 sluice gate. It is located at on Gullachari Khal of 9 no ward.
- Dohazari union: There is no sluice gate at this union.
- Barkal union: There are 2 sluice gates at this union. One is on Samudariakhal at 4 no ward and another one is Termuskhali khal at ward no 4.

Ga) Bridges:

Union wise list of bridges are exhibited below-

- **Satbaria union:** Total number of bridges in this union are 10. One is on the Natun majid road at 3 no ward, another is on the Jatkhali khal, another is on the Osman Shah road, and another one is on the Bailtol Road at 2 no ward, another is on Ukilbari road, another one is on Beparipara road of 4 no ward, another one is on the Dewanhat road of 1 no ward, another one is on the Bhagban Chowdhury hat of 6 no ward, another one is on Masjidda Madrasha road and another one is on the Bailtali dewanhat road at ward no 8. It may be mentioned here that all bridges are in good condition and usable and bridges on road are useful for water disposal.
- **Hashimpur union:** There are total 10 bridges in this union. 3 bridges are on Moklesur Rahman road at ward no 3, 3 are on Dopachari road at ward no1, 1 is on Kazipara road of ward no 5, another one is on Khalipapara road, another one is on Hathigatha road, another one is on the Sonaichari road of 8 no ward. It may be mentioned here that among them condition of 8 bridges are good and usable and are suitable for discharging of water.
- **Kanchanabad union:** There are a total 14 bridges in this union. One bridge is on the Talukdarbari chara of ward no 1, another one is on the Sonaichari khal of 2 no ward, another one is on the Hargini khal of 4 no ward, another one is on the Baigachari Khal of 5 no ward, another one is on the Arakan road of 6 no ward, another one is on the Tanzachar , another one is on the Baigarchari khal of 7 no ward , another one is on the Chadarkul Khal, one is on the Gudarkul Khal, another one is on the Oliullah shaha road, another one is on the Baigarchari khal, another one is on the Sirajbari Chara, another one is on the Hargini khal, another one is on the Paddadova road of ward no 9. Among them condition of 12 bridges are good and usable and suitable for water discharging.

- **Joara Union:** There are a total 20 bridges in this union. One bridge is on the Samudaria Khal of ward no 1, another bridge is on the Monsefbazar road of Fataya nagar of ward no 2, another bridge is on the Rashidabad connecting road, 2 bridges on the Mohammadpur Kalibari road at ward no 3, 2 bridges on the Gullachari Khal , 4 bridges on the Harghaza khal of ward no 6, 2 bridges on the Hindupara road of ward no 7, 2 bridges on the Hindupara road of ward no 8, 1 bridge on the Goilachari Khal of ward no, 4 bridges on the Mora Khal of ward no 9. Among them condition of 17 are good and usable and they are suitable for discharging water.
- **Dohazari union:** There are a total 16 bridges in this union. One bridge on the Chagachar road at wards no 1, one bridge on the DC road at wards no 2, and one bridge on the Khanbari road at wards no 3, one bridge at Pukuria road, one bridge on the Arakan road of ward no 4, 3 bridges on the Jamirjuri road at ward no 5, 2 bridges on the Dohazari Lalutia Road at ward no 7, 2 bridges on the Lalutia gramma Road, one bridge on the Lalutia road at ward no 8, One bridge is on the Lalutia Charra, one bridge is on the Darogakata road. It may be mentioned here that all bridges are in good condition and bridges of roads are suitable for discharging water.
- **Barkal union:** There are a total 5 bridges in this union. One bridge on the Termuzkhal at ward no 1, one bridge on the Miapur Khal of ward no 2, one bridge on the ward no 3, one bridge on the Khankhali khal, one bridge on the Samudaria Khal of ward no 7, All bridges are in good condition and suitable for use. Bridges on DT road are suitable for water discharging.
- **Barma union:**
There are a total 5 bridges in this union. One bridge is on the Nishikanta Khal of ward no 5, 3 bridges on the Nishikanta Khal of ward no6, One bridge on the Jatkhali Khal of ward no 7, One bridge on Nishikanta khal at ward no 8 and another bridges on the Jatkhali Khal. Among them condition of six bridges are good and useable and bridges of roads are suitable for water discharging.
- **Dopachari union:** There are a total 6 bridges in this union. One bridge on the Samukchari khal of ward no 2, one bridge on the Gunguru khal, one bridge on the Shamachari Khal of ward no 5 and 2 bridges on the Gandamara Khal, one bridge is on the Chekkhali khal of ward no 6. The condition of all bridges is good and usable and bridges on DT road are suitable for water discharging.

GHa) Culverts:

There are 503 culverts of 9 unions of Chandanaish Upazila. These culverts support in discharging of water of Hilly stream / Charra, Sub-rivers, branch rivers and rivers. Number of Culverts and locations of culverts are provided below-

❖ Baitoli union:

Total numbers of culverts are 45. 3 culverts on the JM road of ward no 1, 4 culverts on the Baitoli road, 2 culverts on the Patiya Baitoli road of ward no 2, 3 culverts on the Sukundu Master road, 2 culverts on the Siddique mia road of 3 no ward, one is on the Baitoli road, 2 culverts on the Baitoli Government Pri. School road, 2 culverts on the Baitoli road of ward no 4, 2 culverts on the Digirpar road, 3 culverts on the Col Oli Birbikram road, one culverts on the Baharam para road of ward no 5, 2 culverts on the Jafrabad High school road, 3 culverts on the Shahid Azizur Rahman road of ward no 6, 2 culverts on the Jahur member road, 1 culverts on the Jafrabad high school road of 7 no ward, 2 culverts on the Aziz road, 3 culverts on the4 Dewanhat to baitoli road at ward no 8, 4 culverts on the Mostafizur Rahamn road, 2 culverts on the Khodarhat Asraf Mahrir road at ward no 9, 3 culverts on the Nilambar Talukdar road of ward no 2.

❖ Satbaria union:

Total numbers of culverts are 99. 6 culverts on the Maizepara road of ward no 1, 2 culverts on the Naddarbari road, 3 culverts on the Baitoli road, 4 culverts on the Majjidia road of 2 no ward, 3 culverts on the Kotamasjid road, 4 culverts on the Ukilbari road, 3 culverts on the Hazrat Osman Shah road of 3 no ward, 5 culverts on the Talukdarbari road, 4 culverts on the New Mosque road, 3 culverts on the Arif Shaha para road, 5 culverts on the Shantibihar road, 6 culverts on the Bhagban chowdhury road of 6 no ward, 4 culverts on the Majjidia road, 5 culverts on the Baro Aulia road, 7 culverts on the Satbaria road on ward no 7, 6 culverts on the Darulia Madrasha road, 5 culverts on the Asammori road, 6 culverts on the Amir para road of ward no 8, 5 culverts on the Jamtal road, 7 culverts on the Baitoli road of 9 no ward, 3 culverts on the chairman road, 3 culverts on the dewanhat road .

❖ **Hashimpur union:**

Total numbers of culverts are 99 in this union. 3 culverts on the Dopachari road of ward no 1, one on the Khan hat baruapara road, 2 culverts on the Kunia para road, 2 culverts on the Karlamora road of ward no 2, one culverts on the Gonaipara road of ward no 3, 3 culverts on the Ali shaha road of ward no 4, 2 culverts on the Hapania road of 5 no ward, 3 culverts on the Hatigada road of 6 no ward, 2 culverts on the Sonaichari road of 7 no ward, 2 culverts on the Munsipara road of ward no 8, 4 culverts on the Baitoli Sera road of 9 no ward.

❖ **Kanchanabad union:**

Total numbers of culverts are 37 in this union. 2 culverts on the Mozaffarbad School road, 3 culverts on the Arakan road , 1 culverts on the Mohammadpur road, 1 culverts on the Shaha Sifi Bari road, 2 culverts on the Kashem driver bari road, 1 culverts on the Rahat Ali Talukdar bari road, 3 culverts on the Haddarbari road, 3 culverts on the Buri Pukur road, 2 culverts on the Hasan Ali road of 5 no ward, 1 culverts on the Azizia Madrasha road, 3 culverts on the Roushn har road, 4 culverts on Arakan road of the 6 no ward, 1 culverts on the Oliullah road of 7 no ward, 1 culverts on the Shahi Mazar road, 1 culverts on the Pacca Dokan road of 8 no ward, 2 culverts on the Newaz Member road, 1 culverts on the Jangli Shaha Mazar road of 9 no ward, 1 culverts on the Gullahcharra Sluice gate road.

❖ **Joara union:**

Total numbers of culverts are 41 in this union. 4 culverts on the Katakhal road of ward no 1, 3 culverts on the Didarul Islam road , 2 culverts on the Mohabati road, 2 culverts on the Samudaria road, 2 culverts on the Fatanagar Samudaria road, 1 culverts on the Senbari Gullahchari Musefbazar road, 3 culverts on the Guihaza Mazar road, 2 culverts on the Kalibari road, 2 culverts on the Munsef Bazar road of 4 no ward, 2 culverts on the Gullahchari road, 3 culverts on the Kalibari road of ward no 5, 1 culverts on Maizpara road of the 6 no ward, 2 culverts on the Mahallah bari road, 1 culverts on the Tukurpara road, 2 culverts on the Hindupara road, 1 culverts on the Faiz member bari road of 8 no ward, 3 culverts on the Pacchimpara road, 3 culverts on the SorbaDakkinpara road of 9 no ward, 2 culverts on the Dakkinnagadpara road.

❖ **Dohazari union:**

Total numbers of culverts are 98 in this union. 3 culverts are on the Chagachar road, 2 culverts on the Chagachar gramma road , 3 culverts on the Dhakkin Chagachar road, 3 culverts on the DC road of 2 no ward, 3 culverts on the Chagachar road, 4 culverts on the Main road, 2 culverts on the Kha Mahal road, 3 culverts on the Ullahpara road, 3 culverts on the Khanakai Khanakia road , , 3 culverts on the Nathp[ara road, 2 culverts on the Sarkarpara road, 5 culverts on the Eidpukuria road, 5 culverts on the Jamarjuri road of 5 no ward, 4 culverts on the

Jamarjuri gramma road, 3 culverts on the Main road, 4 culverts on the Jamarjuri road, 4 culverts on the Hindupara road, 4 culverts on the Jamarjuri Hindupara road, 6 culverts on the Dohazari gramma road of 7 no ward, 4 culverts on the Gucchagram road, 4 culverts on the Lalotia road, 3 culverts on the Raijoara road of 8 no ward, 2 culverts on the 4 Hatiakola road, 7 culverts on the Darogakata road, 2 culverts on the Diakul road, 2 culverts on the Sangsonga para , 3 culverts on the Dakkinpara road, 3 culverts on the Gatiapara road, 2 culverts on the Sikdarpara road.

❖ **Barkal union:**

Total numbers of culverts are 81 in this union. 4 culverts on the Sutradarpara road of 1 no ward, 6 culverts on the Barkal High School road, 2 culverts on the Rafique road, 2 culverts on the Maizpara road, 4 culverts on the Kanaimadari road, 6 culverts on the Sepchandra para road, 3 culverts on the Midagipara road, 5 culverts on the Kanaimadari road, 2 culverts on the Mamun Khalifa road of 5 no ward, 3 culverts on the Tazu Mollah road, 2 culverts on the Kanaimadari road, 4 culverts on the Sahab Mia road of 6 no ward, 3 culverts on the Pathandandi road, 3 culverts on the Kanaimadari road, 7 culverts on the Durgabari road, 7 culverts on the Baruapara road, 5 culverts on the Pathadondi road of 8 no ward, 3 culverts on the bridgeghat road, 3 culverts on the Kulaldanga road of 9 no ward, 4 culverts on the Shipara road, 3 culverts on the UP Road.

❖ **Barma union:**

Total numbers of culverts are 55 in this union. 2 culverts on the Char Barma road, 7 culverts on the Bainjuri Durgamandir road, 4 culverts on the Batajuri road of 3 no ward, 6 culverts on the Charbarma road of 4 no ward, 2 culverts on the Kaliarhat road of 5 no ward, 1 culverts on the Bainjuri sulang road, 3 culverts on the Jamshon road of ward no 6, 2 culverts on the Sufibari road, 6 culverts on the Bhatiabari road of 7 no ward, 4 culverts on the Jahir Ahmad road , 4 culverts on the Burokalibari road of 8 no ward, 3 culverts on the Bathajuri road, 5 culverts on the Tulatulighat road of 9 no ward, 3 culverts on the 4 Kashua CharBarma road.

❖ **Dopachari union:**

Total numbers of culverts are 22 in this union. 1 culverts on the Shankakul Ragghata Road of 1 no ward, No culverts in 2 no ward, 2 culverts on the Shantir bazaar Mongla road, 3 culverts on the Shamachari Maijani road, 2 culverts on the Gondamara mazarpara road, 5 culverts on the Chiringgata Barmapara road, 4 culverts on the Diakulchiringgata Dopachari road, 2 culverts on the Maizkhola of 9 no ward.

Uma) Roads:

There are total 439.50 KM roads at 9 unions of Chandanaish upazila of Chittagong. Among them 117 Km are Pucca , 163.50 KM Kacha and 159 KM HBB road. Number of roads and location statistics are appended below-

1. Kanchanabad union: There are total 46 Km road in Kanchanabad union. Among them 10 Km are Pucca , 20 Km kacha and 16 KM HBB. Among them 19 KM Kucha and HBB of 2,5,6,7 and 8 no wards are in bad shape.

2. Joara union: There are total 24 KM road in Joara union. Among them 6 KM are pucca, 12 KM Kacha and 6 KM HBB. Among them 8 KM Kucha and HBB of 1, 3,4,6,7 and 9 no wards are in bad shape.

3. Dhohazari union:

There are total 101 KM road in Dhohazari union. Among them 45 KM are pucca, 29 KM Kacha and 27 KM HBB. Among them 34 KM Kucha and HBB of 1, 3,4,6,8 and 9 no wards are in bad shape.

4. Barkal union: There are total 57 KM road in Barkal union. Among them 15 KM are pucca, 20 KM Kacha and 22 KM HBB. Among them 26 KM Kucha and HBB of 2, 5,6,7,8 and 9 no wards are in risky condition.

5. Barma union: There are total 30 KM road in Barma union. Among them 8 KM are pucca, 12 KM Kacha and 10 KM HBB. Among them 7 KM Kucha and HBB of 3, 4, 6 and 8 no wards are in risky condition.

6. Dopachari union: There are total 58.50 KM road in Dopachari union. Among them 6 KM are pucca, 44.50 KM Kacha and 8 KM HBB. Among them 38 KM Kucha and HBB of 1, 2, 3, 4, 5, 6, 8 and 9 no wards are in risky condition.

7. Hashimpur union:

There are total 35 KM road in Dopachari union. Among them 10 KM are pucca, 8 KM Kacha and 17 KM HBB. Among them 9 KM Kucha and HBB of 2, 3, 4, 5, 8 and 9 no wards are in risky condition.

7. Satbaria union:

There are total 40 KM road in Dopachari union. Among them 8 KM are pucca, 12 KM Kacha and 20 KM HBB. Among them 9 KM Kucha and HBB of 1, 4, 5, 7, 8 and 9 no wards are in risky condition.

7. Baitoli union:

There are total 45 KM road in Dopachari union. Among them 9 KM are pucca, 18 KM Kacha and 18 KM HBB. Among them 9 KM Kucha and HBB of 3, 4, 5, 6, 8 and 9 no wards are in risky condition.

Cha) Irrigation system:

Use of tube wells for crop production is not much in Chandanaish Upazila. Most deep tube wells are used as sources of drinking water and used in homes and some are used for crop production. Total number tube wells in 9 unions of Candanaish Upazila are 8755. Among them deep tube wells are 102, Shallow tube wells are 1072. Detail description are provided below-

Sl. No.	Sources of Irrigation	Number	Area covered by Irrigation (Hectors)	Areas of land affected by Flood	Post flood condition
1	Deep tube wells	102	2577 acres	About 1250 acres	Post flood affect can be addressed if govt. and non government support is available.
2	Shallow deep tube wells	1072	-	-	-
3	Hand driven tube wells	6424	-	-	-
4	Shallow tube wells	1157	1500 acres	Crops of about 970 acres is damaged	Sufferings can be reduced if govt. and non govt. support is available

Cha) Hat & Bazaars:

There are 23 Hat & bazaars in nine unions of Chandanaish Upazila. According to field report Hats are sit 2 days in a week and Bazaars 7 day in a week. There are total 55283 shops in all hat and Bazaars of this Upazila. Detail information of hat and bazaars is provided below-

Sl. No	Name of Unions	Name of Hat & Bazaars	Day of Hat & Bazar	Number of Shops at hat & bazaars
1	Kanchanabad	Roushan hat	2 days / week	205
		Badamtal Bazar	Everyday	95
2	Joara	No hatbazar in this union	-	-
3	Dohazari	Dohazari	2 days / week	2950
		Railway bazaar	Everyday	540
4	Barkal	Banglabazarhat	2 days / week	35
		Mowlavirhat	2 days / week	70
5	Barma	Damarhat	2 days / week	180
		Kalirhat	2 days / week	110
		Kasuatinerhat	2 days / week	45
6	Bailtoli	Fakirhat	2 days / week	120
		Kodarhat	2 days / week	195
		Younusbazar	Everyday	255
		Bailtoligaogarbazar	Everyday	18
7	Hashipur	Hashimpurbazar	Everyday	12
8	Satbaria	Bagicharhat	2 days / week	145
		Bhagaban Chy. Hat	2 days / week	46
		Barihat	2 days / week	41
		Asam moharirhat	2 days / week	32
		Dewanhat	Everyday	47
		Jamtolbazar	Everyday	35
9	Dopachari	Dopacharihat	2 days / week	72
		Shantir Bazar	Everyday	15
		Shamukchari Bazar	Everyday	20

1.4.2 Social Assets

(kha) House/homes-

There are 38272 houses in 9 unions of Chandanaish upazila. Among them 24066 are kucha, 3432 are Pucca and 10774 are semi pucca. Pucca houses are made of bricks, sand, cement and rod and kacha houses are made of Bamboo, trees, tin, Chan, wire and nails, rope, and bamboo fencing. Kacha houses are not disaster resilient. About 40% houses are below flood level. Unionwise detail of houses are provided below-

Sl.No.	Name of union	Number of Homes			Material that are used for making homes
		Kucha	Pucca	Semi-pucca	
1.	Kanchanabad	2960	145	1400	Kacha houses are made of Clay, Bamboo fence, timber, and Chan or tin on the roof, and Pucca homes are made of bricks, sand, cement and rods
2.	Joara	1595	205	330	
3.	Dohazari	5200	1100	2200	
4.	Barma	1274	275	1172	
5.	Barkal	1498	802	1271	
6.	Hashimpur	1678	302	837	
7.	Bailtoli	4562	321	2117	
8.	Satbaria	3184	252	1432	
9.	Dopachari	2115	30	15	
Total=		24066	3432	10774	

(Ka) Water:

Main sources of drinking water of nine unions of Chandanaish Upazila are – deep tube well, shallow tube wells, water deriving from river b/ channels. Total tube wells are 8755. Among them deep tube wells are 102 and shallow tube wells are 1072.

Number of tube wells are 8755, among them 6720 are in good condition, number of out of order tube wells are 2035, 4385 are above flood level. Number of usable tube well during flood are 5781. About 87% inhabitant use tube well water for their day to day use. Scarcity of safe drinking water is seen during flood.

(Ga) Sanitation situation-

Total number of latrines at 9 unions of Chandanaish upazila are 30880. Among them Pucca latrine are 12352 and kacha are 18528. According to survey kacha latrines have been badly affected by various disasters.

(Gha) Educational Institutions/ Libraries:

There are a total 103 educational institutions in 9 unions of Chandanaish Upazila. Among them one is University, one medical college, 3 colleges, 12 Madrasahs, 22 high schools, 64 Government Primary schools. Literacy rate is 68.50%. Union wise information is exhibited below-

Educational Institution	Govt./ non-govt./Resi	Name of the education institution	Position/Ward	No. of student	Teacher/Teacher
Pri. School	Govt.	West Allahabad Govt.P.S	Kanchanabad	400	07 people
Pri. School	Govt.	Allahabad Govt.P.S	Kanchanabad	490	04
Pri. School	Govt.	The Allahabad Govt.P.S	Kanchanabad	220	04
Pri. School	Govt.	Kanchan nagar Govt.P.S	Kanchanabad	284	05
Pri. School	Govt.	Rahman Govt.P.S	Kanchanabad	270	04
Pri. School	Govt.	Mocha Kanchan nagar Govt.P.S	Kanchanabad	260	08
Pri. School	Govt.	Kanchan nagar Govt.P.S	Kanchanabad	170	04
Pri. School	Govt.	Kanchanobad Govt.P.S	Kanchanabad	190	07
Pri. School	Govt.	Jafor Nagor Govt.P.S	Kanchanabad	145	09
Pri. School	Govt.	Bakhali Govt.P.S	Kanchanabad	325	05
Pri. School	Govt.	Joara Govt.P.S	Jaora	290	06
Pri. School	Govt.	Fathapur Govt.P.S	Jaora	175	06
Pri. School	Govt.	Ashraf Chhobhan Govt.P.S	Jaora	367	05
Pri. School	Govt.	Bagavhator Govt.P.S	Jaora	251	04
Pri. School	Govt.	Madha Bagachator Govt.P.S	Jaora	225	05
Pri. School	Govt.	Jamarjuri Govt.P.S	Jaora	310	06
Pri. School	Govt.	Hindupara Govt.P.S	Jaora	210	05
Pri. School	Govt.	Prafulla Govt.P.S	Jaora	170	04
Pri. School	Govt.	Afzal Govt.P.S	Jaora	234	06
Pri. School	Govt.	Rayjoara Govt.P.S	Jaora	248	04
Pri. School	Govt.	Diakul Govt.P.S	Jaora	422	08
Pri. School	Govt.	Borkal Govt.P.S	Borkal	237	03

Educational Institution	Govt./ non-govt./Resi	Name of the education institution	Position/Ward	No. of student	Teacher/ Teacher
Pri. School	Govt.		Borkal	496	08
Pri. School	Govt.	West Kanaimadar Govt.P.S	Borkal	292	10
Pri. School	Govt.	Kanaimadari Govt.P.S	Borkal	452	09
Pri. School	Govt.	Samudaria Govt.P.S	Borkal	167	05
Pri. School	Govt.	Ali Pathdan Govt.P.S	Borkal	180	04
Pri. School	Govt.	Dandi Govt.P.S	Borkal	160	03
Pri. School	Govt.	Suchiya Govt.P.S	Borkal	160	04
Pri. School	Govt.	Bainjuri Govt.P.S	Barma	160	04
Pri. School	Govt.	Kasuya Govt.P.S	Barma	171	06
Pri. School	Govt.	Haji A:Kuddus Govt.P.S	Barma	217	06
Pri. School	Govt.	Bainjuri Govt.P.S	Barma	254	09
Pri. School	Govt.	Barma Govt.P.S	Barma	576	08
Pri. School	Govt.	Mygata Govt.P.S	Barma	248	05
Pri. School	Govt.	Char Barma Govt.P.S	Barma	140	11
Pri. School	Govt.	Batajuri Atapur Govt.P.S	Barma	562	08
Pri. School	Govt.	Dhopachuri Govt.P.S	Dhopachari	336	06
Pri. School	Govt.	Samukchari Govt.P.S	Dhopachari	290	06
Pri. School	Govt.	Dhopachari Govt.P.S	Dhopachari	305	09
Pri. School	Govt.	Mangla Govt.P.S	Dhopachari	152	05
Pri. School	Govt.	West Dhopachari Govt.P.S	Dhopachari	673	06
Pri. School	Govt.	Ciringi Ghat Govt.P.S	Dhopachari	332	07
Pri. School	Govt.	North Hashimpur Govt.P.S	Hashimpur	285	06
Pri. School	Govt.	Khunirpara Govt.P.S	Hashimpur	294	06
Pri. School	Govt.	Kabir Ahmed Govt.P.S	Hashimpur	271	06
Pri. School	Govt.	Hashimpur Govt.P.S	Hashimpur	430	07
Pri. School	Govt.	South Hashimpur Govt.P.S	Hashimpur	472	08
Pri. School	Govt.		Hashimpur	211	07
Pri. School	Govt.	Maijgaon Govt.P.S	satberia	420	07
Pri. School	Govt.	Barom,para Govt.P.S	satberia	306	06
Pri. School	Govt.	Arifshaha Govt.P.S	satberia	214	05
Pri. School	Govt.	Jatarkul Govt.P.S	satberia	304	06
Pri. School	Govt.	Baparipara Govt.P.S	satberia	344	07
Pri. School	Govt.	Khan group Govt.P.S	satberia	250	05
Pri. School	Govt.		satberia	355	07

Educational Institution	Govt./ non-govt./Resi	Name of the education institution	Position/Ward	No. of student	Teacher/Teacher
Pri. School	Govt.	Hasandandi Govt.P.S	satberia	401	08
Pri. School	Govt.	West jaffrabad Govt.P.S	Bailtali	244	05
Pri. School	Govt.	North jaffrabad Govt.P.S	Bailtali	485	06
Pri. School	Govt.	East jaffrabad Govt.P.S	Bailtali	435	07
Pri. School	Govt.	South jaffrabad Govt.P.S.	Bailtali	442	07
Pri. School	Govt.	Western Bailtali Govt.P.S	Bailtali	580	09
Pri. School	Govt.	South Bailtali Govt.P.S	Bailtali	563	06
Pri. School	Govt.	Basratnagor Govt.P.S	Bailtali	511	07
Secondary School	Non-govt.	Kanchanabad High School	Kanchanabad	370	11
Secondary School	Non-govt.	BGC trust High School	Kanchanabad	730	18
Secondary School	Non-govt.	Fathanagar Sharifunesa High School	Jaora	560	10
Secondary School	Non-govt.	Jamerjuri Bahumukti High School	Jaora	940	12
Secondary School	Non-govt.	Diyakur senoyara High School	Jaora	850	12
Secondary School	Non-govt.	Rahman Jamerjuri High School	Jaora	2954	25
Secondary School	Non-govt.	Technical High School	Jaora	1450	22
Secondary School	Non-govt.	Borkal High School	Borkal	680	14
Secondary School	Non-govt.	Anwara Begum High School	Borkal	590	13
Secondary School	Non-govt.	Susia High School	Borkal	580	12
Secondary School	Non-govt.	Tahera Samudia High School	Borkal	530	12
Secondary School	Non-govt.	Ali Ahmed Veebikrom High School	Borkal	995	17
Secondary School	Non-govt.	Kesua High School	Barma	640	12
Secondary School	Non-govt.	Thari Meneka High School	Barma	510	10

Educational Institution	Govt./ non-govt./Resi	Name of the education institution	Position/Ward	No. of student	Teacher/ Teacher
Secondary School	Non-govt.	Kidney-bean big ports High School	Dhapachari	617	12
Secondary School	Non-govt.	Monir Ahmed High School	Hasimpur	520	13
Secondary School	Non-govt.	Kamal Uddin Ahmed High School	Hasimpur	490	11
Secondary School	Non-govt.	Bailtali multiple High School	Bailtali	495	12
Secondary School	Non-govt.	jaffrabad multiple High School	Bailtali	420	11
Secondary School	Non-govt.	satberia multiple High School	satberia	540	12
Secondary School	Non-govt.	Khan group high school	satberia	470	12
Secondary School	Non-govt.	Hasandandi High School	satberia	510	13
University	Non-govt.	BGC University	Kanchanaba	11000	160
College	Non-govt.	BGC trust Medical College	Kanchanaba	4000	70
College	Non-govt.	BGC trust College	Kanchanaba	2500	30
College	Non-govt.	Barma Degree College	Barma	720	12
College	Non-govt.	Ali Ahmed Veerbikrom Maijgaon College	satberia	865	16
Madrasa	Non-govt.	West Allahabad Fazil Si. The	Kanchanaba	510	13
Madrasa	Non-govt.	Shah Sufi senior Madrasa	Kanchanaba	470	11
Madrasa	Non-govt.	Jamerjuri senior Madrasa	Kanchanaba	520	12
Madrasa	Non-govt.	Cagavhor Islamia Fazil Madrasah	Kanchanaba	570	13
Madrasa	Non-govt.	Islamia senior Madrasa	Kanchanaba	710	15
Madrasa	Non-govt.	Joara senior Madrasa	Kanchanaba	490	11
Madrasa	Non-govt.	Barkol senior Madrasa	Borkal	390	10
Madrasa	Non-govt.	Borkal Foezia Madrasah Madrasah	Borkal	455	12
Madrasa	Non-govt.	The Mohammadpur kaderia tayabia Kamil madhasa	Borkal	395	11

Educational Institution	Govt./ non-govt./Resi	Name of the education institution	Position/Ward	No. of student	Teacher/ Teacher
Madrasa	Non-govt.	Joynulullam Madrasa	Borkal	530	13
Madrasa	Non-govt.	Tahera Madrasa	Borkal	420	12
Madrasa	Non-govt.	Barma Madrasa Islamia	Barma	625	13
Madrasa	Non-govt.	Aziziya Madrasa	Dhapachari	2940	8
Madrasa	Non-govt.	North Hashimpur senior Madrasa	Hashimpur	625	13
Madrasa	Non-govt.	Haji Badiujjaman Bhandari Madrasa	Hashimpu	570	11
Madrasa	Non-govt.	jaffrabad senior Madrasa	Bailtali	475	13
Madrasa	Non-govt.	Rashidia Basrot Madrasa	Bailtali	394	11
Madrasa	Non-govt.	Shah Aman south Madrasa	satberia	485	12
Madrasa	Non-govt.	Aulia Madrasa	satberia	475	11
Madrasa	Non-govt.	Hasandandi Madrasa	satberia	395	10

(Uma) Religious Institutions/ Religious gatherings (Eidgah) –

There are 303 mosques in 9 unions of Chandanaish Upazila. There are also 14 no Eidgah and 76 temples. It may be mentioned here that people offer their Eid prayer at mosques as the number of Eidgah are less. Union wise information is provided in below table-

Sl. No.	Name of Union	Mosque/ Temples/ Eidgah	Locations	Brief Description
1	Bailtoli	Mosque	Total number of mosques in Bailtoli union are 35, 3 mosques are in 1 no ward, 4 mosques are in ward no 2, 3 mosques are in ward no 3, 4 mosques are in ward no 4, 4 mosques are in ward no 5, 3 mosques in ward no 6, 4 mosques in ward no 7, 5 mosques in ward no 8 and 5 mosques in ward no 9.	
		Eidgah	There is 1 eidgah field in this union. It is situated in Ward No. 3	local level 1 But in the Idgah ground as-Salam Mosque
		Temple	There are 10 temple in this union. temple - 10. In Ward No. 1, no. 2, 2, 1 wards, Ward No. 3, 1, 4, 1, 5 wards no 1, no. 6, ward 1, ward no. 7, 1, no. 8, ward 1 and ward 9, no. 1.	
2	satberia	Mosque	There re 69 mosques in this union. 1 in Ward No. 1 and No. 2 in ward 9, - 8, - in Ward No. 3, and No. 4 in Ward 8 and ward 6, 5, and 7, in Ward No. 6, 6, no. 7 in ward 9, ward no. 8, and No. 9 and 9 in Ward there are mosque-6.	
		Temple	The total-5. 1 in Ward No. 1, and No. 2 ward 1, in Ward No. 4 in ward 1, 5, 1 and 1 and in Ward No. 8 temple.	
		Eidgah ground	The Idgah ground, 1 – it is in ward no-1.	local level 1 But in the Idgah ground as-Salam

Sl. No.	Name of Union	Mosque/ Temples/ Eidgah	Locations	Brief Description
				Mosque
3	Hashimpur	Mosque	Ttotal mosque are 19. In Ward No. 1, no. 2 in Ward 3, and Ward No. 3, 2 and 1, in Ward No. 4, 2, and 5 in Ward No. 3, no. 6, in-4, in Ward No. 7, 1, 8, and 1 and in ward 9, ward 2, there are mosques.	
		Temple	Number of temple-4, at-1, 1, 1 in Ward 5, ward 7, ward 1, 9, 1.	
		Eidgah ground	There is no field Idgah ground	The local level but there is no Mosque in the Idgah ground As-Salam Mosque
4	Dohazari	Mosque	The total mosque are 48. In ward 1, and ward 7, no. 2 and No. 3 in ward 4, and ward 6, No. 4 and no. 5, ward 5 and ward 6, no. 6 and No. 7 in Ward 8, and ward 3, no. 8 and No. 4 and 9 in Ward-5 mosque.	
		Temple	The total-5. 1 in Ward No. 1, and no. 8 in Ward No. 1 and 9 in the temple 3.	
		Eidgah ground	The Idgah ground 5. 1 ward-1, number 4 ward-1, no. 6 ward 1, no. 7 and No. 1, in ward number 9 - 1.	local level 5 But in the Idgah ground as-Salam Mosque
5	Joara	Mosque	The total mosque 12. In Ward No. 1 and No. 2 in ward 1, and Ward No. 3, 1, 1 wards in No. 4 and No. 2, ward 5 and ward 2, no. 6 and No. 7 in ward 1, and ward 1, no. 8 and No. 2 and 9 in Ward-1 mosque.	
		Temple	The total-9. In Ward No. 1, 2 and 2 in ward 1, ward 4, ward 2, 5, 1, and in Ward No. 6 and 1, and in Ward No. 7,	

Sl. No.	Name of Union	Mosque/ Temples/ Eidgah	Locations	Brief Description
			1, 8 wards in the temple-1.	
		Eidgah ground	Idgah ground ground 1. In Ward No. 3	local level 1 But in the Idgah ground as-Salam Mosque
6	Kanchanabad	Mosque	The total mosque 38. In Ward No. 1 and No. 2 in Ward 3, and ward 4, No. 3 and No. 4 in Ward 5, and ward 3, 5, and 4, in Ward No. 6 and No. 7 in ward 4, and ward 4, no. 8 and No. 6 and 9 in Ward-5 mosque.	
		Temple	The total-17. in Ward No. 1, and No. 2 in Ward-2, in Ward No. 3 and No. 4, 1, 1 wards in 1 in Ward 5, Ward No. 6, and No. 7 in Ward 8, and ward 1, no. 8 and No. 2 and 9 in the temple 2.	
		Eidgah ground	There is no field Idgah ground	The local level but there is no Mosque in the Idgah ground As-Salam Mosque
7	Borkal	Mosque	The total mosque 41. In Ward No. 1 and No. 2 in ward 7, and ward 8, No. 3 and No. 4 in Ward 3, and ward 6, 5, and 4, in Ward No. 6 and No. 7 in Ward 3, and ward 4, no. 8 and No. 9 in Ward 3, and mosque-3.	
		Temple	The total-11. 1 in Ward No. 1, and No. 2 in ward 1, Ward No. 3 and 0, in Ward No. 4, 1 in ward no. 5, no. 6 in ward no-1, ward no. 7 and no. 8 in ward 1, and ward 4 9 No. 4 There are the temple.	
		Eidgah ground	Idgah ground 5 ground. No. 1 ward no. 1, 3 and 1, number 4 ward no. 1,	local level 5 But in the Idgah

Sl. No.	Name of Union	Mosque/ Temples/ Eidgah	Locations	Brief Description
			5 and 1, no. 6 ward no-1.	ground as-Salam Mosque
8	Barma	Mosque	The total mosque -25. In Ward No. 1 and No. 2 in Ward 3, and Ward No. 3, 2 and 4, in Ward No. 4 and No. 3, ward 5 and ward 2, no. 6 and No. 7 in ward 4, and ward 2, no. 8 and No. 3, and in ward 9 and 4 mosque.	
		Temple	The total-11. in Ward No. 1, and No. 2 in Ward 0, Ward No. 3, No. 4 and in ward, ward 5, ward 2, no. 6 and No. 7 in Ward 3, and ward 3, no. 8 and No. 9 in Ward 3 there is temple.	
		Eidgah ground	Idgah ground ground 1. 9 in Ward No.	local level the Idgah ground but Mosque in the As-Salam.
9	Dhapachari	Mosque	The total mosque 16. In Ward No. 1 and No. 2 in ward 4, and Ward No. 3, 2 and 2, in No. 4 and No. 2, ward 5 and ward 2, no. 6 and No. 7 in ward 1, and ward 1, no. 8 and No. 1 and 9 in Ward-1 mosque.	
		temple	The total-4. No. 1, and No. 2 in Ward-1, in Ward No. 3 and 0, Ward No. 4 and No. 6 in Ward No. 7 in ward 1, and ward no. 8, 0 ward 9, there are 0 in the temple.	
		Eidgah ground	There is no field Idgah ground	The local level but there is no Mosque in the Idgah ground As-Salam Mosque

(Cha) Health Service:

There are 35 health and family welfare centers at nine unions of Chandanaish Upazila. Among them 1 is health complex, Union level health and family welfare centers are 9, Community clinics 7, and union satellite clinics are 18. There are total 35 doctors serving in these centers. It may be mentioned here that there are other staff other than doctors in those health centers. But number of doctors and staff are not sufficient in those health centers particularly Satellite and community health clinics. So the quality of health services is not up to the mark. To take special care for aged and pregnant women during disaster is very crucial during disasters but this hamper due to lack of sufficient doctors and nurses. So sufficient doctors, nurses and medicines should be make available

Health Centers	Locations	Number of Doctors in each center	Number of Nurses in Each center	Quality of Services
Health and family welfare center	Sub-district	19.	10	Good
Health and family welfare center	Kanchanabad	1	There is no	Good
Health and family welfare center	Joara	1	There is no	Good
Health and family welfare center	Dohazari	1	There is no	Good
Health and family welfare center	Borkal	1	There is no	Good
Health and family welfare center	Barma	1	There is no	Good
Health and family welfare center	Hasimpur	1	There is no	Good
Health and family welfare center	Bailtai	1	There is no	Good
Health and family welfare center	satberia	1	There is no	Good
Health and family welfare center	Dhopachari	1	There is no	Good
community clinics	All Union	7	7	Good

(Cha) Bank & Post Office:

Total number of Banks in Chandanaish upazila is 14. Banks have been providing loans, SME loans and other banking transaction. Union wise detail information of Banks is provided below-

Sl. No	Union	Name of Banks
1	Kanchnabad	1) Bangladesh Krishi Bank 2) Sonali Bank
2	Joara	-
3	Barkal	1) Sonali Bank Li.
4	Bailtoli	1) Grameen Bank
5	Satbaria	1) Grameen Bank
6	Hashipur	-
7	Dohazari	1) Pubali Bank 2 Bank) for Li.3) Grameen Bank Li.4) Bangladesh Krishi Bank) Bank Asia 6) Basic bank 7) commercial bank 8 Arab Bangladesh Bank).
8	Dopachari	1) Grameen Bank
9	Barma	-

Union wise Post office:

There are 10 post offices in 9 unions of Chandanaish Upazila. Many kinds of services are provided including money transactions. Union wise detail of post offices is exhibited below-

Sl. No	Union	Name of Post office
1	Kanchnabad	Kanchan nagar post office
2	Joara	Joara post office
3	Barkal	Islamabad post office, Suchya post office
4	Bailtoli	Bailtali Post Office,
5	Satbaria	Maijgaon Post Office
6	Hashipur	Hashimpur Post Office
7	Dohazari	Dohazari Post Office
8	Dopachari	Dhopachari post office
9	Barma	Barma post office

(Ja) Clubs & Cultural centers:

There are 62 clubs in 9 unions of Chandanaish Upazila. Activities of some clubs have closed. Now activities of about 48 clubs are going on. All these clubs support in many social development activities. Union wise information of those clubs are provided below-

SI No	Name of Union	Name of Club & Cultural centers	Support to development & Social dev. Activities
1	Kanchanabad	Freedom organization	They support in organizing various social cultural events and help in the different welfare activities
		Young United Nations	
		Young star C.	
		Green United Nations	
		Dolphin club	
		Tiger organization	
		Generations United Nations	
		Royal well fair society	
		The uncompromising demand for United Nations	
		Shah Sufi model United Nations	
		Rising star C.	
		Al-Amin United Nations	
		United bright star C.	
		Kanchan nagar young United Nations	
2	satberia	Promise Club	They support in organizing various social cultural events and help in the different welfare activities
		Young United Nations C.	
		Anzuman Rahman Gauchiya Club	
		Satberia peace C.	
		Satberia Sarbojanin C.	
		Asia United Nations	
		Young United Nations	
3	Hashimpur	United Nations rally	They support in organizing various social cultural events and help in the different welfare activities
		Nowjowan Club	
		Zia Smriti Club	
		North Hashimpur poor welfare Memorial Parliament	
4	Joara	Chain Club	They support in organizing various social cultural
		Renasa Club	

SI No	Name of Union	Name of Club & Cultural centers	Support to development & Social dev. Activities
		United Nations Kazi Club.	events and help in the different welfare activities
5	Borkal	Barua Dandi Club Hailed the United Nations Borkal Club	They support in organizing various social cultural events and help in the different welfare activities
6	Bailtali	South Bailtali Club South brothers Club The golden Bailtali Club Bailtali Siddikia Memorial United Nations Sher-e-Bangla Memorial United Nations The United Bank United Nations Debarkul United Nations unity Club United Nations jaffrabad unity Basratnagar United Nations unity Progress Club	They support in organizing various social cultural events and help in the different welfare activities
7	Barma	East Bainjuri Club. Young United Nations group Young United Nations Society	They support in organizing various social cultural events and help in the different welfare activities
8	Dhopachari	Young society Club Dhopachari ship Club Dishari Club Ring big ports Club Youth Development Club Ali council Club	They support in organizing various social cultural events and help in the different welfare activities
9	Dohazari	Jagoron Club. Young United Nations Club The United Nations Club Abahani Club Young star club Press Club	They support in organizing various social cultural events and help in the different welfare activities

SI No	Name of Union	Name of Club & Cultural centers	Support to development & Social dev. Activities
		Haji Mohammad Mia C.	

(GHA) NGO/ Voluntary organizations:

Sl. No.	Name of NGO	Activities	No of beneficiaries	Duration of project
1.	CODEC	Education, Legal support, Awareness, Micro-financing	490 people	Long term / Continuing
2.	ASA	Education, Micro –financing, awareness	410 people	Long Term term/ongoing
3.	BRAC	Women development, Education, awareness, risk reduction , Health & mivro-credit	995 people	Long Term term/ongoing
4	Mamata	Health, awareness and Micro-Credit	385 people	Long Term term/ongoing
5	Palli Progati	awareness & Micro-Credit	270 people	Long Term term/ongoing
6	PSA	awareness & Micro-Credit	310 people	Long Term term/ongoing
7	Grameen Bank	Micro-Credit	620 people	Long Term term/ongoing
8	PPS	awareness & Micro-Credit	325 people	Long Term term/ongoing
9	Web	Health & Micro-Credit	265 people	Long Term term/ongoing
10	Grameen Shakti	Shoro Bidyt & Micro-Credit	270 people	Long Term term/ongoing
11	Mother foundation	Micro-Credit	195 people	Long Term term/ongoing
12	OYED	Health, Awareness & Micro-Credit	315 people	Long Term term/ongoing
13	Blast	legal help, to raise awareness and Micro-Credit	417 people	5 year plan
14	CMES	Micro-Credit	185 people	Long Term term/ongoing
15	Ahasnia Mission	Education, risk Reduction and Awareness	540 people	3 years
16	Surjer Hasi Clinic	Awareness and Health service	342 people	5 year plan
17	Karitas	Reduction of risk, Awareness and Micro-Credit	295 people	5 year plan
18	Pratashi	Awareness and Micro-Credit	386 people	Long Term term/ongoing

(Umo) Playground:

There are 19 playgrounds for leisure and game at Chandanaish Upazila. Union wise detail is provided below-

Sl. no	Name of unions	Locals of playgrounds	Use in disasters
1	Kanchanabad	Kanchanab high school ground	Human & livestock can use during Disasters
2	Joara	Bhataccagargo Play ground	
3	Barkal	Barkol High School ground	
4	Bailtoli	No play ground in the union	
5	Satbaria	Satbaria High school ground, Aulia High school ground	
6	Hashimpur	No play ground in the union	
7	Dohazari	Jamerjuri high school ground	
8	Dhopachari	Dhopacharo Hogh School ground	
9	Barma	Kesua High School ground	

(Ta) Graveyard/ cremation ground-

There are 376 small and large graveyards at nine unions of Chandanaish Upazila. In addition, there are few homestead graveyards which are located beside homes, mosques and mazars. Detail of union wise graveyards are exhibited below-

Kanchanabad union:Total number of homestead graveyards is 75. 5 graveyards are in ward no 1, 8 graveyards in ward no 2, 9 graveyards in ward no 3, 6 graveyards in ward no 4, 10 graveyards in ward no 5, 7 graveyards in wards no 6, 12 graveyards in ward no 7, 9 graveyards in ward no 8, 9 graveyards in ward no 9.

Joara union:Total number of homestead graveyards at this union is 25. 3 graveyards are in ward no 1, 2 graveyards in ward no 2, 2 graveyards in ward no 3, 2 graveyards in ward no 4, 3 graveyards in ward no 5, 4 graveyards are in wards no 6, 2 graveyards in ward no 7, 3 graveyards in ward no 8, 3 graveyards in ward no 9.

Dohazari union: Total number of homestead graveyards at this union is 68. 9 graveyards are in ward no 1, 2 graveyards in ward no 2, 8 graveyards in ward no 3, 9 graveyards in ward no 4, 7

graveyards in ward no 5, 10 graveyards are in wards no 6, 9 graveyards in ward no 7, 4 graveyards in ward no 8, 5 graveyards in ward no 9.

Barkal union: Total number of homestead graveyards is 55. 5 graveyards are in ward no 1, 8 graveyards in ward no 2, 9 graveyards in ward no 3, 6 graveyards in ward no 4, 10 graveyards in ward no 5, 7 graveyards in wards no 6, 12 graveyards in ward no 7, 9 graveyards in ward no 8, 9 graveyards in ward no 9.

Barma union: Total number of homestead graveyards is 45. 5 graveyards are in ward no 1, 8 graveyards in ward no 2, 9 graveyards in ward no 3, 6 graveyards in ward no 4, 10 graveyards in ward no 5, 7 graveyards in wards no 6, 12 graveyards in ward no 7, 9 graveyards in ward no 8, 9 graveyards in ward no 9.

Dopachari union: Total number of homestead graveyards is 50. 5 graveyards are in ward no 1, 8 graveyards in ward no 2, 9 graveyards in ward no 3, 6 graveyards in ward no 4, 10 graveyards in ward no 5, 7 graveyards in wards no 6, 12 graveyards in ward no 7, 9 graveyards in ward no 8, 9 graveyards in ward no 9.

Bailtoli union: Total number of homestead graveyards is 65. 5 graveyards are in ward no 1, 8 graveyards in ward no 2, 9 graveyards in ward no 3, 6 graveyards in ward no 4, 10 graveyards in ward no 5, 7 graveyards in wards no 6, 12 graveyards in ward no 7, 9 graveyards in ward no 8, 9 graveyards in ward no 9.

Satbaria union: Total number of homestead graveyards is 60. 5 graveyards are in ward no 1, 8 graveyards in ward no 2, 9 graveyards in ward no 3, 6 graveyards in ward no 4, 10 graveyards in ward no 5, 7 graveyards in wards no 6, 12 graveyards in ward no 7, 9 graveyards in ward no 8, 9 graveyards in ward no 9.

Hashimpur union: Total number of homestead graveyards is 50. 5 graveyards are in ward no 1, 8 graveyards in ward no 2, 9 graveyards in ward no 3, 6 graveyards in ward no 4, 10 graveyards in ward no 5, 7 graveyards in wards no 6, 12 graveyards in ward no 7, 9 graveyards in ward no 8, 9 graveyards in ward no 9.

(Ta) Crematories:

There are 133 crematories in 9 unions of Chandanaish Upazila. In addition, there are small family crematories and crematories close to temples. Union wise detail of crematories is provided in below –

Kanchanabad union: Total number of homestead crematories is 2. ward no 2 & 6.

Joara union: Total number of homestead crematories is 1. ward no 8

Dohazari union: Total number of homestead crematories is 3. ward no 4, 6 & 9

Barkal union: Total number of homestead crematories is 1. ward no 5

Barma union: Total number of homestead crematories is 2. ward no 5 & 8

Dopachari union: Total number of homestead crematories is 3. ward no 1, 4, 8

Bailtoli union: Total number of homestead crematories is 2. ward no 2 & 6

(Tha) Communication & means of transport:

There are land and railway communication from Chandanaish to district and vice versa. The most notable mode of transport by road is bus, truck, lorry, cargo, rickshaw van, train etc. Buses ply in 8 unions out of total 9 unions. In addition, CNG, Van, Auto rickshaw and Vatvati (A kind of local transport carrier) ply in these areas. Besides, boats ply at Dopachari union all the year round. Total buses in 9 unions are 99; CNG 874, Ricksha, Van, Vatvati and Autoricksha are 790. Number of truck and Lorries are 73 and number of boats are 17.

- Total numbers of CNGs at Kanchanabad union are 165, buses 21, truck and Lorries 9, rickshaw and Van are 91.
- Total numbers of CNGs at Bailtoli union are 32, buses 9, truck and Lorries 11, rickshaw and Van are 62.

(Da) Forest & Afforestation: There are 373930 acres forests in Chittagong district. Among them there are 12344 acres forests in 9 unions of Chandanaish Upazila. Expansion of forest areas is seen in this Upazila. But now few forest sites are on the verge of extinction due human induced causes and natural adversities. Apart from hilly forest, social forestation has been done on both sides of road and embankments. Trees that are found in those areas are Akash, Gadan, Moni, Sagun, Chambal, raintree, Korai, epil, epil, Guzan, gamari, neem, jam, mangoes, jackfruits, amda, Lime, guava, Pineapples, Bamboos, Rubber etc. Besides few trees are found in homesteads level. . Union wise forest areas are shown in below –

1.4.3 Weather & Climate:

(Kha) Raining trend- Analyzing the average rainfall at Chandanaish upazila, it is found that average rainfall in this upazila is almost same. During last 1990, 1995, 2000, 2005, and 2010 the average rainfall was 4,8,7,8.5 respectively. But it needed more research to ascertain that this trend is the outcome of climatic change. Due to the change of rainfall pattern, the period of rainfall is getting delayed and as a result cropping pattern is also changing. As a result, production cost is increasing and amount of production is decreasing day by day. Diseases and attack of insects are also increasing. Erratic and untimely rain is affecting crop and cultivation and livelihoods.

(Kha) Temperature: Heat wave has been found due to indiscriminate cutting of trees and hilly locations. Now the upazila experiences highest 41.5 degree Celsius and lowest 19.5 degree

Celsius. During raining monsoon the average temperature remains 25.0 degree Celsius. In most cases, the temperature remains normal but it is known from local people that the temperature is rising day by day. Especially the temperature has raised during last 5 years that normal life of people becoming harder. The main reason of heat wave is rise of humidity in air. Cultivation has been hampering due to increase of heat. The affect will be more significant if the present trend continues. According to Public Health Engineering (PHE) survey is conducted two times in each year and the finding is that water level comes down during the month of April and May that results decrease of safe drinking water. This will be a great barrier for future development.

(Ga) Underground layer- According to information of Public Health Engineering (DPHE) a survey is conducted on each year to assess the underground layer of water. It is found that it was 280-285 feet in 2003 for deep tube wells, 43-45 feet for shallow tube wells. In 2004 it was 265-275 feet for deep tube wells, and 31-33 feet for shallow tube wells. In 2005, it was 275-285 feet for deep tube wells, 35-38 feet for shallow tube wells. In 2006, it was 320-330 feet for deep tube wells, 40-45 feet for shallow tube wells. In 2007, it was 390-400 feet for deep tube wells and 50-54 feet for shallow tube wells. In 2008, it was 425-430 feet for deep tube wells and 55-57 feet for shallow tube wells. In 2009, it was 465-470 feet for deep tube wells and 65-68 feet for shallow tube wells. In 2010, it was 472-475 feet for deep tube wells and 70-72 feet for shallow tube wells. In 2012, it was 477-480 feet for deep tube wells and 73-76 feet for shallow tube wells. Underground water level gets down more in the month of May. According to community people – water has becoming scarce day by day due to downing of water level and intrusion of saline water is destroying the water balance of upper level. Locals opinions is that safe water level are getting down and it is great barrier for sustainable development.

1.4.4 Others

(ka) Land & use of land: Total areas of nine unions of Chandanaish Upazila are 37526 acres (15193 Hectares). Area of single crop are 9455, double crop 18275 acres, triple crops are 9796 acres. Union wise details are appended below-

- Kanchanabad- Total areas of crop land in Kanchanabad union are 5699 acres. Among them single crop areas are 5699 acres, double crop areas are 3000 acres and triple crop areas are 691 acres.
- Joara- Total areas of crop land in Joara union are 3700 acres. Among them single crop areas are 310 acres, double crop areas are 3000 acres and triple crop areas are 390 acres.

- Dohazari: Total areas of crop land in Dohazari union are 6000 acres. Among them single crop areas are 2010 acres, double crop areas are 2990 acres and triple crop areas are 1000 acres.
- Barkal: Total areas of crop land in Barkal union are 45000 acres. Among them single crop areas are 150 acres, double crop areas are 2850 acres and triple crop areas are 1500 acres.
- Barma: Total areas of crop land in Barma union are 5100 acres. Among them single crop areas are 3050 acres, double crop areas are 1500 acres and triple crop areas are 550 acres.
- Dopachari: Total areas of crop land in Dopachari union are 1500 acres. Among them single crop areas are 175 acres, double crop areas are 1100 acres and triple crop areas are 225 acres.
- Hashimpur: Total areas of crop land in Hashimpur union are 3280 acres. Among them single crop areas are 480 acres, double crop areas are 960 acres and triple crop areas are 1840 acres.
- Baitoli: Total areas of crop land in Baitoli union are 5020 acres. Among them single crop areas are 700 acres, double crop areas are 2000 acres and triple crop areas are 2320 acres.
- Satbaria : Total areas of crop land in Satbaria union are 2735 acres. Among them single crop areas are 580 acres, double crop areas are 875 acres and triple crop areas are 1280 acres.

(Kha) Agriculture & Food: The principal economic crops are rice and fish. In addition, potatoes, pulses, sugarcanes, maize's, water melons, guava, pineapples, Bangi, papaya, jam, jackfruits are considered as economic crops in this areas. It may be mentioned here that huge vegetables are produced in hilly terrain and plain land. Cauliflower, Cabbage, Kakrol, Barbati, Sweet gourd, bringle, Panni kumra, ladies finger, Mullah, Chili, carrot, tomatoes, Cucumber, Puishak, Lalshak and kachushak etc are abundantly produced in this Upazila. Total amount of crop production in this upazila are 66700 M. ton. Principal foods of this Upazila are rice, fish, pulse; bread and main food habit are 1 time in the early, 1 time in the noon, and 1 time in the night. Union wise crop production are appended below-

- Total annual production of hilly vegetables and fruits including rice, fish, potatoes, guava, pineapples, papaya, and mangoes in Dohazari union are 15200 M. Ton.
- Total annual production of hilly vegetables and fruits including rice, fish, potatoes, guava, pineapples, papaya, and mangoes in Joara union are 7100 M. Ton.
- Total annual production of hilly vegetables and fruits including rice, fish, potatoes, guava, pineapples, papaya, and mangoes in Barkal union are 8650 M. Ton.
- Total annual production of hilly vegetables and fruits including rice, fish, potatoes, guava, pineapples, papaya, and mangoes in kanchanabad union are 12750 M. Ton.

- Total annual production of hilly vegetables and fruits including rice, fish, potatoes, guava, pineapples, papaya, and mangoes in Barma union are 8955 M. Ton.
- Total annual production of hilly vegetables and fruits including rice, fish, potatoes, guava, pineapples, papaya, and mangoes in Dopachari union are 1335 M. Ton.
- Total annual production of hilly vegetables and fruits including rice, fish, potatoes, guava, pineapples, papaya, and mangoes in Hashimpur union are 2970 M. Ton.
- Total annual production of hilly vegetables and fruits including rice, fish, potatoes, guava, pineapples, papaya, and mangoes in Baitoli union are 6800 M. Ton.
- Total annual production of hilly vegetables and fruits including rice, fish, potatoes, guava, pineapples, papaya, and mangoes in Satbaria union are 2940 M. Ton.

Kha. 3 Information of damages-

Union wise description of disaster induced damage are provided below-

- Dohazari: Total crop lands at Dohazari union are 6000 acres and among them about 1620 acres land are damaged by different disasters including flood and the value of damage are approximately 2 Cr. 25 lac. BD tk.
- Joara: Total crop lands at Joara union are 3700 acres and among them about 1190 acres land are damaged by different disasters including flood and the value of damage are approximately 1 Cr. 20 lac. BD tk.
- Dopachari: Total crop lands at Dopachari union are 1500 acres and among them about 510 acres land are damaged by different disasters including flood and the value of damage are approximately 55 lac. BD tk.
- Kanchanabad: Total crop lands at Kanchanabad union are 5691 acres and among them about 1365 acres land are damaged by different disasters including flood and the value of damage are approximately 1 Cr. 70 lac. BD tk.
- Barma: Total crop lands at Barma union are 5100 acres and among them about 1130 acres land are damaged by different disasters including flood and the value of damage are approximately 1 Cr. 32 lac. BD tk.
- Barkal: Total crop lands at Barkal union are 4500 acres and among them about 1420 acres land are damaged by different disasters including flood and the value of damage are approximately 1 Cr. 45 lac. BD tk.
- Hashimpur: Total crop lands at Hashimpur union are 3280 acres and among them about 1012 acres land are damaged by different disasters including flood and the value of damage are 92 lac. BD tk.

- Baitoli: Total crop lands at Baitoli union are 5020 acres and among them about 1755 acres land are damaged by different disasters including flood and the value of damage are approximately 1 Cr. 55 lac. BD tk.
- Satbaria: Total crop lands at Satbaria union are 2735 acres and among them about 890 acres land are damaged by different disasters including flood and the value of damage are approximately 55 lac. BD tk.

(Ga) Rivers: Two rivers have crossed Chandanaish Upazila. They are ancient and prominent Shanka and Sangu. Sangu River flows beside Dohazari union. Another river Shanka has crossed Barma, baitoli and Dopachari unions and its length are 30 KM. People get benefit from these two rivers but these rivers also make damage to people. Benefit is that fish are abundant in these rivers and many people live on this including fishermen. During dry monsoon, when water becomes scarce, people cultivate their land by using river water. The fertility of land increases with the siltation of new soil or fertile soil and it increases crop production. Apart from these, people of this Upazila get benefit in many other ways.

But sometimes rivers make some damages to people such as crops damage due to flood. Roads and educational institutions are also inundated and as a result communication becomes harder. Sometimes crop land and homes perished by river erosion. Livelihoods become harder. Many diseases spread. The two rivers have crossed on different unions. Detail is appended below-

- Kanchanabad: There is no river at Kanchanabad union.
- Dohazari: 20 KM long Sangu River has crossed 1, 2,3,7,8 and 9 no wards of Dohazari union.
- Barkal: There is no union at Barkal union but people consider Chankali Channel as river which is 3 KM long and crossed 1, 2, 3 and 4 wards of this union.
- Barma: 6 KM long Sanka River has flown to 1, 2, 8 and 9 no wards of this union.
- Baitoli : 10 KM long Shanka river has crossed 1,3,5,6 and 7 no wards of this union.
- Dopachari : 14 KM long Shaka river has crossed 1,2,6,7,8 and 9 no wards of this union.

(Gha) Ponds: Total number of big size ponds at nine unions of Chandanaish upazila is 1989. Apart from this, there are small ponds owned by families. Generally fish are cultivated in these ponds, people take bath, and people wash cloths and bath animals.

In some cases, vegetables cultivation is done using ponds water. Union wise data of ponds are appended below-

- Total ponds at Kanchanabad union are 200. 24 ponds are at 1 no ward, 21 ponds are at 2 no ward, 25 ponds are at 3 no ward, 20 ponds are at ward no 4, 21 ponds are at ward no 5, 27 ponds are at ward no 6, 23 ponds are at ward no 7, 20 ponds are at ward no 8, 19 ponds are at ward no 9.

- Total ponds at Joara union are 215. 25 ponds are at 1 no ward, 22 ponds are at 2 no ward, 26 ponds are at 3 no ward, 21 ponds are at ward no 4, 22 ponds are at ward no 5, 27 ponds are at ward no 6, 24 ponds are at ward no 7, 26 ponds are at ward no 8, 22 ponds are at ward no 9.
- Total ponds at Dohazari union are 250. 31 ponds are at 1 no ward, 28 ponds are at 2 no ward, 29 ponds are at 3 no ward, 24 ponds are at ward no 4, 25 ponds are at ward no 5, 27 ponds are at ward no 6, 29 ponds are at ward no 7, 28 ponds are at ward no 8, 30 ponds are at ward no 9.
- Total ponds at Barkal union are 501. 64 ponds are at 1 no ward, 54 ponds are at 2 no ward, 57 ponds are at 3 no ward, 49 ponds are at ward no 4, 51 ponds are at ward no 5, 63 ponds are at ward no 6, 57 ponds are at ward no 7, 58 ponds are at ward no 8, 61 ponds are at ward no 9.
- Total ponds at Barma union are 253. 31 ponds are at 1 no ward, 31 ponds are at 2 no ward, 30 ponds are at 3 no ward, 23 ponds are at ward no 4, 26 ponds are at ward no 5, 26 ponds are at ward no 6, 27 ponds are at ward no 7, 30 ponds are at ward no 8, 31 ponds are at ward no 9.
- Total ponds at Dopachari union are 40. 12 ponds are at 1 no ward, 5 ponds are at 2 no ward, 3 ponds are at 3 no ward, 2 ponds are at ward no 4, 5 ponds are at ward no 5, 5 ponds are at ward no 6, 2 ponds are at ward no 7, 3 ponds are at 8 no ward and 3 are at 9 no ward.
- Total ponds at Baitoli union are 150. 19 ponds are at 1 no ward, 16 ponds are at 2 no ward, 21 ponds are at 3 no ward, 16 ponds are at ward no 4, 17 ponds are at ward no 5, 22 ponds are at ward no 6, 18 ponds are at ward no 7, 16 ponds are at 8 no ward and 15 ponds are at ward no 9.
- Total ponds at Hashimpur union are 300. 36 ponds are at 1 no ward, 34 ponds are at 2 no ward, 35 ponds are at 3 no ward, 30 ponds are at ward no 4, 31 ponds are at ward no 5, 32 ponds are at ward no 6, 34 ponds are at ward no 7, 33 ponds are at 8 no ward and 35 ponds are at ward no 9.
- Total ponds at Satbaria union are 80. 12 ponds are at 1 no ward, 10 ponds are at 2 no ward, 11 ponds are at 3 no ward, 8 ponds are at ward no 4, 10 ponds are at ward no 5, 11 ponds are at ward no 6, 6 ponds are at ward no 7, 6 ponds are at 8 no ward and 6 ponds are at ward no 9.

(Uma) Khal/ Cannels: There are 28 canals in the 9 unions of Chandanaish Upazila. Union wise information is provided below-

- Hashimpur: There are 2 canals in this union. One is known as Barmoti canals. It is located at 2, 3, 4 no wards and 5 Km long. Another one is called Jotkhal and located at 8, 9 no ward and 6 KM long.
- Baitoli: There are 3 canals in Baitoli union. One is called Shanka and located at 1,4,5,6 and 7 no ward and 10 KM long.
- Satbaria: There is only one Canal in this union. This is known as Hasandandi canal & it is located at 3, 4, 6 and 8 no wards and 8 KM long.
- Kanchanabad: There are two canals in Kanchanabad union. One is known as 'Sonaichari canal and its location are 1,2,4,5 and 6 no wards and its length are 4 KM.
- Joara : There are two canals in Joara union. One is known as 'Katakhali canal and it is located t ward no 1,2 1nd 3 wards and its length are 3 Km. Another one is called Domkhali canal its located at ward no 1 and it is 1.50 Km long.
- Dohazari: There are 3 canals in Dohazari union. One is known as 'Mohammad Ali canal, it is located at ward no 7 and 8 and it is 8 KM long. Another one is called Hatchari canal and it is located at ward no 5 and it is 15 Km long. Another one is known as 'Laltia canal, it is located at ward no 8 and it is 12 KM long.
- Barkal: There are 8 canals in Barkal union. One is known as 'Moismara canal and it is located at ward no 2 and it is 1.50 KM long. Another one is known as ' Honkhali canal and it is located at ward no 2, 3, 5 and 9 and it is 4 KM long. Another one is known as < Md. Tarmuj Ali canal and it is located at ward no 8 and it is 2.50 KM long. Another one is called "Miapur canal' and it is located 6 no ward and it is 1.50 Km long. Another one is known as ' Pora Khali' and it is located at 2 and 9 no ward and it is 1.50 Km long. Another one is known as' Boardgar canal and it is located at 2 no ward and it is 1 KM long. Another one is known as' Samudaria canal and it is located at ward no 4,5,6 and 7 no wards and it is 4 KM long. Another one is known as ' Koyakhali canal and it is situated at ward no 7 and 8 and it is 2 KM long.
- Barama: There are 3 canals in Barama. One is known as " Mygata Jotkhal" and it is located from ward no 1 to 8 and it is 8 KM long. Another one is known as " Nishikanta jatkhali canal and it is located at 5,6,7,8 and 9 no wards and it is 6 KM long.
- Dopachari: There are 4 canals at Dopachari union. One canal is known as 'Samir canal' and it is located at 2 no ward and about 20 KM long. One canal is known as 'Dopachari canal' and

it is located at 1, 3,4,5,6 no wards and it is about 10 KM long. Another one is known as 'Checkkali canal' and it is located and it is about 3 KM long. Another one is known as ' Gondamara canal' and it is located at 1,5,6 no ward and 5 KM long.

(Uma).1 Chara : There is no CHARA in this Upazila.

(Ta) Salinity: Two times Joar and Bhata are happed and water logging occurs in some crop lands that results salinity also. This is resulting gradual decrease of crop production due to loss of fertility. In addition, scarcity of safe drinking water is gradually seen day by day. Union wise detail is provided below-

- Satbaria: There is salinity problem at Satbaria union.
- Kanchanabad: No salinity is found in this union.
- Joara: There is 20% salinity in 1, 2 and 3 no ward of this union as these ward are close to rivers.
- Barkal: Salinity has been found from 1 to 9 no wards because these wards are close to rivers.
- Barama: 20% salinity has been found in 6,8 and 9 no wards of this union because these wards are close to rivers and canals.

(Ta) Arsenic contamination: Average 5 % arsenic has been found in Chandanaish Upazila. People cannot drink water due to presence of arsenic. Now the level of arsenic is increasing day by day. People say that many diseases are seen due to arsenic. Huge crisis of arsenic water will be seen if this trend continues. Union wise arsenic condition is provided below-

- Barkal: About 5% arsenic is available from1 to 9 no ward of Barkal union.
- Barama: About 5% arsenic is available from1 to 9 no ward of Barama union.
- Dopachari : About 5% arsenic is available from1 to 9 no ward of Dopachari union.

2nd Chapter: Disasters, Hazard and vulnerability

2.1 History of Disaster:

Chandanaish Upazila is one of the most vulnerable upazila among all upazilas of Chittagong district. Every year this upazila faces one disaster or other. Each year huge resources are damaged and normal human lives are shattered due to different disasters like hilly flood, flood, river erosion, tornadoes, cyclone, drought, cold wave and attack of elephants. Strong cyclone, tornado, tidal surge etc flowed during 1988, 1991 and 1997. All unions were affected by these disasters including Pourashava. Seven unions were damaged extensively like Kanchanabad, Baitoli, Satbaria, Barkal, Dopachari, Barama, Dohazari. The speed of wind was 220-240 KM / hour. It was started at 10.30 A.M. and finished at 4.00 A.M. Many people died and it caused huge damaged on agriculture, fisheries, livestock, sanitation and infrastructures. Many government, non-government and foreign development organization came forward to help the distress people. Apart from this, they provided support on recovery, rescue, primary treatment and distribution of medicines, distribution of dry foods, rehabilitation and other support.

In 2012 cyclone 'Ila' was affected this Upazila. Though there was no death but standing crop was severely damaged by this cyclone. In addition, Kucca houses, shops, trees, livestock, infrastructures, ponds, educational institutions were damaged in this areas.

Again in 2013 cyclone 'Mohasen' was affected this Upazila. Though extensive damaged were not happened but few areas were badly affected.

Time of disasters and affected sectors

Name of Disasters	Year	Extent of Damage	Affected sectors
Onrush of hilly water	Each year	Huge	Crop, Human resources, Livestock, Fishery and infrastructures
Flood	Each year	Huge	Crop, Houses, Fishery, Livestock, roads, human resources
River erosion	Each year	Huge	Crop, Houses, roads,
Tornado	Everyday	Huge	Crop, Houses, Fishery, Livestock, roads, human resources
Drought	Everyday	Huge	Agriculture, Fishery and Health

Cold wave	Each year	Huge	Agriculture, trees, Sampling
Attack of Elephants	Everyday	Huge	Crop, Houses, trees, human
Salinity	Each year	Little	Crop, Houses, Fishery, Livestock, roads, human resources
Arsenic Contamination	Everyday	Little	Human resources, scarcity of safe drinking water.

2.2 Identification of hazards & Priorotization

Sl No.	Name of disasters	Sl. No	Priorities
1	Flood	1	Hilly flood (Dhal)
2	River Erosion	2	Flood
3	Tornado	3	River erosion
4	Drought	4	Tornado
5	Hilly flood	5	Drought
6	Cold wave	6	Cold wave
7	Attack of Elephants	7	Attack of elephants
8	Salinity		
9	Arsenic contamination		

2.3 Different hazards, it's present & future

1. Hilly Flood: The Upazila is known as hills covered Upazila. There are hills in almost all unions. 4890 kucha houses, 2884 kucha latrines, 65 graveyards and 28 mosques, 875 deep tube wells and damage of 3270 acres crop, 35600 trees, and 155 KM kacha roads are affected by hilly flood. Moreover people die due to landslide during excessive rain. So the situation can be worse in landslide if rehabilitation of people is not done by government and non government initiatives.

2. Flood: Flood is occurring in each and every year at Chandanaish Upazila. About 2950 acres crop land, fishes of 710 ponds, kacha roads of 66 KM, 3725 kacha homes, 8220 cows , 2840 goats, 35 sheep, 215 buffalo's, 2045 ducks, 2854 kacha latrines, 22310 chickens and 690 tube wells are damaged by flood in 9 unions. The extent of damage is increasing day by day due to shrinking of rivers and canals. The damage will increase in future if such trend continues unabatedly.

3. River erosion: There are two rivers in Chandanaish Upazila. One is ancient Shanka and another is called Sangu River. River erosion is seen in some unions e.g. Dohazari, Dopachari,

Bailtoli, Barkal and Barama unions during rainy monsoon. About 1100-1200 acres crop land, 1020 homes, 755 latrines, 365 ponds, 15 mosques, and 86 acres social a forestation are affected by river erosion in these unions. Risk can be minimized through planting roots enriched tress on both sides of roads by Government and non-government initiatives.

4. Tornado: Every year tornado affects Chandanaish Upazila. About 1925 crops, 2712 homes, 3500 acres afforestation, 650 latrines, 10 mosques, and 44% trees uproots or breaks in 9 unions of Chandanaish Upazila due to tornado. The damage will increase if cultivation of disaster resilient crop varieties, trees and homes are not made or not undertaken.

5. Drought: Drought is seen during dry monsoon in Chandanaish Upazila. Damage of about 2870 acres crop, 34 nurseries, 30% fruits trees, and 1750 acres afforestation is occurred in nine unions of Chandanaish Upazila due to drought. Besides, scarcity of water is seen in about 7500 households. During dry monsoon water level get down so low that water is not found in most of the tube wells.

6. Cold wave: Cold wave is seen in this upazila as the Upazila is close to hills. Damage of 1230 acres crops, 31 nurseries, 20% fruits trees, 25% vegetables, 20% livestock and children and aged people of 2200 families is affected in nine unions of this Upazila by Cold wave.

7. Attack of Elephants: This upazila is known as 'Hilly upazila'. Almost all nine unions have hills. Among them Dopachari, Kanchanabad are attacked by Elephants. Usually elephants come to habitats during deep night with groups. Elephants have killed 16 people in 2012, 7 people in 2013, and 4 people in 2014. Besides, 50 acres crops and 450-500 homes are damaged. People of these areas can move to other areas if this trend continues in future.

2.4 Vulnerability and ability:

(Ka) Vulnerability means socio, economic and environmental condition that indicates disasters and people do not have capacity to face them.

(Kha) Capacity means natural, social and environmental induced condition or process by which people or organizations face adverse situation and reduces the havoc of disasters.

Vulnerability and Capacity are shown by points below-

Hazards	Vulnerability	Capacity
1. Hilly water rush	<ul style="list-style-type: none"> • Construction of homes at hilly slops and hill sides • Poor awareness on this disaster • Non-construction of strong houses 	<ul style="list-style-type: none"> • Construction of homes away from hills • Construct homes that can be disaster resilient • Make community people aware about the danger of hilly watter rush.
2. Flood	<ul style="list-style-type: none"> • Narrowing of rivers & Khall/ streams due to siltation • Less and weak embankments • No plantation on both sides of embankment • No construction of disaster resilient houses 	<ul style="list-style-type: none"> • Dredging to increase flow of water • Plantation on both sides of embankment • Construct embankment newly or strengthen old embankment through complete repair. • Construction of disaster resilient houses.
3. River erosion	<ul style="list-style-type: none"> • People lost all resources by river erosion • Weak embankment • No afforestation on river side. • Broken embankment 	<ul style="list-style-type: none"> • Construct houses away from rivers • There are scopes for planting more trees around embankment that can strengthen soil. • Plant trees in both sides of

Hazards	Vulnerability	Capacity
		roads
4. Tornado	<ul style="list-style-type: none"> • Non-construction of disaster resilient houses • Non cultivation of cyclone resilient crop varieties. • Excessive cutting of trees • Non- availability of trees and bushes around houses • Poor construction of Kacha latrines • Poor construction of Cattle homes • Less shelter centers in contrast to needs. 	<ul style="list-style-type: none"> • Construct disaster resilient houses. • Cultivation of disaster resilient crop varieties. • Plant more trees • Plant more trees in and around homes • Construct disaster resilient kacha latrines • Construct disaster resilient cattle houses. • Construct more Disaster/ cyclone shelter centers
5. Drought	<ul style="list-style-type: none"> • Lack of sufficient trees and forest • Number of deep tube wells are less for cultivation • Crop damage occurs • No rain water harvesting system safe drinking water. • Non availability of PSF filters 	<ul style="list-style-type: none"> • Plant more trees and create forest • Increase number of tube wells • Cultivate drought resistant crops • Install rain water harvesting system
6. Cold wave	<ul style="list-style-type: none"> • Availability of huge hilly areas. • Non cultivation of cold resilient varieties of crop. • Not building of Cold resilient homes. 	<ul style="list-style-type: none"> • Start cultivation of cold wave resilient varieties of crops. • Not building of Disaster resilient homes.
7. Attack of Elephants	<ul style="list-style-type: none"> • Build houses close to hills. • People are less aware. • People are not united. • caring of Administrative and forest officials. 	<ul style="list-style-type: none"> • Not to build homes close to hills. • Make people aware. • People should be united.

Hazards	Vulnerability	Capacity
		<ul style="list-style-type: none"> • More attention by Administrative and forest department officials.

2.5 Most vulnerable areas:

The Chandanaish upazila is a disaster prone Upazila. Some parts of this Upazila are more vulnerable. Union wise detail of most vulnerability and its reasons are provided below-

Hazards	Most vulnerable areas	Reason of Vulnerability	Vulnerable population
1. Hilly onrush of water	<ul style="list-style-type: none"> • 4,5,6,7,8 & 9 no ward of Kanchanabad union • 1, 2, 3 & 4 no wards of Joara union. • 1, 2, 3 & 9 no wards of Barkal union. • 1, 2, 3, & 9 no wards of Barama union. • 1, 2, 3 & 4 no wards of Dopachari union. • 1, 2, 3,5,6,7 & 8 no wards of Bailtali union. • 6, 7, 8 & 9 no wards of Hashimpur union. • 2, 3, 4 & 5 no wards of Satbaria union. 	<ul style="list-style-type: none"> • Non construction of homes away from hills. • Build houses close to hillsides. • People not aware about hilly on rush of water. • Not building houses disaster resilient. 	Total number of affected families are 7800
2. Flood	<ul style="list-style-type: none"> • 1,2,3 & 4 no wards of Kanchanabad union • 1, 2, 3 & 4 no wards of Joara union. • 1, 2, 3, 4 & 7 no wards of Barkal union. • 5, 6, 7, & 8 no wards of Barama union. • 1, 2, 4,5, & 6 no wards of Dopachari union. 	<ul style="list-style-type: none"> • Flow obstruction of rivers & canals. • Less embankment and weak embankment. • No plantation on both sides of roads. 	Total number of affected families are 6900

	<ul style="list-style-type: none"> • 2, 3,4,5,6 no wards of Bailtali union. • 2, 3, 4, 8 & 9 no wards of Hashimpur union. • 1, 4, 5, 7 & 9 no wards of Satbaria union. • 1,2,3,8 & 9 no wards of Dohazari union. 		
3. River Erosion	<ul style="list-style-type: none"> • 1,2,3,4 no wards of Barkal. • 3, 4,5,6,7 no wards of Barama union. • 1,2,3,6,7,8,9 no wards of Dopachari union. • 4,5,6,7 & 8 no wards of Bailtoli union. • 1,2,8,9 no wards of Dohazari union. 	<ul style="list-style-type: none"> • No concrete block on Bank of rivers. • Weak embankment. • No afforestation on both sides of rivers. • Broken embankments. 	Total number of affected families are 4700
4. Tornado	<ul style="list-style-type: none"> • All wards of Kanchanabad union • All wards of Joara union. • All wards of Barkal union. • All wards of Barama union. • All wards of Dopachari union. • All wards of Bailtali union. • All wards of Hashimpur union. • All wards of Satbaria union. • All wards of Dohazari union. 	<ul style="list-style-type: none"> • Non –construction of disaster resilient homes. • Non-cultivation of Disaster resilient crops. • Excessive cutting of trees. • Non-availability of trees around the homes. • Build kacha latrines weakly. • Build residence of livestock weakly. • Less number of govt & non govt. shelters. 	Total number of affected families are 20500
5. Drought	<ul style="list-style-type: none"> • 1,2,3,4,6,8 &9 no wards of 	<ul style="list-style-type: none"> • Lack of sufficient 	Total

	<p>Kanchanabad union</p> <ul style="list-style-type: none"> • 1, 2, 3, 4, 5, 6 & 7 no wards of Dopachari union. • 4,5,6,7 & 8 no wards of Baitoli union. • 3, 4, 8 & 9 no wards of Hashimpur union. • 4,5,6,7 & 8 no wards of Satbaria union. • 1,2,3,5,6,7,8 & 9 no wards of Dohazari union. 	<p>trees and forest</p> <ul style="list-style-type: none"> • Number of deep tube wells are less for cultivation • Crop damage occurs • No rain water harvesting system safe drinking water. • Non availability of PSF filters 	<p>number of affected families are 7500</p>
6. Cold wave	<ul style="list-style-type: none"> • 1,2,3,4,5,6&7 no wards of Kanchanabad union • 4, 5, 6, 7, 8 & 9 no wards of Joara union. • 1, 2, 4, 5, 7, 8 & 9 no wards of Dopachari union. • 1, 2, 3, 4, 6, 7& 8 no wards of Baitoli union. • 1, 2, 3, 4, 8 & 9 no wards of Hashimpur union. • 2, 3,4,7,8 & 9 no wards of Satbaria union. • 1,2,3,8 & 9 no wards of Dohazari union. 	<ul style="list-style-type: none"> • Abundance of hilly areas. • Non cultivation of Disaster resilient crops. • Non construction of Disaster resilient homes 	<p>Total number of affected families are 4200</p>
7. Attack of wild Elephants	<ul style="list-style-type: none"> • 4,5,6,7 & 8 no wards of kanchanabad union. • 5, 6, 7 & 8 no wards of Dopachari union. 	<ul style="list-style-type: none"> • Not to build homes close to hills. • Not aware. • Not organize of local people. • Less attention of Administrative & Forest 	<p>Total number of affected families are about 500</p>

		officials	
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2.6 Major sectors of development planning:

The major development sectors of Chandanaish Upazila:

Main sectors	Detail description	Coordination with Disaster risk reduction
1. Agriculture	<ul style="list-style-type: none"> • Total crop land of nine unions of this Upazila is 37526 acres. Flood affects these areas every year. • Aman, boro, Aus paddy and Robi crops including guava and other vegetable cultivation of 3270 acres land out of 37526 acres can be badly affected if a hilly on rush of water happen like 2007 and 2010. • Aman, boro, Aus paddy and Robi crops including guava and other vegetable cultivation of 2950 acres land out of 37526 acres can be badly affected if flood / tidal surge happen like 1991 and 1997. • About 1925 acres crop out of total 37526 acres can be affected if a tornado attack in this Upazila. • Crop of about 1925 acres out of 37526 acres can be badly affected if a tornado occurs. • Drought affects the Upazila every year. Crop of 1870 acres out of total 37526 acres can be damaged if a drought occurs in future. • Cold wave hits this Upazila every year. 	<ul style="list-style-type: none"> • Building embankment strong. • Improve water charge system. • Use rain water in Aman sampling production. • Use organic manure in soil. • Develop irrigation system and river excavation. • Standing rice sampling put under beneath deep into the soil.

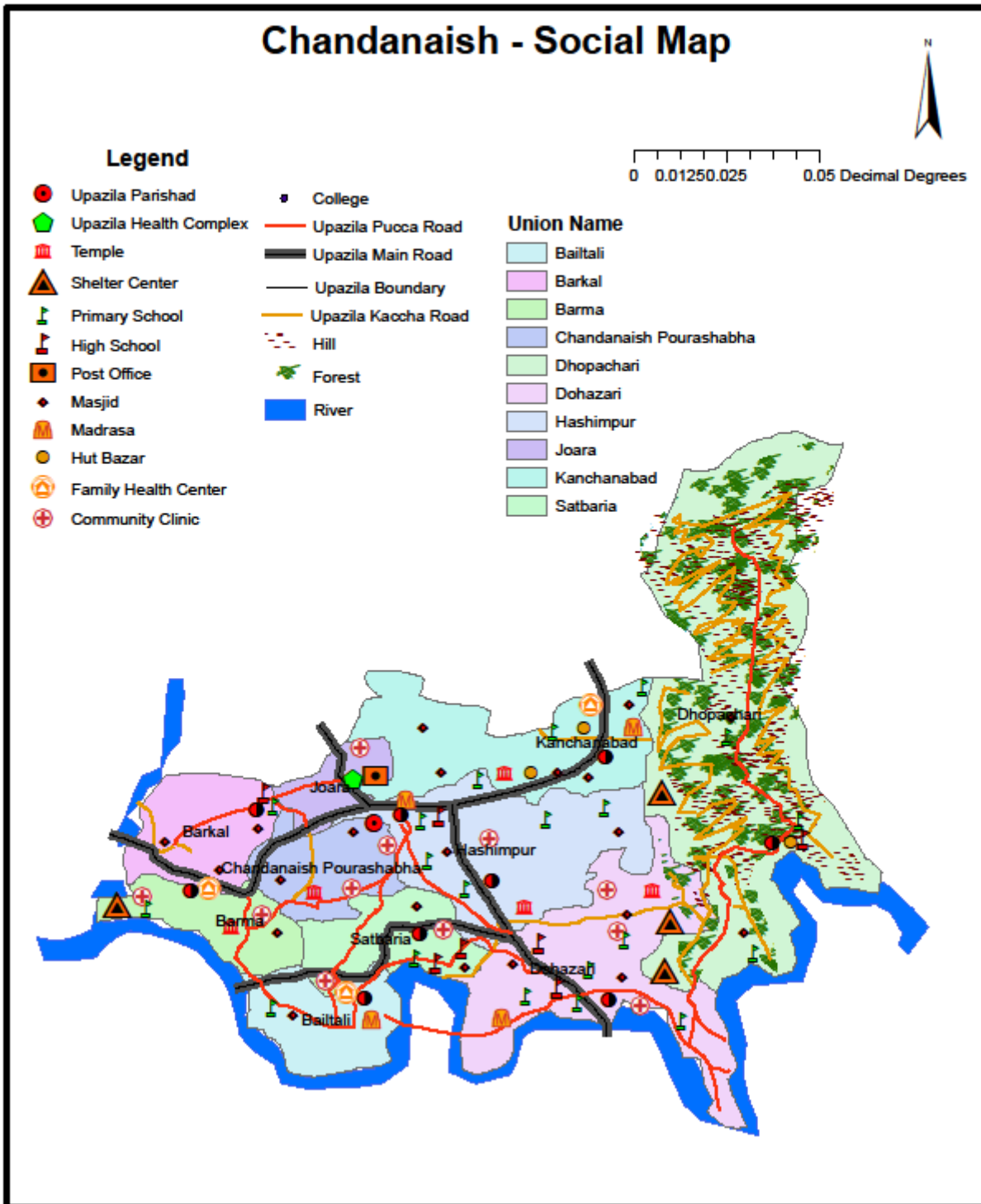
	<p>Crops of 1230 acres out of 37526 acres are damaged by cold wave.</p> <ul style="list-style-type: none"> • Crop of 80-100 acres out of 37526 acres can be damaged if an attack by elephants occurs like 2012-2014. 	
2. Fisheries	<ul style="list-style-type: none"> • Total ponds of this Upazila are 1989. Fishes of 280 ponds out of 1998 can be swept away if a Hilly water on rush occurs like 2007 and 2010. • Flood hits this upazila almost every year. Fishes of 710 ponds out of 1989 ponds can be swept away if a flood occurs. About 70-80 ponds can be affected due to river erosion. • Fishes of about 60 ponds out of 1989 ponds swept away if a tornado/ tidal surge occurs. • Drought hits this upazila almost every year. Fishes of 90-95 ponds out of 1989 ponds are affected if a drought occurs in this Upazila. 	
3. Livestock	<ul style="list-style-type: none"> • It is most likely that 12100 cows out of 62234, 11430 goats out of 21454, 10 sheep out of 51 sheep, 52710 chicken out of 52710 chicken , 2970 ducks out of 12526 can be swept away if a flood occurs in Chandanaish Upazila. • It is most likely that 8600 cows out of 62234, 9210 goats out of 21454, 8 sheep out of 51 sheep, 44760 chicken out of 52710 chicken , 1870 ducks out of 12526 can be swept away if a Tidal surge / tornado like 1991 and 1997 occurs in Chandanaish Upazila again. • Moreover, 30100 families out of 40255 families can be affected and natural beauty can be destroyed. • There is possibility that 1520 cows out of 	<ul style="list-style-type: none"> • Build earthen killas. • Develop grazing land to govt. fellow and khas land. • Motivate people to rear disaster resilient cross breed varieties of animals. • Ensure vaccination. • Build cyclone resilient habitat for livestock. • Make people aware about disease and treatment of livestock. • Establish cross breeding facilities. • Motivate people to

	62234 cows, 2840 goats out of 21454 goats can be affected by various diseases by cold wave.	cultivate paddy with fish.
4. Health	<ul style="list-style-type: none"> • Flood hits almost all unions of Chandanaish Upazila. Water logging occurs if a flood occurs in this Upazila. Family members of 9800 out of total 40255 can be affected by different water born diseases. • Drought occurs in this upazila almost every year. About 7500 families out of total 40255 families can be affected by different diseases and there is possibility that 12500 families will lack access of safe drinking water. 	<ul style="list-style-type: none"> • Raise awareness about health. • Impart training to doctors on risk of health during disasters. • Increase quality of service delivery of union level health centers and community clinics. • Ensure supply of medicines for primary care. • Ensure supply of pure drinking water. • Rehabilitate disabled during disasters. • Provide adequate vaccination and immunization. • Post should be increased at Health centers according to needs.
5. Livelihoods	<ul style="list-style-type: none"> • About 5730 fisherman out of 15100 fishermen are affected in 9 unions of Chandanaish Upazila due to flood. • About 4550 fisherman out of 15100 fishermen are affected in 9 unions of Chandanaish Upazila due to Tornado. • About 1140 fisherman out of 15100 fishermen are directly or indirectly affected in 9 unions of Chandanaish Upazila due to Drought. 	<ul style="list-style-type: none"> • Organize different IGA training for sustainable livelihood option. • Motivate women for income generation. • Ensure use of local resources. • Government and non-government support should be ensured for

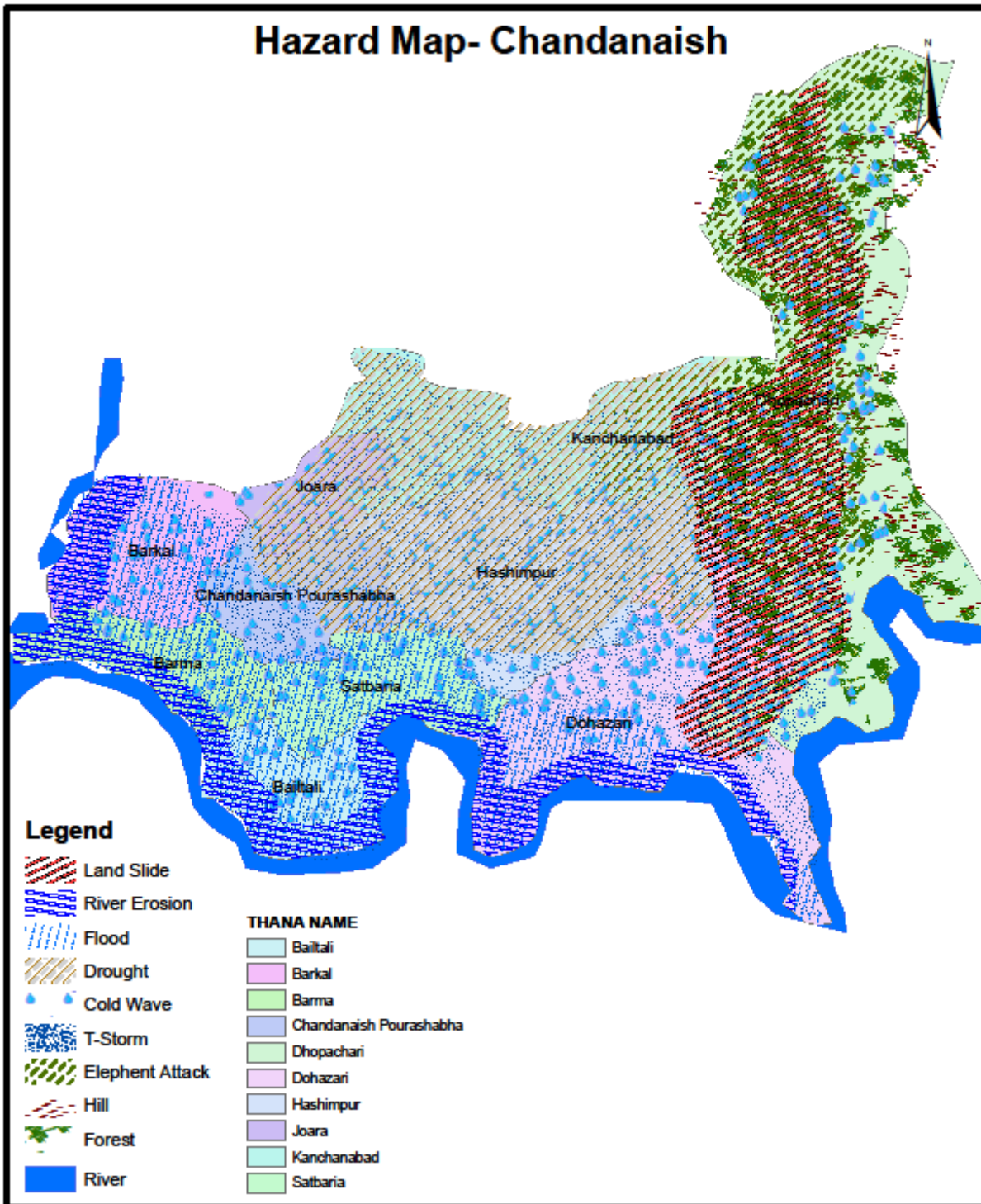
	<ul style="list-style-type: none"> • About 20560 farmers out of 120365 farmers and 48146 day laborers do not get employment in 9 unions of Chandanaish Upazila due to dry monsoon. • About 17350 farmers out of 120365 farmers and 12700 day laborers out of 48146 day laborers do not get employment in Chandanaish Upazila due to Tornado. • About 12600 farmers out of 120365 farmers and 10300 day laborers out of 48146 day laborers do not get employment in Chandanaish Upazila due to flood. • 4200 businessmen out of 24073 businessmen are directly or indirectly affected if a tornado hits this Upazila. 	<p>livelihoods of vulnerable population.</p> <ul style="list-style-type: none"> • Organize training for small traders through Samities/ Groups. • Ensure social security.
6. Trees	<ul style="list-style-type: none"> • It is likely that sampling of 75 nurseries out of 185 nurseries can be affected by Hill water on-rush. • About 52300 trees of 19500 families out of 40255 families swept away due to flood. And sampling of 60 nurseries out of 185 nurseries can be damaged. • About 52880 trees of 17500 families out of total 40255 families can be affected if a cyclone like 1991 and 1997 hit this Upazila. 	<ul style="list-style-type: none"> • Motivate people to plant sampling around homes. • Increase awareness about environment. • Take legal action and enforce law to control illegal tree cutting. • Increase area based social afforestation. • Plant trees on Khas land and fellow land. • Motivate local people to plant more trees.
7. Homes & 8. Infrastructure	<ul style="list-style-type: none"> • About 65 KM Kacha road out of 439.50 KM , 44 KM HBB, Kacha homes of 4890 families out of 40255 families , 46 educational institution out of 103, 55 mosques out of 303, 26 temples out of 76 can be badly affected if a hilly water 	<ul style="list-style-type: none"> • Increase height of roads and make pucca. • Construct necessary culverts & bridges. • Build adequate cyclone

	<p>on rush occurs.</p> <ul style="list-style-type: none"> • About 55 Km kacha road out of 439.50 KM, 36 KM HBB, inundation of Kucha homes of 11600 families out of 40255 families, 85 culverts out of 503 culverts, 33 educational institution out of 103, 95 mosques out of total 303 mosques, 20 temples out of 76, 5 hatbazar out of 23, 6 health centers out of 35 health centers can be affected if a tornado /cyclone/tidal surge like 1991 and 1997 occurs in this Upazila. Besides, 45-50 KM electric line can be damaged due to cyclone. • About 32 KM kacha road out of 439.50 KM, 29 Km HBB out of 159, inundation of 10400 homes out of 40255 families, 27 educational institution out of 103, 9 hatbazar out of 23, 4 health centers out of 35 health centers can be directly or indirectly affected. • About 1000-1200 Kacha homes out of total 40255 families can be affected if wild elephant attack like 2012- 2014 occurs. 	<p>centers.</p> <ul style="list-style-type: none"> • Plant sampling around infrastructures and roads and canals. • Build new shelters. • Build new structures cyclone resilient. • Build new homes cyclone resilient. • Motivate people to plant more trees around homes.
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2.7 Social Map:



2.8 Hazard Map:



2.9 Hazard calendar:

Sl No.	Hazards	Name of Months											
		Jan.	Feb.	March	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	Flood						■	■	■	■			
2	Hilly on Rush						■	■	■	■			
3	Tornado						■	■	■	■			
4	River erosion				■	■							
5	Drought				■	■							
6	Water Logging	■	■										

Calendar Analysis:

Chandanaish upazila is a disaster prone area. It is known from interaction with community people that hazards like hilly water on rush, flood, river erosion, tornado, drought, cold wave and attack of elephants are occurred in almost 9 unions of this Upazila. Occurrence time of hazards has been shown in above charts. Detail is being analysis below-

- **On rush of hilly water:** During interaction with local people it is known that hills are abundances in most parts of the Upazila. On rush of hilly water occurs every year during rainy monsoon in these areas and it damages local resources. On rush of hilly water is the most devastating hazards than other hazards. Usually this on rush occurs during Asar to Asin month.
- **Flood:** It is known that unions are close to rivers and canals and flood occurs every year due to climatic change. Flood occurs from Asar to Asin month.
- **River Erosion:** It is known that river erosion is a major hazard in this Upazila. Every year homes and crop land are devoured by this erosion. This is happened from Asar to Ashin month.
- **Tornado:** It is known from interacting with local people that Tornado is another hazard that occurs almost every year. It took huge toll to lives and other resources. Usually this is happen from Baishak to Justa month.
- **Drought:** It is known that Drought is another hazard that badly damage crop lands and crops and create scarcity of safe drinking water.
- **Cold wave:** It is known that cold wave is another hazard that makes huge damage to human, animals and plants. This is happed from Kartik to Mag month.
- **Attack of wild elephants:** It is known that almost all unions of Chandanaish Upazila are covered with hills. As a result, wild elephants break and destroy crops, trees, homes coming at night with groups and even attack people and killed them. The situation is getting worse day by day.

2.10 Monsoon calendar of livelihoods:

Sl. No.	Livelihoods	Name of months											
		Jan.	Feb.	March	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1.	Farmers												
2.	Fishermen												
3.	Livestock rarer												
4.	Businessman												
5.	Vatbati/ Van driver												
6.	Day laborer												

2.11 Lives & Livelihood related vulnerability:

Main livelihoods and what problems it creates is shown in below table-

Sl No.	Livelihoods	Hazards						
		Land Slide	Flood	River Erosion	Tornado	Drought	Cold Wave	Attack of wild elephants
1	Agriculture							
2	Animal							
3	Business							
4	Fishery							
5	Day laborer							
6	VATBATI/ Van driver							

2.12 Sector wise description of hazards and of risks:

(Ka) What kind of sectors are fell victims by hazards in Chandanaish upazila is details below-

Hazards induced Risk identification and listing has been done after identifying union wise hazards, vulnerable sectors and areas. Risk prioritization has been done through votes of 24 representatives (3 groups consisting of 8 people of Farmer, fisherman and businessman professionals). Priorities risks and its causes of three groups have been combined, made analysis and risk reduction approaches have been identified. List of Priorities risks are exhibited below-

Identification of Vulnerable sectors

Hazards	Vulnerable social Components/elements									
	Crop	Homes	Trees	Fisheries	Livestock	Roads	Educational institution	Health	Sanitation	Culverts
On rush of hill water										
Flood										
River Erosion										
Tornado										
Drought										
Cold wave										
Attack of Elephants										

Sector wise description of Hazards and risks:

Sector	Hazards	Description
Agriculture	Hill water on rush	<p>About 1200 families out of 4505 families , 510 acres Aman, Boro, Aus , Robi crop including guava and vegetable cultivation can be badly affected in Kanchnabad union if a hill water on rush occurs during raining monsoon. About 480 families out of 2130 families , crop of 510 acres Aman, Boro, Aus , Robi out of 5691 acres including guava and vegetable cultivation can be badly affected in Joara union if a hill water on rush occurs during raining monsoon. About 1020 families out of 3571 families , crop of 470 acres Aman, Boro, Aus , Robi out of 4500 acres including guava and vegetable cultivation can be badly affected in Barkal union if a hill water on rush occurs during raining monsoon. About 1325 families out of 4704 families , crop of 490 acres Aman, Boro, Aus , Robi out of 5100 acres including guava and vegetable cultivation can be badly affected in Barama union if a hill water on rush occurs during raining monsoon. About 950 families out of 2160 families, crop of 488 acres Aman, Boro, Aus, Robi out of 1500 acres including guava and vegetable cultivation can be badly affected in Dopachari union if a hill water onrush occurs during raining monsoon. About 2100 families out of 7000 families, crop of 465 acres Aman, Boro, Aus, Robi out of 5020 acres including guava and vegetable cultivation can be badly affected in Baitoli union if a hill water onrush occurs during raining monsoon. About 875 families out of 2817 families, crop of 385 acres Aman, Boro, Aus, Robi out of 3280 acres including guava and vegetable cultivation can be badly affected in Hashimpur union if a hill water onrush occurs during raining monsoon. About 875 families out of 2817 families, crop of 385 acres Aman, Boro, Aus, Robi out of 3280 acres including guava and vegetable cultivation can be badly affected in Hashimpur union if a hill water onrush occurs during raining monsoon. About 3270 acres crop of 8 unions can be partly or wholly damaged if necessary preventive actions is not undertaken to contain this hazard.</p>
Homes	Hill water on rush	<p>About 4890 homes out of 38272 homes of Kanchanabad, Joara, Barkal, Barama, Dopachari, Baitoli, Hashimpur, Satbaria unions can be directly or indirectly affected by hill water onrush during</p>

Sector	Hazards	Description
		rainy monsoon.
Trees	Hill water on rush	About 7 nurseries out of total 25 nurseries of Kanchanabad union can be affected by hill water on rush. About 5 nurseries out of total 11 nurseries of Joara union can be affected by hill water on rush. About 6 nurseries out of total 13 nurseries of Dopachari union can be affected by hill water on rush. About 9 nurseries out of total 19 nurseries of Barama union can be affected by hill water on rush. About 8 nurseries out of total 16 nurseries of Barkal union can be affected by hill water on rush. About 7 nurseries out of total 16 nurseries of Baitoli union can be affected by hill water on rush. About 11 nurseries out of total 26 nurseries of Hashimpur union can be affected by hill water on rush. About 9 nurseries out of total 24 nurseries of Satbaria union can be affected by hill water on rush. Apart from this about 35600 trees can be affected by hill water onrush.
Fishery	Hill water on rush	There are a total 1989 ponds in Chandanaish Upazila. Fishes of about 24 ponds of kanchanabad union, 30 ponds of Joara union, 18 ponds of Dopachari union, 16 ponds of Barama union, 19 ponds of Barkal union, 21 ponds of Baitoli union, 31 ponds of Hashimpur union and 16 ponds of Satbaria union can be affected by hill water onrush.
Livestock	Hill water onrush	About 52234 cows, 21454 goats, 1493 buffalos, 12526 ducks, 145325 chickens can be affected. Among them 225 cows, 350 goats, 170 buffalo's, 2875 ducks, 3350 chickens of Kanchanabad union, 215 cows, 310 goats, 40 buffalo's, 2740 ducks, 3260 chicken of Joara union, 180 cows, 215 goats, 21 buffalo's, 1654 ducks, 2760 chicken of Dopachari union, 211 cows, 327 goats, 17 buffalos, 1530 ducks, 2870 chickens of Barama union, 107 cows, 234 goats, 45 buffalos , 2214 ducks, 2985 chickens of Barkal union, 115 cows, 295 goats, 34 buffalows, 2712 ducks, 3017 chickens, of Baitoli union, 112 cows, 236 goats, 114 buffalos, 2468 ducks, 3180 chickens of Hashimpur union, 124 cows, 275 goats, 32 buffalows, 2510 ducks, 2976 chickens of Satbaria union can be swept away by inundation of their homes. So safe places will be needed.
		There are 30880 latrines at Chandanaish Upazila. About 9261

Sector	Hazards	Description
Sanitation	Hill water onrush	Kacha latrines of 11500 families out of 40255 families of Kanchanabad, Joara, Dopachari, Barama , Barkal, Baitoli Hashipur and Satbaria union can be affected if a hill water onrush hits.
Agriculture	Flood	Aus, Aman, Boro and Robi including Guava and vegetable cultivation of 460 acres land out of 5691 acres can badly be affected in Kanchanabad union if a flood like 1988, 1991 and 1997 hit this Upazila. As a result, 1120 families out of 4505 families can be affected. Aus, Aman, Boro and Robi including Guava and vegetable cultivation of 395 acres land out of 3700 acres can badly be affected in Joara union. As a result, 670 families out of 2130 families can be affected. Aus, Aman, Boro and Robi crops including Guava and vegetable cultivation of 315 acres land out of 6000 acres can badly be affected in Dohazari union. As a result, 1710 families out of 8500 families can be affected. Aus, Aman, Boro and Robi crops including Guava and vegetable cultivation of 215 acres land out of 4500 acres can badly be affected in Barkal union. As a result, 1200 families out of 3571 families can be affected. Aus, Aman, Boro and Robi crops including Guava and vegetable cultivation of 275 acres land out of 5100 acres can badly be affected in Barkal union. As a result, 1345 families out of 4704 families can be affected. Aus, Aman, Boro and Robi crops including Guava and vegetable cultivation of 175 acres land out of 1500 acres can badly be affected in Dopachari union. As a result, 795 families out of 2160 families can be affected. Aus, Aman, Boro and Robi crops including Guava and vegetable cultivation of 210 acres land out of 3280 acres can badly be affected in Hashimpur union. As a result, 670 families out of 2817 families can be affected. Aus, Aman, Boro and Robi crops including Guava and vegetable cultivation of 295 acres land out of 5020 acres can badly be affected in Baitoli union. As a result, 1740 families out of 7000 families can be affected. Aus, Aman, Boro and Robi crops including Guava and vegetable cultivation of 240 acres land out of 2735 acres can badly be affected in Satbaria union. As a result, 1025 families out of 4848 families can be affected. About 2950 acres crop land will partly or entirely be damaged if

Sector	Hazards	Description
		effective measures to contain flood is not undertaken.
Homes	Flood	<p>About 8220 kacha homes out of 38272 homes of 40255 families can be directly or indirectly affected if a flood like 1988, 1991, and 1997 occurs in 9 unions of Chandanaish Upazila. About 11210 fruits, forest and herbal trees and 11 nurseries likely to be damaged in Kanchanabad union if a flood like 1988, 1991 and 1987 occurs. About 5420 fruits, forest and herbal trees and 7 nurseries likely to be damaged in Joara union if a flood hits. About 19100 fruits, forest and herbal trees and 19 nurseries likely to be damaged in Dohazari union if a flood hits. About 9200 fruits, forest and herbal trees and 8 nurseries likely to be damaged in Barkal union if a flood hits. About 11030 fruits, forest and herbal trees and 11 nurseries likely to be damaged in Barama union if a flood hits. About 5300 fruits, forest and herbal trees and 7 nurseries likely to be damaged in Dopachari union if a flood hits. About 7320 fruits, forest and herbal trees and 12 nurseries likely to be damaged in Hashimpur union if a flood hits. About 15400 fruits, forest and herbal trees and 16 nurseries likely to be damaged in Bailtoli union if a flood hits. It is most likely that fruit, forest and herbal tress can be badly damaged if no effective preventive action is taken.</p>
Fisheries	Flood	<p>About 760 fisherman out of 1235 fisherman of 4505 families can be affected in Kanchanabad union by flood if flood like 1988, 1991 and 1987 occurs. Similarly about 320 fishermen out of 840 fishermen of 2130 families can be affected in Joara union by flood if flood hits in this union. Similarly about 1160 fishermen out of 5420 fishermen of 8500 families can be affected in Dohazari union by flood if flood hits in this union. Similarly about 935 fishermen out of 2495 fishermen of 3571 families can be affected in Barkal union by flood if flood hits in this union. Similarly about 1410 fishermen out of 3073 fishermen of 4704 families can be affected in Barama union by flood if flood hits in this union. Similarly about 682 fishermen out of 1008 fishermen of 2160 families can be affected in Dopachari union by flood if flood hits in this union. Similarly about 610 fishermen out of 1320 fishermen of 2817 families</p>

Sector	Hazards	Description
		can be affected in Hashimpur union by flood if flood hits in this union. Similarly about 702 fishermen out of 1210 fishermen of 7000 families can be affected in Baitoli union by flood if flood hits in this union. Similarly about 355 fishermen out of 966 fishermen of 4868 families can be affected in satbaria union by flood if flood hits in this union.
Livestock/ Animals resources	Flood	There are 62234 cows, 21454 goats, 145325 chickens, 12526 ducks, 51 sheep, and 1493 buffalo's in Chandanish Upazila. 875 cows, 410 goats, 7530 chicken, 310 ducks, 7 sheep, about 12 buffalos can be swept away in Kanchanabad union if a flood like 1988, 1991 and 1997 occur. So many families can be affected. About 780 cows, 392 goats, 7400 chicken, 291 ducks, 5 sheep, about 12 buffalos can be swept away in Joara union if a flood like 1988, 1991 and 1997 occur. So many families can be affected. About 612 cows, 327 goats, 6400 chicken, 285 ducks, 9 sheep, about 8 buffalos can be swept away in Barkal union if a flood occurs. So many families can be affected. About 256 cows, 312 goats, 9750 chicken, 970 ducks, 10 sheep, about 7 buffalos can be swept away in Dopachari union if a flood hits. So many families can be affected. About 170 cows, 205 goats, 3200 chicken, 155 ducks, 8 sheep, about 7 buffalos can be swept away in Hashimpur union if a flood hits. So many families can be affected. About 645 cows, 511 goats, 8650 chicken, 186 ducks, 10 sheep, about 12 buffalos can be swept away in Baitoli union if a flood like 1988, 1991 and 1997 occur. So many families can be affected. Extent of damage can be increased in an effective measures to contain flood is not taken.
Roads	Flood	About 33 KM Kacha roads and 22 KM HBB (3 KM Kacha and 2 KM HBB of Kanchanabad union, 3 KM Kacha and 2 Km HBB of Joara union, 6 KM Kacha and 4 KM HBB of Dopacharui union, 6 KM Kacha and 3 Km HBB of Dohazari union, 5 KM Kacha and 2 Km HBB of Barkal union, 3 KM Kacha nad 4 KM HBB of Barama union, 2 KM Kacha and 2 KM HBB of Hashimpur union, 5 KM Kacha and 3 KM HBB of Baitoli union) can be directly or indirectly affected by if a flood like 1988, 1991, 1997 occurs.
Educational	Flood	32 educational institutions out of total 103 can be directly or

Sector	Hazards	Description
institution		indirectly affected by flood if a flood like 1988, 1991, and 1997 occurs.
Health	Flood	Many people of Kanchanabad, Joara, Dopachari, Dohazari, Barama, Barkal, Hashimpur, Baitoli and Satbaria unions can be affected by water born diseases if a flood like 1988.1991 and 1997 occurs in this Upazila. 13 health centers out of 35 centers can be directly or indirectly affected by flood.
Sanitation	Flood	Total number of sanitary latrines in nine unions of Chandanaish upazila is 30880. Among them 12352 are Pucca 18528 are Kacha. 13000 latrines can be affected if a flood occurs.
Culverts	Flood	About 91 culverts out of total 503 can be damaged if a flood like 1988, 1991 and 1997 occurs. 12 Culverts of Kanchanabad union, 8 culverts of Joara union, 11 Culverts of Dopachari union, 17 culverts of Dohazari union, 15 culverts of Barama union, 10 culverts of Barkal union, 7 culverts of Hashimpur union, 11 culverts of Baitoli union can be directly or indirectly affected by flood like 1988,1991 and 1997 occurs.
Agriculture	River erosion	River erosion is seen in some unions e.g. Dohazari, Dopachari, Baitoli, Barkal, Barama of Chandanaish upazila during rainy monsoon. About 290 acres crop land out of 6000 acres of Dohazari union can be affected and 10 acres land can be devoured if river erosion occurs. As a result 980 families out of 8500 families can be affected. About 230 acres crop land out of 5020 acres of Baitoli union can be affected and 15 acres land can be devoured if river erosion occurs. As a result 1640 families out of 7000 families. About 290 acres crop land out of 4500 acres of Barkal union can be affected and 10 acres land can be devoured if river erosion occurs. As a result 790 families out of 3571 families can be affected. About 145 acres crop land out of 5100 acres of Barama union can be affected and 10 acres land can be devoured if river erosion occurs. As a result 3370 families can be affected. The extent of loss can be increased if effective measures to contain the erosion are not undertaken.
	River	River erosion is occurred in almost every rainy season. River erosion hugely damages homes. 1,2,3,7,8 and 9 no wards of Dohazari union, 1,2,3,4 no wards of Barkal union, 1,2,3,8 and 9

Sector	Hazards	Description
Homes	Erosion	no wards of Barama union, 1,3,5,6,7 and 8 no wards of Baitoli union, 1,2,6,7,8 and 9 no wards of Dopachari union are directly or indirectly affected by river erosion. Even it is most likely that few homes can be devoured by rivers.
Trees	River erosion	River erosion is caused in almost every year. Extensive damage of trees is caused by river erosion. Small , medium and large size trees of 1,2,3,7,8 and 9 no wards of Dohazari union, 1,2,3,4 no wards of Barkal union, 1,2,3,8 and 9 no wards of Barama union, 1,3,5,6,7 and 8 no wards of Baitoli union, 1,2,6,7,8 and 9 no wards of Dopachari union can be swept away if river erosion occurs.
Fishery	River erosion	River erosion is caused in almost every year in Chandanaish Upazila. Extensive damage is caused due to river erosion. About 125 fishermen out of 5420 fishermen of 8500 families of Dohazari union can be affected by river erosion.
		About 95 fishermen out of 2495 fishermen of 3671 families of Barkal union can be affected by river erosion. About 86 fishermen out of 3073 fishermen of 4704 families of Barama union can be affected by river erosion. About 115 fishermen out of 1210 fishermen of 7000 families of Baitoli union can be affected by river erosion. About 117 fishermen out of 1008 fishermen of 2160 families of Baitoli union can be affected by river erosion.
Roads	River erosion	River erosion occurs in almost every rainy moonson in Chandanaish Upazila. It is most likely that 8 KM of Dohazari union, 9 KM of Barkal union, 6 KM of Barama union, 9 Km of Baitoli union 8 Km of Dopachari union can be damaged if river erosion occurs.
Agriculture	Tornado	Extensive damage is caused in Chandanaish Upazila every year due to tornado. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 315 acres out of 5691 acres of Kanchanabad union can be badly damaged if a tornado hits. As a result 1115 families out of 4505 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 315 acres out of 5691 acres of Joara union can be badly damaged if a tornado hits. As a result 640 families out of 2130 families can

Sector	Hazards	Description
		<p>be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 320 acres out of 6000 acres of Dohazari union can be badly damaged if a tornado hits. As a result 1240 families out of 8500 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 309 acres out of 6000 acres of Barkal union can be badly damaged if a tornado hits. As a result 1190 families out of 8500 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 325 acres out of 5100 acres of Barama union can be badly damaged if a tornado hits. As a result 970 families out of 4704 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 130 acres out of 1500 acres of Dopachari union can be badly damaged if a tornado hits. As a result 675 families out of 2160 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 165 acres out of 3280 acres of Hashimpur union can be badly damaged if a tornado hits. As a result 575 families out of 2870 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 242 acres out of 5020 acres of Baitoli union can be badly damaged if a tornado hits. As a result 1430 families out of 7000 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 145 acres out of 2835 acres of Satbaria union can be badly damaged if a tornado hits. As a result 925 families out of 4648 families can be affected.</p> <p>The extent of damage can be increase if effective measures to contain tornado risks are not undertaken.</p>
Homes	Tornado	<p>There are 38272 homes in Chandanaish upazila. Among them 3432 are pucca, 10774 are semi pucca, and 24066 are Kacha. Almost all homes are Kacha. About 3540 Semi pucca and 8970 Kacha houses of 9 unions can be affected if a Tornado like 1991 hits this Upazila.</p>
		<p>About 7850 Fruits, Forest and Herbal trees and 8 nurseries of Kanchanabad union can be affected if a Tornado like 1988 and 1997 hits. About 4380 Fruits, Forest and Herbal trees and 7 nurseries of Joara union can be affected if a Tornado hits. About 17600 Fruits, Forest and Herbal trees and 22 nurseries of</p>

Sector	Hazards	Description
Trees	Tornado	Dohazari union can be affected if a Tornado hits. About 7855 Fruits, Forest and Herbal trees and 9 nurseries of Barkal union can be affected if a Tornado hits. About 10500 Fruits, Forest and Herbal trees and 11 nurseries of Barama union can be affected if a Tornado hits. About 5390 Fruits, Forest and Herbal trees and 8 nurseries of Dopachari union can be affected if a Tornado hits. About 6320 Fruits, Forest and Herbal trees and 15 nurseries of Hashimpur union can be affected if a Tornado hits. About 9460 Fruits, Forest and Herbal trees and 13 nurseries of Bailtoli union can be affected if a Tornado hits. About 8700 Fruits, Forest and Herbal trees and 14 nurseries of Satbaria union can be affected if a Tornado hits. It is most likely that more fruits, forest and herbal trees can be damaged if effective measure cannot take to contain Tornado.
Educational Institution	Tornado	There are 103 educational institutions in Chandanaish Upazila. Every year Tornado occurs in this Upazila. About 25-30 Institution can be badly damaged if a tornado like 1991 hits again.
Sanitation	Tornado	There are 30880 latrines in nine unions of Chandanaish Upazila. It may mention here that most latrines are Kacha. So risk is high. Every year Tornado hits this Upazila. It is most likely that 13200 kacha latrines out of 24066 latrines can be badly damaged if a tornado likes 1991 hits the Upazila again.
Agriculture	Drought	Drought occurs almost every year in Chandanaish Upazila and it causes extensive damage. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 280 acres out of 5691 acres of Kanchanabad union can be badly damaged if a drought hits. As a result 960 families out of 4505 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 245 acres out of 3700 acres of Joara union can be badly damaged if a drought hits. As a result 720 families out of 2130 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 335 acres out of 6000 acres of Dohazari union can be badly damaged if a drought hits. As a result 965 families out of 8500 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 312 acres out of 4500 acres of Barkal union can

Sector	Hazards	Description
		<p>be badly damaged if a drought hits. As a result 1115 families out of 4500 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 276 acres out of 5100 acres of Barama union can be badly damaged if a drought hits. As a result 626 families out of 4704 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 145 acres out of 1500 acres of Dopachari union can be badly damaged if a drought hits. As a result 550 families out of 2160 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 210 acres out of 3280 acres of Hashimpur union can be badly damaged if a drought hits. As a result 675 families out of 2817 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 185 acres out of 5020 acres of Bailtoli union can be badly damaged if a drought hits. As a result 1108 families out of 7000 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 85 acres out of 2735 acres of Satbaria union can be badly damaged if a drought hits. As a result 390 families out of 4868 families can be affected. The extent of damage can be increase if a effective measures is not taken to contain drought in this Upazila and it will have adverse affect to crops.</p>
Trees	Drought	<p>Severe drought is seen during dry monsoon in this Upazila. Particularly nurseries can be worst affected. About 7 nurseries of Kanchanabad union are affected by drought. Similarly about 6 nurseries of Joara union are affected by drought. Similarly about 11 nurseries of Dohazari union are affected by drought. Similarly about 5 nurseries of Barama union are affected by drought. Similarly about 5 nurseries of Dopachari union are affected by drought. Similarly about 12 nurseries of Hashimpur union are affected by drought. Similarly about 9 nurseries of Bailtoli union are affected by drought. Similarly about 4 nurseries of Satbaria union are affected by drought. Natural beauty will be lost and people involved in nurseries can be directly or indirectly affected if measures steps are not taken to contain drought.</p>
		<p>There are 1989 ponds in nine unions of Chandanaish Upazila.</p>

Sector	Hazards	Description
Fisheries	Drought	About 795 ponds out of 1989 can lose water if a drought occurs and it will severely affect fish cultivation.
Health	Drought	Severe drought is seen in Chandanaish Upazila. More or less almost all unions are affected by drought and it causes substantial damage. During dry monsoon scarcity of water is found in 3260 tube wells out of 8755. So people become affected by many diseases including skin diseases. The number of skin diseases patient will increase in future including scarcity of safe drinking water if effective steps are not taken to contain drought.
Agriculture	Cold wave	Cold wave hits this Upazila almost every year and here it causes extensive damage. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 165 acres out of 5691 acres of Kanchanabda union can be badly damaged if a cold wave hits. As a result 475 families out of 4505 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 155 acres out of 3700 acres of Joara union can be badly damaged if a cold wave hits. As a result 430 families out of 2130 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 133 acres out of 6000 acres of Dohazari union can be badly damaged if a cold wave hits. As a result 425 families out of 8500 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 113 acres out of 4500 acres of Barkal union can be badly damaged if a cold wave hits. As a result 462 families out of 4500 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 116 acres out of 5100 acres of Barama union can be badly damaged if a cold wave hits. As a result 510 families out of 4704 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 85 acres out of 1500 acres of Dopachari union can be badly damaged if a cold wave hits. As a result , 392 families out of 2160 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 110 acres out of 3280 acres of Hashimpur union can be badly damaged if a cold wave hits. As a result 285 families out of 2817 families can be affected.

Sector	Hazards	Description
		Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 109 acres out of 5020 acres of Baltoli union can be badly damaged if a cold wave hits. As a result 533 families out of 7000 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 75 acres out of 2735 acres of Satbaria union can be badly damaged if a cold wave hits. As a result 245 families out of 4868 families can be affected.
Trees	Cold wave	Cold wave hits this Upazila almost every year. Cold wave severely damages nurseries. About 5 nurseries are affected by cold wave in Kanchanabad union. About 4 nurseries are affected by cold wave in Joara union. About 7 nurseries are affected by cold wave in Dohazari union. About 3 nurseries are affected by cold wave in Barkal union. About 4 nurseries are affected by cold wave in Barama union. About 3 nurseries are affected by cold wave in Dopachari union. About 2 nurseries are affected by cold wave in Bailtoli union. About 2 nurseries are affected by cold wave in Satbaria union. Natural beauty will be lost and people involved in nurseries can be directly or indirectly affected if cultivation of cold wave resistance crop varieties are not cultivated and approximate steps are not taken to contain cold wave.
Live stock	Cold wave	There are 62234 cows, 21454 goats, 145325 chicken, 12526 ducks, 51 sheep, and 1493 buffalos in this Upazila. It is most likely that about 155 cows, 167 goats, 2250 chicken can be died by many diseases at Kanchanabad union due to cold wave. Similarly about 145 cows, 156 goats, 1960 chicken can be died by many diseases at Joara union due to cold wave. Similarly about 111 cows, 157 goats, 2322 chicken can be died by much disease at Dohazari union due to cold wave. Similarly about 97 cows, 124 goats, 2138 chicken can be died by many diseases at Barkal union due to cold wave. Similarly about 87 cows, 112 goats, 1534 chicken can be died by many diseases at Barama union due to cold wave. Similarly about 76 cows, 120 goats, 1342 chicken can be died by many diseases at Dopachari union due to cold wave. Similarly about 51 cows, 83 goats, 945 chickens can be died by many diseases at Bailtoli union due to

Sector	Hazards	Description
		cold wave.This damage can be worse in future if habitat of livestock cannot be kept safe.
Health	Cold wave	About 7064 Children out of 28256, 3513 aged people out of 14051 and 759 hadicaps out of 3035 can be affected by various disease and their lives can turn to risks if a cold wave like each year hits this Upazila.
Agriculture	Attack of Elephants	The Upazila is commonly known as “Hilly Upazila”. There are hills in almost all unions. Among them Dopachari and kanchanabad unions are worst affected and hit by elephants. Elephants come down to plains and make huge damages to standing crops and homes during night. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 22 acres out of 5691 acres of Kanchanabad union can be badly damaged if elephants attack like 2012, 2013 and 2014. As a result 150 families out of 4505 families can be affected. Aman, Boro, Aus and Robi crop and guava and vegetable cultivation of 28 acres out of 1500 acres of Dopachari union can be badly damaged if elephants attack like 2012, 2013 and 2014. As a result 160 families out of 2160 families can be affected.The extent of damage can turn to worst in future if preventive steps are not taken.
Homes	Attack of Elephants	The Upazila is commonly known as “Hilly Upazila”. There are hills in almost all nine unions. Among them Dopachari and kanchanabad unions are worst affected and hit by elephants. Elephants come down by flock to plains and make huge damages to standing crops and homes during night. About 450-500 Kacha houses can be damaged if an attack by elephants occurs like last year. Besides elephants have killed 16 people in 2012, 7 people in 2013 and 4 people in current 2014, totaling 27 persons. Some areas can be habitat free if officials of administrative and forest department do not take necessary steps and this trend continues.
Trees	Attack of Elephants	Almost all unions of Chandanaish upazila have hills. Among them elephants attack Dopachari and kanchanabad unions. Elephants come down by flock during night to plains and make huge damages to standing crops, Robi, vegetables and homes.

2.13 Climatic Change & Its potential impact:

Sectors	Hazards	Descriptions
Agriculture	On rush of hilly water	The Upazila is known as 'Hilly Upazila'. There are hills in almost all unions. Homes are destroyed in every year due to hill water onrush. 3270 acres crop are damaged each year due to water onrush.
Agriculture	Flood	The Upazila is affected by flood each year. Flood damage almost all unions of this Upazila. Extent of damage is increasing day by day in this Upazila. About 2950 acres crop land can be directly or indirectly affected by flood.
Agriculture	River erosion	There are two rivers (Sangu and Shanka) in this Upazila. River erosion is seen in some union like Dohazari, Dopachari, Bailtoli, Barama and Barkal. About 1100-1200 acres crop are damaged due to river erosion.
Agriculture	Tornado	Tornado hits this Upazila every year. This Upazila is affected by tornadoes every year as it is close to sea and due to affect of climatic change.
Agriculture	Drought	Drought is found during dry monsoon in this Upazila. Almost all unions are affected by drought. About 1870 acres crop are damaged directly or indirectly due to drought.
Agriculture	Cold wave	Cold wave is seen in almost 9 unions of Chandanaish Upazila.
Agriculture	Attack of elephants	Almost all unions of Chandanish Upazila have hills or covered with hills. Attack of elephants are seen in two unions (Kanchanabad & Dopachari unions). Each year as many as 50 acres crop is damaged by elephants attack. Besides, Elephants damages Robi crop and different vegetables. These areas can be treeless if this trend continues and steps by Administration and forest department are not taken.
Animal resources	Hill water on rush	This Upazila is known as "Hilly areas". Almost all unions have hills. People living in hills are not aware and that is why 4790 cows, 5675 goats, 146580 chicken, 11560 ducks died by sweeping away. Besides, landslides take huge tools to lives and resources. This damage can be increase if steps are not taken to bring hilly people down during hilly water onrush and proper rehabilitation is not done.

Sectors	Hazards	Descriptions
Animal resources	Flood	About 8220 cows, 2840 goats, 35 sheep, 207421 chicken , 2045 ducks , 215 buffalos can be swept away if a flood like 1988, 1997 hits Chandanaish Upazila again. As a result, 8540 families can be directly or indirectly affected.
Animal resources	Cold wave	Cold wave is seen in almost all 9 unions of Chandanaish Upazila. About 12468 cows, 4290 goats, 12 sheep, 300 Buffalos, 2856 ducks, and 28790 chickens can be affected by different diseases and died in a cold wave hits this Upazila like every year.
Animal resources	Tornado	About 9545 cows, 3022 goats, 45 sheep, 30780 chickens, 2336 ducks, 265 buffalos can be victims of tornado if a tornado like 1991 hits this Upazila again. As a result 15200 families can be affected. The risk can be minimized if disaster resilient shelters are built.
Livelihood	Flood	There are Fisherman, Agriculturists, Businessmen, and day laborers in this Upazila. About 12700 fishermen, 58600 agriculturists, and 34255 day laborers and 10400 businessmen can be directly or indirectly affected if a flood like 1988 and 1991 and a tidal surge like 1997 hits this Upazila again.
Fisheries	Hilly water onrush	Total number of ponds in Chandanaish Upazila is 1989. It is most likely that fishes of 175 ponds out of 1989 ponds can be swept away if a flood occurs in this Upazila. As a result, 7540 fishermen of 3500 families can be affected.
Fisheries	Flood	Total number of ponds in Chandanaish Upazila is 1989. It is most likely that fishes of 710 ponds out 1989 ponds can be swept away if a flood like 1988, 1991 and 1989 occurs. As a result, 9780 fishermen of 4200 families can be affected.
Fisheries	River erosion	River erosion occurs in every year during rainy monsoon. Fisheries sector suffers extensively due to river erosion. River erosion is seen in Dohazari, Dopachari, Bailtoli, Barkal and Barama union if river erosion occurs. About 365 ponds are devoured by river erosion. As a result, about 1020 fishermen families directly or indirectly sustain losses.
Fisheries	Drought	Drought occurs every year during dry monsoon. Because level of water comes down so low. Massive damage is caused due to drought. About fish cultivation of 612

Sectors	Hazards	Descriptions
		Ponds are damaged if drought like every year occurs. As a result, 22 families sustain huge losses.
Health	Flood	Flood occurs every year due to siltation and narrowing of rivers and canals. About 3500 tube wells becomes unusable, scarcity of safe water is seen, and spread of water born diseases occurs if a flood occurs like 1988,1991 and 1997. As a result about 8700 family members get affected by many diseases. Apart from this, 14 health centers out of total 35 centers are directly or indirectly affected by flood.
Health	Drought	Drought is seen during dry monsoon in Chandanaish Upazila. Almost all unions are affected by drought. Scarcity of water is found and people become affected due to drought. Scarcity of water is seen in majority tube wells as the water come down to low level. This risk can be minimized by installing deep tube wells and increasing forest resources by Government and non government initiatives. Scarcity of water is seen in 4620 tube wells and 7900 families become affected by yearly drought.
Health	Cold wave	Cold wave is seen in almost all unions of Chandanaish Upazila. It is most likely that children and aged people of 2200 families can be in trouble to lead normal lives. If a cold wave starts. The risk can be minimized through building cold wave resilient houses.
Trees	Onrush of hilly water	About 35600 fruit, forest and herbal trees including 74 nurseries can be affected by Onrush of hilly water.
Trees	Flood	Flood hits Chandanaish Upazila every year. It is most likely that about 57500 fruits, forest and herbal trees and 35 nurseries can be affected by flood like 1988, 1991 and 1997 occurs in this Upazila. The extent of flood are gradually increasing due to siltation and narrowing of rivers and canals and less height of protection embankments. The damage can be increased if such trend occurs in future.
Trees	River erosion	River erosion is happened in Dohazari, Dopachari, Baitoli, Barkal and Barama unions of Chandanaish Upazila. It is most likely that 34200 fruits, forest and herbal trees and 9 nurseries can be devoured by river erosion if erosion occurs.

Sectors	Hazards	Descriptions
Trees	Tornado	Tornado hits this Upazila every year. This Upazila becomes victims of tornado as this Upazila is close to sea and rivers. It is most likely that about 78680 fruits, forests and herbal trees including 3500 acres afforestation and trees of 44 nurseries can be affected by tornado. The extent of damage can be increased in future if necessary actions are not taken to prevent disasters.
Trees	Drought	Drought is seen in Chandanaish Upazila during dry monsoon. Almost all unions are affected by drought. About 1750 acres afforestation, 38240 fruits, forests and herbal trees including 34 nurseries can be directly or indirectly affected by drought.
Trees	Cold wave	Drought is seen almost every year in this Upazila. Samplings of about 42 nurseries and fruits trees can be affected by cold wave.
Trees	Attack of Elephants	Elephants attack in Kanchanabad and Dopachari unions of Chandanaish Upazila. About 2400-2500 forest, fruits and herbal trees can be affected if an attack like 2012, 2013 and 2014 occurs in this Upazila. About 27 people have died by Elephants attack.
Homes	Onrush of Hilly water	About 4890 homes out of 38272 homes of Kanchanabad, Joara, Barkal, Barama, Dopachari, Baitoli, Hashimpur, Satbaria unions can be directly or indirectly affected by Onrush of hilly water.
Homes	Flood	About 8220 kacha homes out of 38272 homes of 40255 families of nine unions can be directly or indirectly affected by floods like 1988, 1991, 1997 occurs in this Upazila.
Homes	River erosion	River erosion occurs in every year in this Upazila. About 1020 homes of Dohazari, Barkal, Barama, Baitoli and Dopachari union can be devoured if a river erosion is occurs.
Homes	Tornado	There are a total 38272 homes in Chandanaish Upazila. Among them 3432 Pucca, 10774 Semi Pucca and 24066 Kacha. Almost majority homes are Kacha. About 3540 semi Pucca and 8970 Kacha homes of nine unions can be affected if a tornado like 1991 occurs in Chandanaish Upazila.

Sectors	Hazards	Descriptions
Homes	Attack of Elephants	There are more or less hills in almost nine unions of this Upazila. Among them Elephants usually attack to Kanchanabad and Dopachari unions. Elephants usually come down by flock during night to habitat and attack to homes. About 450-500 homes can be affected like attack of last year. Besides, the elephants have killed 16 people in 2012, 7 people in 2013, and 4 people in 2014, totaling 27 people.
Infrastructure	On rush of Hill water	Onrush of hilly water occurs in every year in this Upazila. It is most likely that 4890 Kacha homes and 155 KM Kacha roads can be affected if an onrush of hilly water happens.
Infrastructure	Flood	About 66 KM Kacha road, 27 KM Semi-pucca road, 3725 kacha homes, 48 bridge, 270 culverts, 10 health centers, 36 educational institutions, 90 graveyards can be extensively affected by flood like 1988,1991, 1997 occurs.
Infrastructure	River erosion	1020 riverside homes, 755 latrines, 15 mosques, 28 KM Kacha roads, 10 educational institutions of 5 unions can be affected by river erosion.
Infrastructure	Tornado	About 16420 homes, 650 latrines, 10 mosques and 25 Educational institutions can be affected by Tornado like each year.
Sanitation	Onrush of Hilly water	About 875 Tube wells, 2884 Kacha latrines are swept away if onrush of hilly water occurs. As a result 4700 families can be affected.
Sanitation	Flood	About 690 tube wells and 2754 Kacha latrines are swept away if a flood like 1988, 1991 and 1997 occurs and as a result 7900 families can be affected.
Sanitation	Tornado	About 1020 Kacha latrines can be swept away if a Tornado like 1991 occurs again in this Upazila. As a result, 3100 families can be affected.

3rd Chapter: Disaster Risk reduction

3.1 Identification of causes of Risks:

Detail of Risk	Causes		
	Immediate	Secondary	Final
<p>Sector: Agriculture Hazards : Onrush of Hilly water This Upazila is known as “Hilly Areas’. There are hills in almost all unions. So homes are destroyed every year due to onrush of hilly water. About 3270 acres crop are affected by onrush of hilly water.</p>	<ul style="list-style-type: none"> ➤ As the crop land are close to hills. ➤ As people are not aware about onrush of hilly water. ➤ As people not aware about Landslide. ➤ Cutting of huge number of trees from hills. 	<ul style="list-style-type: none"> ➤ Non-cultivation of Water resilient crop varieties. ➤ No training of farmers. ➤ Plant more and more trees by government and non government initiatives. 	<ul style="list-style-type: none"> ➤ Cultivate water resilient crops. ➤ Impart training to farmers. ➤ Formulation of government policies about hill cutting and its implementation.
<p>Sector: Livestock Hazard: Onrush of hilly water The Upazila is known as ‘Hilly Upazila’. There are hills in almost all unions. About 4790 cows, 5675 goats, 146580 Chickens, 11560 ducks can be died by sweeping away as the people living in hills are not sop aware. Besides many people are being killed by landslide. The damage can be worst in future if actions to make them come down during excessive rain and rehabilitation to another places are not taken.</p>	<ul style="list-style-type: none"> ➤ Not to build hilly houses so strong. 	<ul style="list-style-type: none"> ➤ Not to aware hilly people about land slide. 	<ul style="list-style-type: none"> ➤ None moving of livestock of hilly people to other places.

Detail of Risk	Causes		
	Immediate	Secondary	Final
<p>Sector: Fisheries Hazard: Onrush of hilly water There are 1989 ponds in this Upazila. It is most likely that fishes of 175 ponds out of 1989 can be swept away and as a result 7540 fishermen of 3500 families can be affected.</p>	<ul style="list-style-type: none"> ➤ Low height of ponds embankment. ➤ Less awareness of people. 	<ul style="list-style-type: none"> ➤ Less awareness of people. ➤ Non provision of netting above ponds. 	<ul style="list-style-type: none"> ➤ Non locating of ponds away from hills. ➤ Low depth of ponds.
<p>Sector: Trees Hazard: Onrush of hilly water About 35600 fruits, forests and herbal trees including 74 nurseries can be affected by onrush of hill water occur like every year.</p>	<ul style="list-style-type: none"> ➤ Non locating of nurseries away from hills. ➤ Decreasing of hilly trees 	<ul style="list-style-type: none"> ➤ Low-lying land of nurseries. ➤ No provision for speedy disposal of water. 	<ul style="list-style-type: none"> ➤ Lack of attention of Forest department. ➤ Non increase of hilly afforestation.
<p>Sector: Infrastructure. Hazard: Onrush of hilly water Onrush of hilly water occurs every year in this Upazila. It is most likely that 4890 Kacha homes and 155 KM Kacha roads can be affected by onrush of hilly water.</p>	<ul style="list-style-type: none"> ➤ Homes close to hills. ➤ Low-lying roads of hills. 	<ul style="list-style-type: none"> ➤ The base of homes is not high. ➤ Non paving of roads. 	<ul style="list-style-type: none"> ➤ Not to build homes disaster resilient. ➤ Non Paving of roads.
<p>Sector: Sanitation. Hazard: Onrush of hilly water About 875 Tube wells and 2884 Kacha latrines are swept away by onrush of hilly water.</p>	<ul style="list-style-type: none"> ➤ Latrines are close to hills. 	<ul style="list-style-type: none"> ➤ Most latrines are Kacha. 	<ul style="list-style-type: none"> ➤ Not to build latrines strong. ➤ Not to make concrete latrine.
<p>Sector: Agriculture Hazard: Flood Flood affects this Upazila every year. The flood affects almost all unions. The intensity of flood is</p>	<ul style="list-style-type: none"> ➤ Not to make quick disposal of water ➤ Not to make available the massage of flood in time. 	<ul style="list-style-type: none"> ➤ Intrusion of saline water due to Joar and Bhatta. ➤ No regulatory system 	<ul style="list-style-type: none"> ➤ Lack of appropriate actions of WDB. ➤ Donors support is less in contrast to

Detail of Risk	Causes		
	Immediate	Secondary	Final
increasing during rainy monsoon.	<ul style="list-style-type: none"> ➤ Due to intrusion of saline water to crop land directly. 	<ul style="list-style-type: none"> for control of saline water intrusion. ➤ Non availability of required number of Sluice gates in conjunction of rivers and canals. 	<ul style="list-style-type: none"> need. ➤ Unawareness of people.
<p>Sector: Livestock/ Animal resources</p> <p>Hazard: Flood</p> <p>About 8220 cows, 2840 goats, 35 sheep, 20741 chickens, 2045 ducks, 215 buffalos can be swept away or partially damaged if a flood like 1988 and 1991 occurs in this Upazila. As a result, 8540 families can be directly or indirectly affected.</p>	<ul style="list-style-type: none"> ➤ Kacha houses of livestock. ➤ Habitat for livestock is not flood resilient. 	<ul style="list-style-type: none"> ➤ Lack of safe places. ➤ Lack of access to treatment of wounded animals. 	<ul style="list-style-type: none"> ➤ Less shelter homes for livestock. ➤ Lack of Animal resources protection policies.
<p>Sector: Livelihoods</p> <p>Hazard: Flood</p> <p>There are Fishermen, agriculturist, businessmen and day laborer in Chandanaish Upazila.</p> <p>About 12700 fisherman, 58600 farmers, 34255 day laborers, 10400 businessmen can be directly or indirectly affected by flood if flood like 1988.1991 or 1997 occurs in this Upazila.</p>	<ul style="list-style-type: none"> ➤ Water logging above roads. ➤ Not to cultivate disaster resilient crops. 	<ul style="list-style-type: none"> ➤ No provision for quick disposal of water. ➤ Lack of skill on alternative livelihoods. 	<ul style="list-style-type: none"> ➤ Lack of training on alternative profession of professionals. ➤ Not to make professionals Skill by Govt. and non government initiatives.
Sector: Fishery	<ul style="list-style-type: none"> ➤ Pond location is in low- 	<ul style="list-style-type: none"> ➤ Ponds are not built on 	<ul style="list-style-type: none"> ➤ Banks of ponds are

Detail of Risk	Causes		
	Immediate	Secondary	Final
<p>Hazard: Flood</p> <p>There are 1989 ponds in this Upazila. Fishes of about 710 ponds out of 1989 can be swept away if a flood like 1988, 1991 and 1997 hits this Upazila. As a result, 9780 fisherman of 4200 families can be affected.</p>	<p>lying areas.</p> <ul style="list-style-type: none"> ➤ Bank of ponds are low. 	<p>high land.</p> <ul style="list-style-type: none"> ➤ Lack of awareness of Fisherman. ➤ No provision of netting around ponds. 	<p>not high.</p> <ul style="list-style-type: none"> ➤ Not to provide training to Fisherman by Govt. and non Government.
<p>Sector: Health</p> <p>Hazard: Flood</p> <p>Flood visits to almost all unions of Chandanaish Upazila. About 3500 tube Wells becomes unusable and as a result safe water becomes scarce, garbage spreads to many places as a result people becomes affected by water born diseases. As a result 8700 families are affected. Besides, 14 health centers out of 35 health centers directly or indirectly affected by flood.</p>	<ul style="list-style-type: none"> ➤ People are not aware about health. ➤ Locations of tube wells are in low-lying spots. 	<ul style="list-style-type: none"> ➤ Placing garbage to everywhere. ➤ Lack of awareness about diseases. ➤ Lack of awareness about post disaster responsibilities. 	<ul style="list-style-type: none"> ➤ Increase standard of health services. ➤ Non availability of health centers and doctors.
<p>Sector: Trees</p> <p>Hazard: Flood</p> <p>This Upazila is affected by flood every year. About 57500 fruits, forests and herbal trees and 35 nurseries can be affected if flood like 1988, 1991 and 1997 occurs again in this Upazila.</p>	<ul style="list-style-type: none"> ➤ Speedy disposal of water ➤ Lack of timely dissemination of warning message. ➤ Sudden inundation of nurseries. ➤ Make nurseries through 	<ul style="list-style-type: none"> ➤ Siltation of rivers and canals. ➤ Poor understanding on post flood actions. ➤ Siltation and narrowing of rivers and canals by Sand/ 	<ul style="list-style-type: none"> ➤ No initiative for excavation of rivers and canals. ➤ Not to make skill through training by Govt. and non govt. initiatives.

Detail of Risk	Causes		
	Immediate	Secondary	Final
	unplanned way.	poly deposits. ➤ Decrease of trees.	
Sector: Infrastructure. Hazard: Flood About 66 Km Kacha roads, 27 KM semi pucca roads, 3725 Kacha homes, 48 Bridges, 270 culverts, 10 health centers, 36 educational institutions, and 90 graveyards can be extensively damaged if a flood like 1988, 1991 and 1997 occurs in Chandanaish Upazila.	➤ Unplanned building of educational institution. ➤ Rural homes are made of Bamboos so breaks easily. ➤ Not to build roads strongly. ➤ Not to build culverts strongly.	➤ Due to low-lying locations of educational and religious Institutions.	➤ Due to lack of formulating risk reducing infrastructure Policies. ➤ Building materials are not cyclone resilient.
Sector: Sanitation Hazard: Flood About 690 tube wells and 2754 Kacha latrines can be swept away if a flood like 1988, 1991 and 1997 occurs again in this Upazila. . As a result, 7900 families can be affected.	➤ Tube wells and latrines are in low lying areas. ➤ Non execution of repair works.	➤ Not to make base of tube wells Pucca. ➤ Non-presence of water disposal system.	➤ Not making latrines Pucca. ➤ Not installing of tube ➤ Well by Government.
Sector: Agriculture Hazard: River Erosion There are two rivers in Chandanaish Upazila. One is Sangu another one is Shanka river. River erosion is occurred in few unions like Dohazari, Dopachari, Baitoli, Barama and Barkal. About 1100-1200 acres crop land are affected by river erosion in these unions.	➤ Weak embankment. ➤ Increase of water pressure in rivers. ➤ Non existence of trees on sides of embankments.	➤ Losing / decreasing navigability. ➤ Decrease of depth by siltation.	➤ Lack of cooperation of WDB. ➤ Not to take any initiatives to prevent river erosion.
Sector: Fishery	➤ Due to presence of ponds	➤ Not to make	➤ Lack of proper

Detail of Risk	Causes		
	Immediate	Secondary	Final
<p>Hazard: River Erosion River erosion occurs in each year in Chandanaish upazila during rainy monsoon. It brings huge damage to Fishery sector. River erosion is seen in Dohazari, Dopachari, Baitoli, Barkal and Barama unions. About 365 ponds are devoured by rivers if river erosion occurs. As a result 1020 Fishery families can be directly or indirectly affected.</p>	<p>close to rivers.</p>	<p>Embankment strong. ➤ Not aware of fisherman in this respect.</p>	<p>attention of Fishery Departments. ➤ Not taking any government initiatives to prevent river erosion.</p>
<p>Sector: Homes Hazard: River Erosion River erosion occurs in almost every year at Chandanaish Upazila during rainy monsoon. It is most likely that about 1020 homes of Dohazari, Barkal, Barama, Baitoli and Dopachari unions can be devoured by rivers if river erosion occurs.</p>	<p>➤ Non existence of Embankments. ➤ Due to increase of water pressure in rivers during rainy monsoon.</p>	<p>➤ Losing / decreasing navigability. ➤ Decrease of depth of rivers by siltation.</p>	<p>➤ Not taking any government initiatives to prevent river erosion. ➤ Lack of good attention of WDB.</p>
<p>Sector: Trees Hazard: River erosion River erosion is occurred in Dohazari, Dopachari, Baitoli, Barkal and Barama union every year. It is most likely that about 34200 fruits, forest and herbal trees and 9 nurseries can be devoured by river erosion. The loss can be minimized by planting more fiber roots trees along roads.</p>	<p>➤ Non existence of trees along embankments.</p>	<p>➤ Due to climatic Change</p>	<p>➤ Non implementation of Social afforestation.</p>
<p>Sector: Infrastructure. Hazard: River erosion</p>	<p>➤ Majority institutions are located to rivers.</p>	<p>➤ Non construction of building through</p>	<p>➤ Not maintaining transparency in</p>

Detail of Risk	Causes		
	Immediate	Secondary	Final
About 1020 homes close to rivers, 755 Latrines, 15 Mosques, 28 KM Kacha roads, 10 institutions of 5 unions can be affected by river erosion.	<ul style="list-style-type: none"> ➤ Not paving blocks on banks. 	<ul style="list-style-type: none"> planned way. ➤ Non availability of water disposal system in institutions. 	<ul style="list-style-type: none"> constructing institutions. ➤ Not to build institutions disaster resilient.
<p>Sector: Agriculture Hazard: Tornado</p> <p>Tornado hits this Upazila every year. The Upazila has been victims of tornadoes as it is almost close to rivers and as an impact of climatic change. About 1925 acres crop are affected by tornadoes.</p>	<ul style="list-style-type: none"> ➤ Affect of depression to coastal areas. ➤ Increase of temperature in atmosphere. ➤ Affect of green houses. ➤ Climatic Change. 	<ul style="list-style-type: none"> ➤ Absence of sufficient trees. ➤ Having no plan for social afforestation. ➤ Due to black fumes of mills and transports. ➤ Not getting advance forecasting of tornadoes. 	<ul style="list-style-type: none"> ➤ Poor attention of Agricultural department. ➤ Absence of Agricultural research centers. ➤ Lack of adequate training of farmers. ➤ Lack of effective government policies about Hazard and risks.
<p>Sector: livestock Hazard: Tornado</p> <p>About 9545 cows, 3022 goats, 45 sheep, 30780 chickens, 2336 ducks, 265 buffalos can be affected if tornado like 1991 and 1997 occurs again in this Upazila. As a result, 15200 families can be affected. The risk can be minimized by building livestock habitat disaster resilient.</p>	<ul style="list-style-type: none"> ➤ Most habitats of livestock's are weak. ➤ Not to construct livestock homes in safe places. 	<ul style="list-style-type: none"> ➤ People have poor knowledge about disasters. ➤ Low understanding on takes caring of livestock. 	<ul style="list-style-type: none"> ➤ Not to be trained on livestock rearing. ➤ Lack of sufficient training centers for training.

Detail of Risk	Causes		
	Immediate	Secondary	Final
<p>Sector: Trees Hazard: Tornado</p> <p>Tornado hits this Upazila every year. The Upazila has been victims of tornadoes as it is almost close to rivers and as an impact of climatic change. It is most likely that about 3500 acres forest, 78680 fruits, forest and herbal trees and samplings of 44 nurseries can be affected by tornadoes. The loss can be more if preventive measure are not taken as per plan and contain disasters.</p>	<ul style="list-style-type: none"> ➤ Absence of sufficient trees ➤ Indiscriminate cutting of trees. 	<ul style="list-style-type: none"> ➤ Not to conduct tree plantation drive. 	<ul style="list-style-type: none"> ➤ Lack of proper attention of Forest department officials.
<p>Sector: Homes Hazard: Tornado</p> <p>There are total 38272 homes in Chandanaish Upazila. Among them 3432 are Pucca, 10774 are semi Pucca and 24066 are Kacha. Here most homes are Kacha. About 3540 semi Pucca and 8970 Kacha houses of 9 unions can be affected.</p>	<ul style="list-style-type: none"> ➤ Not to construct tornado resilient homes. ➤ Make base of homes strong. 	<ul style="list-style-type: none"> ➤ Not to circulate weather forecasting properly. ➤ Lack of awareness of people. 	<ul style="list-style-type: none"> ➤ Destroying of natural balance. ➤ Climatic Change.
<p>Sector: Sanitation Hazard: Tornado</p> <p>About 1020 Kacha latrines can be damaged if a tornado like 1991, 1997 hits again in this Upazila. As a result, about 3100 families can be affected.</p>	<ul style="list-style-type: none"> ➤ Tube wells and Latrines are located in low lying areas. ➤ Not do any repair works. 	<ul style="list-style-type: none"> ➤ Not to make base of tube wells Pucca. ➤ Not to construct in planned way. 	<ul style="list-style-type: none"> ➤ Not to make latrines Pucca. ➤ Not to install more Tube wells by Government.
<p>Sector: Agriculture Hazard: Drought</p>	<ul style="list-style-type: none"> ➤ Due to climatic Change ➤ Not timely raining. 	<ul style="list-style-type: none"> ➤ Absence of provision of retaining water in 	<ul style="list-style-type: none"> ➤ Lack of appropriate attention of DAE.

Detail of Risk	Causes		
	Immediate	Secondary	Final
Drought is seen in Chandanaish Upazila during dry monsoon. Droughts are seen in almost all unions of this Upazila. About 1870 acres crop can be directly or indirectly affected.	<ul style="list-style-type: none"> ➤ Absence of sufficient large trees. 	rivers and canals.	<ul style="list-style-type: none"> ➤ Not inventing drought resistance crops.
<p>Sector: Fishery Hazard: Drought</p> <p>Droughts are occurred in almost every year in this Upazila. Because water level come down during this period. Extensive damage to fisheries is caused if drought occurs. Fish cultivation of about 612 ponds can be badly damaged if drought occurs like every year. As a result 2200 families can be affected.</p>	<ul style="list-style-type: none"> ➤ Depth of most ponds is low. ➤ Low skill on fish cultivation. ➤ No provision for irrigation. 	<ul style="list-style-type: none"> ➤ Do cultivation through planned way. ➤ No provision for irrigation by machines. 	<ul style="list-style-type: none"> ➤ Not to organize training for framers. ➤ Not to increase depth of ponds.
<p>Sector: Health Hazard: Drought</p> <p>Drought is seen in Chandanaish Upazila during dry monsoon. Droughts are seen in almost all unions of this Upazila. Scarcity of water is seen, people becomes affected by various diseases, if a drought occurs. Scarcity of water is found in most tube wells due to abrupt coming down of water level. The risk can be minimized by installing tube wells with Go-NGO initiatives. Scarcity of water is seen in almost 4620 tube wells and 7900 families can be affected.</p>	<ul style="list-style-type: none"> ➤ Due to impact of Climatic Change. ➤ Rain not timely. ➤ Lack of sufficient large trees. 	<ul style="list-style-type: none"> ➤ Non availability of sufficient deep tube wells. ➤ Local people are not aware about health. 	<ul style="list-style-type: none"> ➤ Lack of appropriate attention by officials of Forest department.

Detail of Risk	Causes		
	Immediate	Secondary	Final
<p>Sector: Trees Hazard: Drought</p> <p>Drought is seen in Chandanaish Upazila during dry monsoon. Droughts are seen in almost all unions of this Upazila. About 1750 acres forest, 38240 fruits, forest and herbal trees including 34 nurseries can be directly or indirectly affected by drought.</p>	<ul style="list-style-type: none"> ➤ Impact of Climatic change. ➤ Non –availability of sufficient deep tube wells. ➤ Cutting of trees in large numbers. 	<ul style="list-style-type: none"> ➤ Absence of ponds alongside nurseries. ➤ No shedding for nurseries. ➤ Not to plant more trees. 	<ul style="list-style-type: none"> ➤ Indifference of forest department. ➤ Poor attention of local administration for tree plantation.
<p>Sector: Agriculture Hazard: Cold wave</p> <p>Cold wave is seen in almost nine unions of Chandanaish Upazila. About 1230 acres crop can be damaged if cold wave hits like every year.</p>	<ul style="list-style-type: none"> ➤ Not cultivation of cold wave resilient crops. ➤ Poor skill of farmers on cultivated crops. 	<ul style="list-style-type: none"> ➤ Absence of high quality saplings. 	<ul style="list-style-type: none"> ➤ No provision for modern seeds and fertilizer. ➤ No provisions for distributing diseases free saplings.
<p>Sector: Livestock Hazard: Cold wave</p> <p>Droughts are seen in almost all unions of this Upazila. About 12468 cows, 4290 goats, 12 sheep, 300 buffalos, 2856 chickens can be died by different diseases if a cold wave hits like every year.</p>	<ul style="list-style-type: none"> ➤ Not to construct shelters / habitats by planned way. ➤ Rarer are not aware. 	<ul style="list-style-type: none"> ➤ Habitats not in safe places. ➤ Not taking special care for cold wave. ➤ Not to take doctors advices. 	<ul style="list-style-type: none"> ➤ Not access to training on livestock. ➤ Lack of sufficient doctors.
<p>Sector: Health Hazard: Cold wave</p> <p>Cold wave is seen in almost all unions of this Upazila. About 2200 families particularly children</p>	<ul style="list-style-type: none"> ➤ People are not aware about health. ➤ Lack of taking special care for children. 	<ul style="list-style-type: none"> ➤ Not to take doctors advice. ➤ Not to make available of warm cloths. 	<ul style="list-style-type: none"> ➤ No provision for distributing warm cloths by GO & NGOs.

Detail of Risk	Causes		
	Immediate	Secondary	Final
and aged cannot lead normal lives if a cold wave hits this Upazila. The risk can be minimizing by building disaster resilient homes.	<ul style="list-style-type: none"> ➤ Not to take doctors advice. 		
<p>Sector: Trees Hazard: Cold wave</p> <p>Cold wave is seen in almost all unions of this Upazila. Fruit, forest and sampling of about 42 nurseries can be affected by cold wave.</p>	<ul style="list-style-type: none"> ➤ Develop nurseries through unplanned way. ➤ No provision for light in the nurseries. 	<ul style="list-style-type: none"> ➤ Non-availability of high grade seeds/fertilizer. ➤ Non-availability of diseases frees sampling. 	<ul style="list-style-type: none"> ➤ Lack og government initiatives to distribute high grade fertilizer, seeds. ➤ Lack of sufficient Agricultural service centers.
<p>Sector: Homes Hazard: Attack of Elephants</p> <p>There are hills in almost all unions of Chandanaish Upazila. Most attack is occurred to Dopachari and Kanchanabad unions of this Upazila. Elephants come down by flock to plains and make huge damages to standing crops and homes during night. About 450-500 homes can be destroyed if elephants attack like previous year.</p>	<ul style="list-style-type: none"> ➤ Lack of sufficient foods for elephants. ➤ Not to get required foods. ➤ Lack of publicity. 	<ul style="list-style-type: none"> ➤ Most homes are Kacha. ➤ Most homes are not made strongly. 	<ul style="list-style-type: none"> ➤ Lack of appropriate actions by Forest Department.

3.2 Identification of means to reduce risks:

Hazards & Risks	Possible means to reduce risks		
	Short-term	Midterm	Long-term
<p>Sector: Agriculture Hazard: Onrush of Hill water Chandanaish upazila is known as " hilly Areas". There are hills in almost all unions of the Upazila. Homes are destroyed by onrush of hilly water. This is caused every year and about 3270 acres crop are damaged each year by this disaster.</p>	<ul style="list-style-type: none"> → People are not aware about 'Onrush of hilly water'. → People are not aware about Landslide. → Not to cut trees in large number from hills. 	<ul style="list-style-type: none"> → Cultivate water resistance crop varieties. → Framers should have training. → Plant more and more trees to hills by GO & NGOs. 	<ul style="list-style-type: none"> → Cultivate water resistance crop varieties. → Impart training to farmers. → Strict execution and enforcement of Hill cutting policies.
<p>Sector: Livestock Hazard: Onrush of Hill water Chandanaish upazila is known as " hilly Areas". There are hills in almost all unions of the Upazila. As a result, about 4790 cows, 5675 goats, 146580 chickens, 11560 ducks lost their lives as the people living at hills are not aware. In addition, many people are also dying by landslides. The damage can be worst in future if actions to make them come down during excessive rain and rehabilitation to another places are not taken.</p>	<ul style="list-style-type: none"> → Homes must build strongly. 	<ul style="list-style-type: none"> → Make people living on hills aware. 	<ul style="list-style-type: none"> → Cattles and livestock's of hilly people must be taken away to other safe places.
<p>Sector: Fishery Hazard: Onrush of Hill water There are total 19809 ponds at Chandanaish Upazila. Fishes of about 175 ponds out of 1989 can be swept away if onrush of hilly water occurs. As a result, about 7540 fisherman of 3500 families can be affected.</p>	<ul style="list-style-type: none"> → Raise height of ponds embankment. → Keep people aware. 	<ul style="list-style-type: none"> → Keep people aware. → Provide nets above banks. 	<ul style="list-style-type: none"> → Build ponds away from hills. → Increase depth of ponds.
<p>Sector: trees</p>	<ul style="list-style-type: none"> → Keep nurseries away from 	<ul style="list-style-type: none"> → Not to establish 	<ul style="list-style-type: none"> → Put good attention by

Hazards & Risks	Possible means to reduce risks		
	Short-term	Midterm	Long-term
<p>Hazard: Onrush of Hill water About 35600 fruits, forest and herbal trees and sampling of about 74 nurseries can be affected if Onrush of Hill water occurs like each year.</p>	<p>hills. → Increase hilly trees.</p>	<p>nurseries at low lying areas. → Provision must have to disposal of water.</p>	<p>Forest department. → Increase hilly forestation.</p>
<p>Sector: Infrastructure Hazard: Onrush of Hill water Onrush of Hill water occurs every year in Chandanaish Upazila. About 4890 Kacha houses and 155 KM Kacha roads can be damaged by onrush of Hill water.</p>	<p>→ Not to build homes close to hills. → Not to keep hilly roads so low.</p>	<p>→ Elevate bases of homes. → Repair roads.</p>	<p>→ Make homes disaster resilient. → Paving the roads</p>
<p>Sector: Sanitation Hazard: Onrush of Hill water Onrush of Hill water swept away 875 tube wells, 2884 Kacha latrines. As a result, about 4700 families can be affected.</p>	<p>→ Not to build Latrines close to hills.</p>	<p>→ Not to build Kacha latrines</p>	<p>→ Make latrines strong. → Build latrines by concrete.</p>
<p>Sector: Agriculture Hazard: Flood Flood occurs every year in Chandanaish Upazila. Flood damages almost all unions. Intensity of flood is increasing during rainy monsoon. About 2950 acres crop can be affected directly or indirectly if flood occurs.</p>	<p>→ Make easy and speedy disposal of water. → Reach warning message in time. → Not to allow entering saline water directly to crop land.</p>	<p>→ Not to allow entering saline water directly to crop land. → Control intrusion of saline water. → Install sluice gate at the junction of rivers and canals.</p>	<p>→ Take appropriate steps by WDB. → Increase donors cooperation & support as per need. → Make people aware.</p>
<p>Sector: Domestic animals/ Animal resources Hazard: Flood About 8220 cows, 2840 goats, 35 sheep, 20741 chickens, 2045 ducks and 215 buffalos can be</p>	<p>→ Not to keep animal habitat Kacha. → Materials and habitats must be disaster resilient.</p>	<p>→ Move them to safe places. → Provide treatment to wounded</p>	<p>→ Increase number of Animal Shelters. → Formulate animal protection policies.</p>

Hazards & Risks	Possible means to reduce risks		
	Short-term	Midterm	Long-term
swept away by flood or partially or fully damaged. As a result about 8540 families can be directly or indirectly affected.		animals.	
Sector: Livelihoods Hazard: Flood There are fishermen, farmers, businessman and day laborers in this Upazila. About 12700 fishermen, 58600 farmers, 34225 day laborers and 10400 businessmen can be directly or indirectly affected.	→ Water logging should not continue. → Cultivate disaster resilient varieties of crops.	→ Speedy disposal of water. → Make people skill for alternative livelihoods.	→ Train professionals to alternative occupation. → Make professionals skill through GO / Ngo initiatives.
Sector: Fishery Hazard: Flood There are total 1989 ponds in Chandanaish Upazila. Fishes of 710 ponds / hatcheries out of total 1989 ponds can be swept away if flood like 1988,1991 and 1997 occurs. As a result, 9780 fisherman of 4200 families can be affected.	→ Ponds are located at low-lying areas. → Elevate banks of ponds.	→ Establish ponds to high land. → Make farmers aware. → Netting above banks.	→ Elevate banks. → Train fisherman by GO/NGOs.
Sector: Health Hazard: Flood Flood occurs every year in almost all unions due to losing navigability of rivers and canals. About 3500 tube wells become useless if a flood like 1988, 1991 and 1997 occurs. As a result safe drinking water becomes scares, garbage spreads to everywhere and people become affected by many diseases. As a result about 8700 family members are affected by various diseases. Besides, about 14 health centers out of 35 are directly or indirectly affected by flood.	→ Make people aware about health. → Not to install tube wells at low-lying spots.	→ Not to dispose garbage here and there. → Keep people aware about diseases. → Know about post flood responsibilities.	→ Increase quality of health services. → Establish required number of health centers and keep sufficient doctors.

Hazards & Risks	Possible means to reduce risks		
	Short-term	Midterm	Long-term
<p>Sector: Trees Hazard: Flood Floods hit Chandanaish Upazila every year. About 57500 fruits, forest and herbal trees including 36 nurseries can be affected if flood like 1988, 1991 and 1997 hit this Upazila again. Intensity of flood is increasing due to loss of navigability and less height of protection and embankments. The loss will be increase if this trend continues.</p>	<ul style="list-style-type: none"> → Provision for speedy disposal of water. → Reach timely flood warning message. → Establish water disposal / discharging system for not inundating nurseries. → Establish nurseries through planned way. 	<ul style="list-style-type: none"> → Excavate rivers and canals → Make people aware about post flood responsibilities. → Increase trees. 	<ul style="list-style-type: none"> → Take initiatives for excavation of ponds and canals. → Train nursery owners by GO/NGOs.
<p>Sector: Infrastructure Hazard: Flood Extensive damage can be happened to about 66 KM Kacha road, 27 KM semi Pucca road, 3725 Kacha homes, 48 bridges, 270 culverts, 10 health centers, 36 educational institutions, and 90 graveyards if floods like 1988,1991 and 1997 occurs in Chandanaish Upazila.</p>	<ul style="list-style-type: none"> → Build institutions by planned way. → Rural homes must be made in such a way that it is not destroyed easily. → Roads must be made strongly. → Culverts must be made strongly. 	<ul style="list-style-type: none"> → Educational and religious institutions should not keep Kacha and made in low lying spots. 	<ul style="list-style-type: none"> → Make policies for risk and hazard free Infrastructure. Building materials should be disaster resilient.
<p>Sector: Sanitation Hazard: Flood About 690 tube wells and 2754 Kacha latrines are swept away if flood like 1988, 1991 and 1997 occurs. As a result about 7900 families can be affected.</p>	<ul style="list-style-type: none"> → Not to establish Tube wells and latrines in low lying areas. → Repair latrines 	<ul style="list-style-type: none"> → Pave the base of tube wells. → Provision of discharging of water. 	<ul style="list-style-type: none"> → Make latrines paved. → Establish tube wells by government initiatives.
<p>Sector: Agriculture Hazard: River erosion There are two rivers in Chandanaish Upazila. One</p>	<ul style="list-style-type: none"> → Strengthen embankments. → Repair embankments. 	<ul style="list-style-type: none"> → Increase navigability. → Increase depth and 	<ul style="list-style-type: none"> → Increase cooperation of WDB. → Not to take initiatives to

Hazards & Risks	Possible means to reduce risks		
	Short-term	Midterm	Long-term
is Sangu another is Shanka. River erosion is seen in some unions (Dohazari, Dopachari, Bailtoli, Barama and Barkal). About 1100-1200 acres crop is damaged Due to river erosion.	→ Plant more and more trees on banks of river.	keep clean the routes of rivers	protect river erosion.
Sector: Fishery Hazard: River erosion River erosion occurs every year in Chandanaish Upazila. Extensive damage is caused to fisheries by river erosion. River erosion occurs in Dohazari, Dopachari, Bailtoli, Barkal and Barama unions.	→ Not to build ponds close to rivers.	→ Build embankments strong. → Fisherman should be aware	→ Put more attention of fishery department. → Government initiatives must to prevent river erosion.
Sector: Livestock Hazard: Tornado About 9545 cows, 3022 goats, 45 sheep, 30780 chickens, 2336 ducks, 265 buffalos can be affected if tornados like 1991 and 1997 hit this Upazila again. As a result 15200 families can be affected. The loss can be minimized in future through constructing tornado resilient habitats for livestock.	→ Make habitats of livestock strong. → Build livestock habitat in safe spots.	→ People should have depth knowledge about disasters. → People must have good knowledge about livestock caring.	→ Make skilled for livestock rearing. → Establish sufficient training centers.
Sector: Trees Hazard: Tornado Tornado occurs almost every year in this Upazila. This happed as the Upazila is close rivers and affect of climatic change. About 3500 acres forestation, 78680 fruits, forest and herbal trees and saplings of 44 nurseries can be damaged if a tornado hits the Upazila. The loss can be worse if preventive measures are not taken to prevent	→ Keep sufficient trees. → Not cutting trees indiscriminately.	→ Conduct tree plantation drive.	→ Put more attention by forest department → Create awareness among community people. .

Hazards & Risks	Possible means to reduce risks		
	Short-term	Midterm	Long-term
this disaster.			
Sector: Homes Hazard: Tornado There are 38272 homes in Chandanaish Upazila. Among them 3432 are Pucca, 10774 are semi Pucca, and 24066 are Kacha. Almost all homes are Kacha. About 3540 semi Pucca and 8970 Kacha homes of 9 unions can be affected if tornado like 1991 and 1997 occurs again in this Upazila.	→ Build tornado resilient homes. → Strengthen base.	→ Give advance warning. → Keep people aware.	→ Not maintain natural balance.
Sector: Sanitation Hazard: Tornado As many as 1020 Kacha latrines are damaged if tornados like 1991 and 1997 are occurred. As a result, 3100 families can be affected.	→ Not to construct tube wells and latrines in low lying spots. → Repair latrines regularly.	→ Make pavement the bases of tube wells. → Construct latrines in planned way.	→ Construct Pucca latrines. → Install deep tube wells
Sector: Agriculture Hazard: Drought Drought is seen in Chandanaish Upazila during dry monsoon. Almost all unions are hit by drought. About 1870 acres crop are directly or indirectly affected by drought.	→ Plant sapling newly. → Increase sufficient large trees.	→ Retain water in rivers and canals.	→ DAE should put more attention. → Invent drought resilient varieties of crops.
Sector: Fishery Hazard: Drought Drought occurs almost every year in all unions of Chandanaish Upazila. Because at this time water level comes down so low. Fishery sector suffers extensively if drought happened. Fish culture of 612 ponds can be badly affected through drying	→ Increase depth of ponds. → Make fisherman skill for firming. → Arrange irrigation.	→ Cultivate in planned way → Keep irrigation system.	→ Impart training to fish farmers.

Hazards & Risks	Possible means to reduce risks		
	Short-term	Midterm	Long-term
up of ponds water by drought if drought occurs like every year.			
Sector: Health Hazard: Drought Drought occurs every year in Chandanaish Upazila. Almost all unions are affected by drought. Scarcity of water is seen, people becomes affected by many skin diseases if a drought occurs. Scarcity of water is seen in almost all tube wells due to lowering of water level of tube wells. The risk can be minimized by installing more deep tube wells and increase forest. Scarcity of water is found in 4620 deep tube wells and 7900 families can be affected if drought like other years occurs.	→ Arrange irrigation. → Keep large trees → Plant lore trees	→ Insyall sufficient tube wells. → People should be aware about health.	→ FD should put more attention
Sector: Trees Hazard: Drought Drought is occurs in Chandanaish Upazila during dry monsoon. Drought is seen in almost all unions and it affect to those unions. About 1750 acres forest, 38240 fruits, forest and herbal tress including samplings of 34 nurseries can be affected if a drought hits this Upazila.	→ Availability of sufficient deep tube wells. → Not cutting of more trees	→ Keep ponds close to nurseries. → Keep samplings out of heat. → Plant more trees.	→ DF should be more sincere. → Administration should put more attention.
Sector: Agriculture Hazard: Cold wave Cold wave is seen in almost 9 unions of Chandanaish Upazila. About 1230 acres crop can be damaged if a cold wave hits like every year.	→ Cultivate cold wave resilient varieties of crops. → Become skill about crops.	→ Plant high grade sampling	→ Provide high grade seeds and fertilizer. → Distribute diseases free saplings.
Sector: Livestock	→ Build habitats in planned	→ Habitats should be	→ Make available the

Hazards & Risks	Possible means to reduce risks		
	Short-term	Midterm	Long-term
<p>Hazard: Cold wave Cold wave is seen in almost 9 unions of Chandanaish Upazila. About 12468 cows, 4290 goats, 12 sheep, 300 buffalos, 2856 ducks, 28790 chickens can be badly affected if cold wave hits like every year.</p>	<p>way. → Make rarer more aware</p>	<p>in safe places. → Take special care for cold wave. → Take doctors advice</p>	<p>livestock training. → Make valuable of sufficient doctors</p>
<p>Sector: Health Hazard: Cold wave Cold wave is seen in almost all unions of Chandanaish Upazila. Normal lives of Children and aged people of about 1200 families can face trouble if a cold wave hits this Upazila. The risk can be minimized if building cold wave resilient homes.</p>	<p>→ Keep people aware about health. → Take special care of children. → Take doctors advices.</p>	<p>→ Take doctors advices. → Arrange warm cloths.</p>	<p>→ Distribute warm cloths by GO & NGOs.</p>
<p>Sector: Trees Hazard: Cold wave Cold wave is seen in almost every year in Chandanaish Upazila. Saplings of about 42 nurseries can be affected if cold wave occurs.</p>	<p>→ Establish planned nurseries. → Nurseries must have light.</p>	<p>→ Supply high grade seeds and fertilizer. → Provide diseases free saplings.</p>	<p>→ Govt. should provide high grade fertilizer and seeds. → Establish sufficient agricultural advice centers.</p>
<p>Sector: Agriculture Hazard: Attack of Elephants. Almost all unions are hill covered. Particularly attack of elephants is seen in kanchanbad and Dopachari unions. About 50 acres crop are damaged if elephant attack occurs. Elephants damage Robi crop and vegetables. These areas can be treeless if this trend continues like 2012-2014.</p>	<p>→ People must be careful during night movement. → Stop cutting of hill trees. → Always keep attention.</p>	<p>→ People should be more organized. → DF officials should keep more attention.</p>	<p>→ Govt. should take initiatives → DF should take initiatives.</p>

Hazards & Risks	Possible means to reduce risks		
	Short-term	Midterm	Long-term
<p>Sector: Trees Hazard: Attack of Elephants Elephant attack Kanchanbad and Dopachari unions of Chandanaish. About 2400-2500 forest, fruits and herbal trees can be affected If an attack like 2012 and 2013 and 2014 occurs. Besides, About 27 people have died by elephants. The loss can be more if Administration and forest department do of put more attention.</p>	<ul style="list-style-type: none"> → Lack of elephants food → Must plant more and more trees. 	<ul style="list-style-type: none"> → People must be more aware. → Conduct publicity. 	<ul style="list-style-type: none"> → Government should take more steps. → Local government and Forest department must take steps.
<p>Sector: Homes Hazard: Attack of Elephants There are hills at almost nine unions of Chandanaish Upazila. Elephant attack Kanchanbad and Dopachari unions of Chandanaish. Elephants come down from hills at night by flock and attack human habitats and homes of plans. About 450-500 kacha homes can be damaged if elephant attack occurs like every year. In addition Elephants have killed 16 people in 2012, 7 people in 2013 and 4 people in 2014 totaling 27 people.</p>	<ul style="list-style-type: none"> → Plant more and more trees. → Conduct more publicity. 	<ul style="list-style-type: none"> → Homes must be making strong through repair. → Homes must be made strongly. 	<ul style="list-style-type: none"> → DF must take steps. → Local administration must take actions.

3.3 Development Plan of NGOs

SL. No.	NGO	Activities on Disasters	Total number of beneficiaries	Duration of projects
1	KODEK	Education, Legal support, awareness, Micro- credit	490	Long term- On going
2	ASA	Education, awareness, Micro- credit	410	Long term- On going
3	BRAC	Woman development, Education, awareness, Risk reduction, Health & Micro- credit	995	Long term- On going
4	MAMATA	Health, awareness, & Micro- credit	385	Long term- On going
5	PALLI PROGATTI	awareness, & Micro- credit	270	Long term- On going
6	PCA	Awareness & Micro- credit	310	Long term- On going
7	Grameen Bank	Micro- credit	620	Long term- On going
8	PPS	Awareness & Micro- credit	325	Long term- On going
9	WAVE	Health & Micro- credit	265	Long term- On going
10	Grameen SHAKTI	Solar electricity & Micro- Credit	270	Long term- On going
11	Ma Foundation	Micro- Credit	195	Long term- On going
12	ODEV	Health , Awareness & Micro- credit	315	Long term- On going
13	BLAST	Legal Support, Awareness & Micro- Credit	417	5 year term
14	CMES	Micro- Credit	185	Long term- On going
15	Ahsania Mission	Education , Risk Reduction & Awareness	540	3 Year term
16	Surjar Hashi Clinic	Awareness & Health Services	342	5 year term
17	CARITAS	Risk Reduction, Awareness & Micro- Credit	295	5 year term
18	PROTASHI	Awareness & Micro- Credit	386	Long term- On going

3.4 Disaster Management Action Plan:

3.4.1 Pre-preparation for Disaster

Sl. No	Activities	Targets	Probable budget	Where to do	Probable date for implement.	Who to do & How much				Coordination with development Plan
						Upazila admin. %	Comm. %	UP %	NGO %	
1	Identification of points for massage	90	90,000/- -	Village, ward, up & purashava	Feb. to march	Through Co-ordination				All activities will make community people aware and motivate to work to reduce Disaster risks. As a result, the loss of lives and resources will be reduced. The activities will contribute to socio-economic and national development.
2	Group formation at Ward level	90	5,00,000 -	Pourashava & Up	Feb. to march					
3	Plan to circulate advance massage for flood/hazards at local level	90	2,50,000/--	Pourashava & Up	Feb. to march					
4	Circulate advance massage for Flood & disasters	90	50,000 -	Village, ward, up & purashava	Feb. to march					
5	Deliver Health Services	35	35,00,000 -	Village, ward, up & purashava	Feb. to march					
6	Conduct drill activities	27	4,00,500 -	Pourashava & Up	Feb. to march					
7	Repair of Shelters	4	2,00000/=	Pourashava & Up	Feb. to march					
8	Impart training on Disasters & Primary Health	9	45,000 -	Pourashava & Up	Feb. to march					
9	Keep ready of Dry foods and Medicines	dry food - 9 tons Rice/Rice- 9 tons	9,00,000 -	Village, ward, up & purashava	Feb. to April					
10	Impart traing to school students on Disasters	103 at school	2,06,000 -	School	Feb. to April					

3.4.2 During Disasters:

Sl. No	Activities	Targets	Probable budget	Where to do	Probable date for implement.	Who to do & How much				Coordination with development Plan
						Upazila admin. %	Comm unity %	UP %	NGO %	
1	Distribution of Dry foods	6 tons dry food, rice, pulses 8 tons	9, 50, 000	Ward & Union	During disaster	Through Co-ordination				All activities will make community people aware and motivate to work to reduce Disaster risks. As a result, the loos of lives and resources will be reduced. The activities will contribute to socio-econimic and national development.
2	Arrange provision for Pure drnking water & Sanitation	35, 000 Family	2, 50, 000	Ward & Union	During disaster					
3	Transfer affected people to shelters or Health centers	30, 000 family	2, 20, 000	Ward & Union	During disaster					
4	Take women, children, aged, ill and disabled to shelters and high land on emergency basis.	21	1, 05, 000 -	Ward & Union	During disaster					
5	Transfer affected people to proper medical service	-	-	Ward & Union	During disaster					
6	Ensure Social security	-	-	Ward & Union	During disaster					

3.4.3 After Disasters:

Sl. No	Activities	Targets	Probable budget	Where to do	Probable date for implementation	Who to do & How much				Coordination with development Plan
						Upazila admin. %	Community %	UP %	NGO %	
1	Rescue wounded People & provide primary treatment	90 t	4, 50, 000 -	All wards & unions of upazila	After disaster	Through Co-ordination				All activities will make community people aware and motivate to work to reduce Disaster risks. As a result, the loss of lives and resources will be reduced. The activities will contribute to socio-economic and national development.
2	Cleaning garbage immediately	90	4, 50, 000 -	In the disaster affected areas	After disaster					
3	Start early rescue operation	90 t	-	In the disaster affected areas	After disaster					
4	Emergency rehabilitation & support for livelihood	12000	2, 40, 000/	In the disaster affected areas	After disaster					
5	Restablishment of social security	-	-	All wards & unions of upazila	After disaster					

3.4.4 In normal period/Risk reduction period:

Sl. No	Activities	Targets	Probable budget	Where to do	Probable date for implementation	Who to do & How much				Coordination with development Plan
						Upazila admin. %	Community %	UP %	NGO %	
1	Repair of embankment & construction	22 km	Per km 27 lac	1. Dohazari union 8 km. ward no. 1,2,3,7 & 8 2. Barkol union 7 km. ward no. 2, 4,3, 5, 6,7 & 8 3. Barma union 4 km. ward no. 6,7,8 & 9 4. Bailtali union 3 km. ward no. 3, 4 & 5	Nov. to January	Through Co-ordination				All activities will make community people aware and motivate to work to reduce Disaster risks. As a result, the loss of lives and resources will be reduced. The activities will contribute to socio-economic and national development.
2	Road repairs & brick soling	Kacca road 93 km. & HBB road 58 km.	Per km. 15 lac	1. Kanchanabad union Kacca road 5 km. ward no. 3, 5 & 8 & HBB road 8 km. ward no. 6, 7, 8 & 9 2. Joara union Kacca road 15 km. ward no. 3, 4, 5, 7 & 8 & HBB road 7 km. ward no. 4, 5, 6, 7, 8 & 9 3. Dohazari union Kacca road 7 km. ward no. 1, 2, 3,	Nov. to January					

Sl. No	Activities	Targets	Probable budget	Where to do	Probable date for implementation	Who to do & How much				Coordination with development Plan
						Upazila admin. %	Community %	UP %	NGO %	
				<p>4, 5, 6 & 8 HBB road 6 km. ward no. 1, 2, 4, 6 & 8.</p> <p>4. Bansbaria union Kacca road 8 km & HBB road 9 km. ward no. 4, 5, 6, 7 & 8</p> <p>5. Barkol union Kacca road 12 km. ward no. 1, 2, 3, 4, 5, 6, 7 & 8 & HBB road 6 km. ward no. 4, 5, 6, 7, 8 & 9</p> <p>6. Barma union Kacca road 12 km. ward no. 5, 6, 7 & 8 & HBB road 5 km. ward no. 1, 2, 3, 5.</p> <p>7. Dhopachari union Kacca road 13 km. ward no. 1, 2, 3, 4, 5, 6, 7 & 8 & HBB</p>						

Sl. No	Activities	Targets	Probable budget	Where to do	Probable date for implementation	Who to do & How much				Coordination with development Plan
						Upazila admin. %	Community %	UP %	NGO %	
				road 6 km. ward no. 2, 3, 4, 5 & 6. 8. Hashimpur union Kacca road 5 km. no. 5, 6, 7 & 8 & HBB road 6 km. ward no. 1, 2, 3, 4, 5 & 8 9. Satbaria union Kacca road 6 km. no. 1, 2, 3 & 4 & HBB road 4 km. ward no. 3, 4, 5, 6 & 7						
3	Emergency control room operation	-	-	Upazila & Union	After disaster					
4	Repair of shelter & reconstruction	3	Per 1.5 crore	Bailtali union, Barma union & Hashimpur	Nov. to January					
5	Exevation of Canal	28	Per 22 lac	1. Kanchanabad union no. of canal 3. ward no. 1, 2, 4, 5 & 6 2. Dohazari union no. of canal 3. ward no. 2, 3, 4, 5, 6 & 8 3. Barma union no. of	Nov. to January					

Sl. No	Activities	Targets	Probable budget	Where to do	Probable date for implementation	Who to do & How much				Coordination with development Plan
						Upazila admin. %	Community %	UP %	NGO %	
				canal 3. ward no. 1, 2, 3, 5, 6, 7, 8 & 9. 4. Barkol union no. of canal 7. ward no. 1, 2, 3, 4, 5, 6, 7, 8 & 9. 5. Bailtali union no. of canal 3. ward no. 1, 2, 3, 4, 5, 6, 7 & 9. 6. Dhopachari union no. of canal 4. ward no. 1, 2, 3, 4, 5, 6, 7 & 9. 7. Hashimpur union no. of canal 2. ward no. 7, 8 & 9. 8. Satbaria union no. of canal 1. ward no. 1, 2, 4 & 5						
6	Construction of Culvert	118	Per 1 lac 10 thd. tk.	1. Kanchanabad union no. of culvert 20. ward no. 1 to 9. 2. dohazari union no. of culvert 22. ward no. 1 to 9. 3. Barkol union no. of culvert 12. ward no. 1 to 9.	Nov. to January Nov. to January					

Sl. No	Activities	Targets	Probable budget	Where to do	Probable date for implementation	Who to do & How much				Coordination with development Plan
						Upazila admin. %	Community %	UP %	NGO %	
				4. Barma union no. of culvert 11. ward no. 1 to 9. 5. Dhopachari union no. of culvert 10 ward no. 1 to 9. 6. Satbaria union no. of culvert 9. ward no. 1 to 9. 7. Baitali union no. of culvert 8. ward no. 1 to 9. 8. Hashimpur union no of culvert 13. ward no. 1 to 9. 9. Joara union no of culvert 9. ward no. 1 to 9.						
7	Deep tubewel	135	Per 1 lac	1. Kanchanabad union no. of deep tube well 21. ward no. 1 to 9. 2. Dohazari union no. of deep tube well 32. ward no. 1 to 9. 3. Barkol union no. of deep tubewell 27. ward no. 1 to 9.	Nov. to January					

Sl. No	Activities	Targets	Probable budget	Where to do	Probable date for implementation	Who to do & How much				Coordination with development Plan
						Upazila admin. %	Community %	UP %	NGO %	
				4. Barma union no. of deep tube well 7. ward no. 1 to 9.. 5. Dhopachari union no. of deep tube well 22. ward no. 1 to 9.. 6. Satbaria union no. of deep tube well 5. ward no. 1 to 9.. 7. Baitali union no. of deep tube well 9. ward no. 1 to 9.. 8. Hashimpur union no of deep tube well 7. ward no. 1 to 9.. 9. Joara union no of deep tube well 5. ward no. 1 to 9.						
8	Construction of Bridge	72	Per 30 lac	1. Kanchanabad union no. of bridge 5. ward no. 1 to 9. 2. Dohazari union no. of bridge 10. ward no. 1 to 9. 3. Barkol union no. of bridge 5. ward no. 1 to 9.	Nov. to January					

Sl. No	Activities	Targets	Probable budget	Where to do	Probable date for implementation	Who to do & How much				Coordination with development Plan
						Upazila admin. %	Community %	UP %	NGO %	
				4. Barma union no. of bridge 6 ward no. 1 to 9. 5. Dhopachari union no. of bridge 10 ward no. 1 to 9. 6. Satbaria union no. of bridge 5 ward no. 1 to 9. 7. Baitali union no. of bridge 10 ward no. 1 to 9. 8. Hashimpur union no of bridge 8 ward no. 1 to 9. 9. Joara union no of bridge 13 ward no. 1 to 9.						
9	Construction of Soil killa	26	Per 70 lac	Construction of soil Killa all of unions of Sitakunda Upazila	Nov. to January					
10	Sanitation	2100	Per 20000	All of unions of Sitakunda upazila arrange sanitation.	Nov. to January					
11	Rain water	1350	80 thd.	Vill. ward & Up	June to Aug.					
12	Tree plantation	90 km.	Per km. 20 thd.	Vill. ward & Up	Aug. to Sept.					

Sl. No	Activities	Targets	Probable budget	Where to do	Probable date for implementation	Who to do & How much				Coordination with development Plan
						Upazila admin. %	Community %	UP %	NGO %	
13	Disaster resilient crops	13500	40 lac 50 thd.	Upazila	After disaster					
14	Impart training on maintenance of shelters	200 people	2 lac	Upazila	After disaster					

4th Chapter: Emergency Response

4.1 Emergency Operation Center (EOC)

An emergency operation center is organized during disasters at Chandanaish upazila. The center plays effective role in responding during disasters and coordinates with others. The center opens 24 hours. During this period the center collect data, examines data, inspect and manage resources.

The emergency operation center is organized in the office of PIO. In this center, a operation center, 1 control room and 1 communication cell operates. The name, designation and mobile no of responsible persons are exhibited in below table-

List of Chandanaish Upazila's Emergency Operation center

Sl. No	Name/Designation	Mamber	Mobile No
01	Md. Abdul Jabbar Choudhury, Chairman, Chandanaish	President	01713-103940
02	Ishrat Reza, Upazila Nirbahi Officer, Chandanaish	Vice-President	01711-468109
03	Md: Aworangojeb, PIO, Chandanaish	Member Secretary	01711-715753
04	Dr: Rezaul Haque	Member	01712-180607
05	Delwar Hossain Majumder	Member	01717-123427
06	Gazi Md: Solayman	Member	01718-339228
07	Enamul Haque	Member	01714-317507
08	Md: Matin	Member	01917-890369

4.1.1 Operate Emergency control room:

A control room is organized at the office of Upazial Nirbahi Officer during disasters. Thre is a register. Who, when will deliver their responsibilities is written in this register and what kind of massage is received and what kind of mnassage is send to whom is written in this register. A union based LGED MAL is kept in the room and varuius locations, roads for communication, khals and embankments etc is written in this MAP.

2 members of upazila Disaster Manangement Committee (UzDMC) work in this control room by turns after just after occurance of disasters and a police also present in this center. Responsible 3 people deliver their dities by turns and a 3 member voluntary team work 24 hours by turns. Full time contact is maintained through phone or mobile with Unions and district.

Just after the disasters, affected areas are identified in this MAP. It may be mentioned here that control room lacks some instrument like large torch light, gumboat, life jacket and raincoat etc.

4.2 Plan during disaster:

Sl no	Activities	Unit	Target	When to do	Who do	Who to do	How to do	Communication
1	Keep ready to volunteers	People	9 two of the Union in 1800	Feb. to March	UP Chairman	UzDMC & NGO & Public	Impart Training & material supply	Representative of Union & Upazila disaster management community
2	Micking of warning	No. of people	100 percent Union 9	Rescue of warning messages	Responsible volunteers	Rural police & Rural people	Through siren & dream	UDMC responsible representative
3	Ready to Boat, Car/ Van	No.	9 180 two Union	Before disaster	Responsible person of Union Parishod	UP member	Preserve phone no of boat, car & van drivers	UDMC responsible representative
4	Conduct rescue operation	e No. of people	800 people	Before disaster	Responsible person of Union	People of Non-govt. organization & community	Through selecting few volunteers who are capable of rescue activities & using life saving devices	UzDMC & UDMC responsible representative
5	Primary Treatment	No.	9 9 the Union	Before disaster	Responsible person of Union	People of Non-govt. organization & community	Keep communication with health center	Responsible person of Upazila health center
6	Collection of life saving medicine & keep prepared	Medicine	450 people	Pre-disaster	Responsible person of UDMC	People of Non-govt. organization & community	Keep communication with health center	Communication with UzDMC & UDMC to the responsible person
7	Dry food, pulse/ rice & house building materials	Taking only dry food total 9 tons			Responsible person of UDMC	local business community and non-governmental organizations people	Through collecting phone no & discussion with community people & agencies that capable of provides foods	Communication with UzDMC & UDMC to the responsible person
8	Vaccine of domestic animal	Medicine	1000	Pre-disaster & after disaster	Responsible person of Union	People of Community	Through discussion with union responsible worker	Responsible agencies of UDMC & Upazila livestock officer
9	Shelter repairs	NO.	3	Pre-disaster	Responsible person of Union	People of Non-govt. organization & community	Solve problems through informing responsible officers by visiting shelters directly	Communication with UzDMC & UDMC to the responsible person
10	Organize rehearsal	No.	18	Pre-disaster	Responsible person of Union	People of Non-govt. organization & community	Volunteers rehearsal in more vulnerable areas	Communication with UzDMC & UDMC to the responsible person
11	operate emergency room	Room	7	Pre-disaster	-	-	Preserve information for emergency room	Communication of district disaster management community

4.2.1 Keep volunteers ready:

- Organize groups with leadership of UP members at ward level.
- Circulate information and warning message through volunteers
- Organize training for members of volunteers on different responsibilities like signaling, messaging, rescue, disposal and shelter management and risk reduction.

4.2.2 Circulate warning message:

- Ward UP members will circulate the warning message to every homes of all wards as his own responsibilities.
- Circulation of 5 no danger warning shloud be done through Miking at least once in one hour.

4.2.3 Approach of removing community npeople

- Ward UP member will start removing people to shelters just after getting message of taking shelter to shelter centers through radio and TV.
- Miking should be started to take shelter of high risk people immediately after announcement of 8 no waring and volunteers will put pressure of taking sheler by moving house to house. They should be moved if necessary. People having risk must keep informed about their respective shelter.

4.2.4 Rescue & Primary Medical service:

- This responsibility should be entrusted to the members of District and Upazila Disaster Management Committee of high risk areas.
- A permanent fund should be created under the supervision of District and Upazial Disaster Management Committee for rescue operation.
- Conduct and establish temporary rescue camp.
- Send ill person, aged, children and delivering pregnant women urgently to hospitals.
- Up members with the help of volunteers will put dead animals into grave and dead men to burials.

4.2.5 Maintanence of Shelter centers:

- Keep cyclone centers ready after doing necessary repair before start of Disaster monsoon.
- Finalize the cyclone centers or safe centers during emergency.
- Ensure security of women, children, and disbled during disasters.
- Ensure safe drinking water and other services.

4.2.6 Keep ready boats:

- DDMC and UzDMC will update the list of engines driven boats and make a selection for use during disasters.
- Boats owners will provide assistance to them.

4.2.7 Need assessment of damages and send report:

- Send SOS for within 24 hours of disaster happening and 'D' form within 7 days to UP Chairman.
- UP Chairman will send compiled ward report to Chairmen of Upazila DMC within next 12 hours through UP secretary.

4.2.8 Coordinate of relief activities:

- UP Chairman will coordinate all relief activities of different relief agencies.
- Maintain a register about the relief materials arrived and inform control room about the operating areas and groups working in those areas.

4.2.9 Collect & keep ready dry foods and life saving medicines:

- Collect and procure dry foods like Chira, Muri from local hat/bazaars for prompt distribution.
- Collect rice, pulses, Atta, oil and house building materials like Tin,, Perek, and nylon ropes from local Bazars.
- Prepare a list of necessary medicines with the help of Health assistant and Family Planing Assistant.

4.2.10 Treatment/ Vaccination of Domestic animals:

- Keep ready medicines at Union Parishad Bhaban or Health centers from upazila livestock office.
- Members of Union disaster Mannagemnt Committee (UDMCs) should be imparted training on Animal treatment.
- Experienced men must be involved in Animal treatment activity during disasters.

4.2.11 Organize drill:

- Drills should be organized on warning, forecasting, removal, recovery, and management of primary relief operation.
- Disasters drills should be organized periodically in cyclone/ flood prone areas.
- Examine the strength of preparation through drills on April and May of each year with vulnerable communities.
- During drills focus should be given to move ill, disables, lactating mothers/ pregnant women and children towards shelters.
- Drills should be conducted in areas risky for disasters on how move people to shelters.

4.2.12 Conduction of emergency control room:

- Emergency control rooms must be organized at unions/upazila/district offices just after disaster occurrence. Presence of Gram police members and 3/4 volunteers must be ensured by turns in these centers.
- Secretary of union Parishad and responsible person will be in duties of EOCs. Each team should consist of at least 3 members and 3 volunteers will deliver duties at EOC by turns. UP secretary will supervise activities all the time.

4.2.13 Shelters / safe places -

- Places which are safe from inundation during floods and away from river erosion can be used as Shelters.

Selected shelters, local schools and colleges, government and non-government institutions, high road, and embankments can be used as shelters.

4.2.14 List and description of Upazila safe places-

List of safe places during disasters

center shelter in	Name	Name Union	power.
School cum shelter	Hanchannagar Govt. pri. School	Kanchanabad	Almost 1000 people
School cum shelter	Allahabad Govt. pri. School	Kanchanabad	Almost t 800 people
School cum shelter	West Allahabad Govt. pri. School	Kanchanabad	Almost 900 people
School cum shelter	Fathehabad Govt. pri. School	Joara	Almost 1100 people
School cum shelter	Abdus Chhobhan Govt. pri. School	Joara	Almost 950 people
School cum shelter	Jamerjuri Govt. pri. School	Dohazari	Almost 1150 people
School cum shelter	Rahman High School	Dohazari	Almost 1200 people
School cum shelter	East Dohazari Afzal Govt. pri. School	Dohazari	Almost 1000 people
School cum shelter	Diyarkul Senoyera Govt. pri. School	Dohazari	Almost 850 people
School cum shelter	West Dhopachar Govt. pri. School	Dhopachari	Almost 900 people
School cum shelter	Dhopachara High School	Dhopachari	Almost 850 people
School cum shelter	Toyaba Sabera Madrasa	Dhopachari	Almost 1000 people
School cum shelter	Hashimpur Govt. pri. School	Hasimpur	Almost 900 people
Shelter center	Ideal Village center shelter in	Hasimpur	Almost 2100 people
Shelter center	center shelter in Char Barma	Barma	Almost 1950 people
Shelter center	center shelter in jaffrabad	Bailtali	Almost 1600 people
Shelter center	center shelter in Bansratnagar	Bailtali	Almost 1300 people
UP Bhaban	Joara Parishod	Joara	Almost 1000 people
UP Bhaban	Satbaria Parishod	satberia	around 1100 people
UP Bhaban	Bailtali Parishod	Bailtali	Almost 2000 people
UP Bhaban	Hashimpur Parishod	Hasimpur	Almost 950 people

4.4 shelter center list of disaster management committee

Disaster management of shelters is an important part.

- During disaster save lives and property
- During disaster save livestock
- Shelter center and maintenance to make sure

Shelter Center	Name of shelter center	Responsible person	Mobile no.
School cum shelter	Kanchanabad Govt. pri. School	Fatematuj Johara	0177-2405551
	Allahabad Govt. pri. School	Anurup Mohajan	01717-024444
	West Allahabad Govt. pri. School	Joya	01813-178303
	Fathenagar Govt. pri. School	Rahela Akhtar	01725-962569
	Abdus Chhobhan Govt. pri. School	Milton Das	01819-821647
	Jamerjuri Govt. pri. School	Bishnu Jaya Chakrabarti	01717-161446
	Rahman High School	Shah Alam	
	East Dohazari Afzal Govt. pri. School	Chabera Khatun	01819-609899
	Diyakul Seniyara Govt. pri. School	Abdullah Al Mamun	01816-238542
	West Dhopachari Govt. pri. School	Sirajul Islam	01814-314002
	Dhopachari High School	Jahangir Alam	01816-442001
	Tayabiya High School	Nurul Alam's Moulana	01818-891480
	Hashimpur High School	Panni Akhtar	01814-246786
shelter center	Ideal Village shelter center	Mohammad Ali	01835-319003
	shelter center in Char Barma	Nurul Islam	01819-808048
	shelter center in jaffrabad	Ahmed Syed	01770-205063
	shelter center in Basratnagar	Ahmed Syed	01770-205063
Building U P	Joara Parishad	Ahmed Hossain Fakir	01814-832014
	Kanchanabad Parishad	Mahmudur Rahman	01819-611507
	Bailtali Parishad	Ahmed Syed	01770-205063
	Hashimpur Parishad	Mohammad Ali	01835-319003

4.5 List of Upazila resources:

Infrastructure / resources	Number	Choose	As a brief
Shelters	21	Responsibilities are given instantly.	Almost all items are in damaged condition. Cyclone shelters have been useless and unprotected.
Godowns	01		
Small megaphones	1 set		
Wireless	1		
Lifejackets	There is no		
Gumboats	There is no		
Sirens	1		
Helmets	There is no		
Bi-cycles	There is no		
Torch lights	There is no		
Apron	There is no		
Flagstand (with flag)	There is no		
Engine driven boats	There is no		
Rescue tool boxes	There is no		
Wireless sets	1		
Strechers	There is no		
Mikes	1		
Radios	1		
First AID Box	1		
Tables	2		
Chairs	5		
Almirah	1		
Radios (out of order)	1		

4.6 Financing:

The income of union parishads comes from local tax, lease of hat/ bazaars and issuing of trade licence of some specific business. But Union Pradshad has no authority to lease large hat/Bazars and Khall / Bills. But now government transfers 1% tax to union parishads from land registration.

(a) Own Resources: (Union Kar, rate and Fees).

Type of source	Annual income								
	Kanchanabad	Joara	Dohazari	Borkal	Barma	Dhopachari	Baitali	satbaria	Hashimpur
Annual residential house tax	43,304/=	1,30,055/=	5,50,000/=	50,000/=	-	50,000/=	1,20,000/=	1,50,000/=	45,000/=
By the license and license issue fees for permits	1,43,900/=	26,400/=	2,20,000/=	50,000/=	26,450/=	6,800/=	50,000/=	1,20,000/=	-
For the lease (, Market, Ghat, ponds, etc)	27,900/=	38,000/=	1,00,000/=	2,00,000/=	-	35,600/=	-	-	-
Income property	-	-	-	-	-	-	-	-	-
General Fund the Union	1,97,774/=	-	37,000/=	10,000/=	81,936/=	-	15,000/=	1,55,715/=	-
Others	1,17,774/=	-	-	-	-	-	-	18,485/=	1,12,325/=

(b) Government donation:

Type of source	Annual income								
	Kanchanabad	Joara	Dohazari	Borkal	Barma	Dhopachari	Bailtali	satbaria	Hashimpur
Allowance of Chairman & Mangers	3,30,000/=	3,30,000/=	3,30,000/=	3,30,000/=	3,30,000/=	3,30,000/=	1,55,000/=	3,30,000/=	3,30,000/=
Salary of secretary & other workers	6,40,000/=	3,36,704/=	6,40,000/=	6,40,000/=	6,40,000/=	6,00,000/=	3,78,600/=	3,78,600/=	3,78,600/=
Developing fund of reparing road/L.G. S.P	6,00,723	6,55,184/=	16,50,000/=	-	10,69,562/=	8,02,307/=	10,58,652/=	5,00,280/=	5,00,723/=
1% of Land	4,00000/=	5,85,133/=	9,00000/=	5,00000/=	4,88,200/=	3,31,537/=	3,50,000/=	4,25,000/=	4,30,000/=
Construction and home repair, the development Fund	-	-	-	-	-	-	-	-	-

c) local Government:

Local government	Annual income								
	Kanchanabad	Joara	Dohazari	Borkal	Barma	Dhopachari	Bailtali	satbaria	Hashimpur
Upazila Parishad	-	3,92,000/=	45,00000/=	20,00000/=	18,76,411/=	24,008,148/=	-	-	-
District Council	-	-	-	-	-	5,00000/=	-	-	-

(d) Developing non-govt. organization:

Non-govt developing organization	Annual income								
	Kanchanabad	Joara	Dohazari	Borkal	Barma	Dhopachari	Bailtali	satbaria	Hashimpur
CDMP	-	-	-	34,000/=	7,48,000/=	4,56,000/=	-	-	-
ADP	-	3,72,000/=	8,50,000/=	7,00000/=	-	99,993/=	-	-	-

4.7 Assessment of Planning and action Plan

S.I No	Name	Designation	Member	Mobile No
1	Md. Abdul Jabbar Choudhury	Upazila Chairman	Chairman	01713-103940
2	Ishrat Reza	Upazila Nirbahi Officer	Co-Chairman	01711-468109
3	Md: Awrangjeb	Project Implementing Officer	Member Secretary	01711-715753
4	Alauddin Al-Azad	Up. H. F. P. Officer	Member	01819-366706
5	Geeta Chowdhury	Up Women's Officer	Member	01711-342689
6	Ashis Chiren	Up. Education officer	Member	01924-429521
7	Muhammad Murad	Cooperative officer	Member	01717-152127

5th Chapter: Rescue & Rehabilitation Plan

5.1 Assesment of damage

Sectors	Descriptions
Agriculture	The amount of total firm land is 37526 acres. About 3270 acres Aman, Aus, Boro, and Robi crops and cultivation of Guava and vegetables can badly be affected if a flood similar to 1988 occurs or hits this upazila. About 2950 acres crop out of total 37526 acres can be damaged each year by hilly water onrush. Partly damage of 1980 acres crop is occurred by tornedos. About 1780 acres crop out of total 37526 acres is damaged by elephant. Soil fertility is decreasing day by day. About 1230 acres crop out of 37526 acres can be affected if a cold wave. About 1060 acres crop out of 37526 acres can be affected if a major drought hits this upazila.
Fisheries	Fishes of about 280 ponds out of total 1989 are flown away if a flood hits the Upazila. Fishes of about 710 ponds out of 1989 ponds are washed away if a tornado hits the upazila. About 90-95 ponds out of total 1989 ponds are affected by drought.
Livestock	About 12100 cows out of 62234, 12100 goats out of 25642 , 10 sheeps out of 51 Sheeps, 52710 chicken out of 145325, 2970 ducks out of 12526, and other wild animals and birds can be washed /flown away if a flood similar to 1988 occurs in the upazila.
Health	People of about 5100 families out of 40245 families can be affected with various diseases. 7500 families out of 40245 are being affected by draught. In addition, Water scarcity is found due to lowering of underground water of tubewells during dry monsoon.
Livelihoods	About 5730 farmers out of 15100 farmers, 26530 day labourers out of total 62069 lost employment due to flood. In addition, goods of 150 small and large shops are damaged. About 62590 day labourers out of 120350 lost their employment due to tornado. In addition drought takes away employment of 30200 day labourers out of total 62069 and 70400 farmers out of 102030 farmers. Besides 3980 fishermen out of 30326 fishermen directly or indirectly affected by drought.
Trees	About 5690 fruits, forest, and herbal trees of Kumira union can be affected if a flood similar to 1988 hits Barkol upazila again. About 52300 fruits, forest, and herbal trees of Joara union can be affected. About 6500 fruits, forest, and herbal trees of Kanchanavad union can be affected. About 8300 fruits, forest, and herbal trees of Barma union can be affected. About 10300 fruits, forest, and herbal trees of Hashimpur union can be affected. About 5300 fruits, forest, and herbal trees of Bailtali union can be affected. About 4192 fruits, forest, and herbal trees of Dohazari union can be affected. About 4300 fruits, forest, and herbal trees of Dhopachari union can be affected.
	There are a total 30880 latrines at Chandanaish upazila. 12352 are Pucca and

Sectors	Descriptions
Sanitation	18528 are Kacha. About 9261 latrines can be affected if a flood occurs. About 7300 latrines can be affected by tornado.
Infrastructure	About 65 KM Kacha road & HBB road 44 km. out of total 439.50 KM, inundation of 3540 homes out 73315 homes, 46 educational institutions out 103 , 5 Hatbazars out of 23 Hatbazars, 10400 Kacha homes out of 40345 homes and 85 culverts out of 503 culverts can be affected by floods. About 45 educational institutions out of 103, 55 mosques out of 303 mosques, 16 Temples out of 76 temples, 8 hatbazars out of 34 Hatbazars and 22 Km electric lines can be affected by tornado.

5.2 Early Recovery:

5.2.1 Re-establishment of Administration

S.L No.	Name	Designation	Member	Mobile No
01	Md. Abdul Jabbar Choudhury	Upazila Chairman	Chairman	01713-103940
02	Ishrat Reza	Upazila Nirbahi Officer	Co-Chairman	01711-468109
03	Md: Awrangjeb	Project Implementing Officer	Member Secretary	01711-715753
04	Alauddin Al-Azad	Up. H. F. P. Officer	Member	01819-366706
05	Geeta Chowdhury	Up Women's Officer	Member	01711-342689
06	Ashis Chiran	Up. Education officer	Member	01924-429521

5.2.2 Cleaning of garbage:

S.L No.	Name	Designation	Member	Mobile No
01	Md. Abdul Jabbar Choudhury	Upazila Chairman	Chairman	01713-103940
02	Ishrat Reza	Upazila Nirbahi Officer	Co-Chairman	01711-468109
03	Md: Awrangjeb	Project Implementing Officer	Member Secretary	01711-715753
04	Alauddin Al-Azad	Up. H. F. P. Officer	Member	01819-366706
05	Geeta Chowdhury	Up Women's Officer	Member	01711-342689
06	Ashis Chiren	Up. Education officer	Member	01924-429521
07	Muhammad Murad	Cooperative officer	Member	01717-152127

5.2.3 Resums of Public Services:

S.L No.	Name	Designation	Member	Mobile No
01	Md. Abdul Jabbar Choudhury	Upazila Chairman	Chairman	01713-103940
02	Ishrat Reza	Upazila Nirbahi Officer	Co-Chairman	01711-468109
03	Md: Awrangjeb	Project Implementing Officer	Member Secretary	01711-715753
04	Alauddin Al-Azad	Up. H. F. P. Officer	Member	01819-366706
05	Geeta Chowdhury	Up Women's Officer	Member	01711-342689
06	Ashis Chiren	Up. Education officer	Member	01924-429521
07	Muhammad Murad	Cooperative officer	Member	01717-152127

5.2.4 Emergency Livelihoods Assistance:

S.L No.	Name	Designation	Member	Mobile No
01	Md. Abdul Jabbar Choudhury	Upazila Chairman	Chairman	01713-103940
02	Ishrat Reza	Upazila Nirbahi Officer	Co-Chairman	01711-468109
03	Md: Awrangjeb	Project Implementing Officer	Member Secretary	01711-715753
04	Alauddin Al-Azad	Up. H. F. P. Officer	Member	01819-366706
05	Geeta Chowdhury	Up Women's Officer	Member	01711-342689
06	Ashis Chiren	Up. Education officer	Member	01924-429521
07	Muhammad Murad	Cooperative officer	Member	01717-152127

Annexure 1

Checke List of Implemeting Planing

Sl no.	subject	YES/NO
1.	Call to start publicity of danger calling member of volunteers selected for miking of warning.	Yes
2.	Whether formation or organized or responsible person has been done to rescue people of vulnearable areas.	Yes
3.	Whether publicity has been made to keep dry foods and safe drinking water for 2/1 days beneath soil.	Yes
4.	Life jakets for the security of volunteers members have been supplied	Yes
5.	Necessary manpower have been deployed to keep control room runing till the time.	Yes
6.	Necessary security for union food godwon/relief godawn are in place.	Yes
7	Others	

- The checklist for the various faults can be seen in the field will be reconstructed to take steps.
- By Union Council or any source of fund volunteers from members of the team for special needs life jacket collection.

checklist

- Every year on April 15 the date/month of May between disaster Union Management Committee meeting the discussion below: fill in the following table: list the Executive Officer of the sub-district and will be sent to the district magistrate.

SL no.	subject	Signs of its proper place
1	Union food store there is an adequate amount of storage?	No
2	It is risky for the children vaccines/vaccine has been given?	Yes
3	1 and 6 when the mother and children have been fed on vitamin K?	Yes
4	Up clinic hospitals are presive in Salain?	Yes
5	The annual volunteer training has been given to members?	No
6	For the shelter to primary treatment is medicine equipment	No
7	As for the shelter to Rural Doctors are present in the area	No
8	There are tube-wells to center shelter in	No
9	To center shelter in doors and windows there are right	No
10	As for shelter to the center for alternative care taker?	Yes
11	Shelter for women to the center there is a separate system for	No
12	To prenancy center shelter in women elected to local midwife to care for There are area	No
13	cows and goats for the position of high places or has been determined for the emphasized reforesting	No
14	The responsibility of members of the party have been aware about	Yes
15	At shelter installations/lattrin there is.	No
16	The weather broadcast and danger signal necessary for developed speaker microphone incredible pixel there is.	Yes
17	At least 2 or 1 days of taking only dry food, drinking water, to be alert to the people has been to?	Yes
18	Others	

Annuxer 2

List of Upazila Disaster Management Committee

Sl.no	Name/Designation	Member	Mobile No
1	Parliament Member, Ctg.03	Advisor	01816-614015
2	Chairman, Upazila Parisad, Chandanaish	Chairman	01713-103940
3	Upazila Nirbahi Officer	Co-Chairman	01711-468109
4	Mayor, Chandanaish	Member	01819-107145
5	Vice-Chairman (Female)	Member	01726-208263
6	Vice-Chairman (Male)	Member	-
7	Chairman, Kanchanabad	Member	01819-399487
8	Chairman, Joara	Member	01814-832014
9	Chairman, Borkal	Member	01813-345431
10	Chairman, Barma	Member	01726-131276
11	Chairman, Bailtali	Member	01770-205063
12	Chairman, Hashimpur	Member	01835-319003
13	Chairman, satberia	Member	01819-611507
14	Chairman, Dohazari	Member	01816-238542
15	Chairman, Dhopachari	Member	01811-304307
16	BRDB Officer, Chandanaish		01819
17	LGRD Officer,	Member	01819-619976
18	Upazila Agriculture Officer	Member	01731-296513
19	Upazila Statistic officer	Member	01815-958133
20	Police Station Officer-in-charge	Member	01713-373651
21	Upazila livestock officer	Member	01712-180607
22	Assistance Commissioner (Land)	Member	01711-468109
23	Upazila Education Officer	Member	01924-429521
24	Assistance Engineer, Health	Member	01197-350730
25	Upazila Education Officer	Member	01712-423642
26	Upazila Health & Family Planing Officer	Member	01819-358315
27	Upazila food controller	Member	01712-863883
28	Upazila Health officer	Member	01819-366706
29	Sub-district food controller	Member	01717-123427
30	Sub-District Health Officer	Member	030-3356004
31	Upazila Youth Development Officer	Member	01917-890369
32	Upazila Accounts Officer	Member	01718-339228
33	Upazila co-operative officer	Member	01717-152127
34	station fire control officer	Member	01718-459656
35	Project Implementing officer	Member Secretary	01711-715753

Annuxer 3

List of Volunteers Baitali Union

Sl No	Name	Ward No.	Training	Mobile no.
01	Md: Saiful Alam	1	Micking of signal	01829-629395
02	Md: Shahjahan Ali	1	Rescue	01821-543904
03	Md: Khorshed Alam	2	Rescue assistance	01827-709121
04	Md: Saiful Islam	2	Warning assistance	01820-003002
05	Md: Ibrahim Mia	3	Primary treatment	01830-277946
06	Md: Chaber	3	Primary treatment	01850-315251
07	Md: Hassan Mia	4	Relieve assistance	01814-819661
08	Md: Mafizur Rahman	4	Shelter	01815-419643
09	Md: Bahadur	5	Shelter assistance	01811-505708
10	Md: Nazim Mian	5	Relieve	01817-205945
11	Md: Forkan	6	Primary treatment	01812-430364
12	Md: Khoka	6	Relieve	01814-872709
13	Md: Jahangir Alam	7	Micking of signal	01814-358807
14	Md: Farid	7	Shelter	01814-201902
15	Md: Ahadul Alam	8	Rescue	01837-612835
16	Md: Tarek Mia	8	Shelter	01850-792470
17	Md: Sekender Mirza	9	Rescue	01813-994619
18	Md: Ashraf Mia	9	Primary treatment	01813-579871

List of Volunteers Satbaria Union

Sl No.	Name	Ward No.	Training	Mobile no.
01	Amena Begum	1	Micking of signal	01835-620612
02	Akhtar Rehana	1	Rescue	01823-954319
03	Make Barua	2	Rescue assistance	01813-685688
04	Shaheen Akhtar	2	Warning assistance	01814-816850
05	Md: Shahidullah	3	Primary treatment	01839-156357
06	Jesmin Akter	3	Primary treatment	01839-156357
07	Liton Barua	4	Relieve assistance	01811-124690
08	Nurjahan	4	Shelter	01746-344594
09	Sabera Begum	5	Shelter assistance	01824-801542
10	Kiran Mala Devi	5	Relieve	01837 and 48715
11	Abdul Hakim	6	Primary treatment	01834-077432
12	Abur Aram	6	Relieve	019188 and 895413
13	Md: Abdul Hakim	7	Micking of signal	01836-771427
14	Nilu Akhtar	7	Shelter	01830-116889
15	Moulavi Sultan	9	Rescue	01813-979426
16	Md: Abdun Judge	9	Shelter	01677-208685

Volunteers list of Hashimpur Union

Sl No.	Name	Ward No.	Training	Mobile no.
01	Md: Abu Mansoor	1	Micking of signal	01813-901614
02	Md: Nazrul Islam	1	Rescue	01811-671633
03	Md: Nurul Islam	2	Rescue assistance	019184 and 941763
04	Kohinoor Akhtar	2	Warning assistance	01815-856249
05	Md: A: Gafur	3	Primary treatment	01827-676613
06	Md: Abdul Aziz	3	Primary treatment	01817-779817
07	Dulal De	4	Relieve assistance	01815-331728
08	Abdul Mannan	4	Shelter	0181-978216
09	Md: Omar Ali	5	Shelter assistance	01925-235222
10	Md: Badiul Alam	5	Relieve	01825-147560
11	Md: Shah Alam	6	Primary treatment	01830-081760
12	Md: Ayub Ali	6	Relieve	01814-991226
13	Babul Shil	7	Micking of signal	01817-734199
14	Md: Idris Ali	7	Shelter	01817-010273
15	Md: Abu Taher	8	Rescue	01930-307175
16	Md: Jahangir Alam	8	Shelter	01817 and 22217
17	Ayub Ali Khan	9	Rescue	01817-788882
18	Md: Khorshed Alam	9	Primary treatment	01819-973770

Volunteers list of Kanchanabad Union

Sl No.	Name	Ward No.	Training	Mobile no.
01	Yasmin Akhtar	9	Micking of signal	01821-543016
02	Md: Abdul Mannan	9	Rescue	01834-616484
03	Md: jakam shukkur	8	Rescue assistance	01861-062181
04	Md: Sirajul Islam	8	Warning assistance	01817-257939
05	Md: Nurul Islam	7	Primary treatment	01824-461579
06	Md: Yusuf	7	Primary treatment	
07	Renu Akhtar	6	Relieve assistance	01840-093494
08	Kazi Salahuddin	6	Shelter	01832-417920
09	Ambia Khatun	5	Shelter assistance	01815-711401
10	Md:A bdul Matin	5	Relieve	
11	Md: Arif Mia	4	Primary treatment	01811-543447
12	Md: Jabbar	4	Relieve	01825-013906
13	Md: Abu Taher	3	Micking of signal	01819-891647
14	Niajur Rahman	3	Shelter	01825-070728
15	Md: Motiur Rahman	2	Rescue	
16	Md: Salahuddin	2	Shelter	01855-214816
17	Md: Eskendar Ali	1	Rescue	
18	Munna Mia	1	Primary treatment	01815-383164

Volunteers list of Joara Union

Sl No.	Name	Ward No.	Training	Mobile no.
01	Sunil Mahanti Barua	1	Micking of signal	01832-228899
02	Md: Alauddin	1	Rescue	01812-561463
03	Karthik De	2	Rescue assistance	01811-259494
04	Kanchan SEN	2	Warning assistance	01819-543723
05	Md: Of	3	Primary treatment	01817-787795
06	Md: Sihab Uddin	3	Primary treatment	01815-613457
07	Ahmed Kahn	4	Relieve assistance	01824-092172
08	Md: Keramat Ali	4	Shelter	
09	Md: Nurul Islam	5	Shelter assistance	01813-359995
10	Tipu Barua	5	Relieve	01843-975476
11	Md: Mahmudul Haque	6	Primary treatment	01846-270143
12	Rupon Kanti De	6	Relieve	01819-630089
13	Tahera Begum	7	Micking of signal	01825-964966
14	Nahar Begum	7	Shelter	01813-360019
15	Nasrin Akhtar	8	Rescue	01815-498447
16	Roxana Akhtar	8	Shelter	01812-656118
17	Abdul Aziz	9	Rescue	01817 and 79817
18	Rahima Akter	9	Primary treatment	01826-113181

Volunteers list of dohazari Union

Sl No.	Name	Ward No.	Training	Mobile no.
01	Jahida Begum Munni	1	Micking of signal	01715-322798
02	Abdur Rahim	1	Rescue	01820-248649
03	Nazim Uddin	2	Rescue assistance	01837-274138
04	Parveen Akhtar	2	Warning assistance	01815-814120
05	Abul Hashem	3	Primary treatment	01917-045166
06	Mahabul Alam	3	Primary treatment	01818-558176
07	Md: Ilias	4	Relieve assistance	01823-461720
08	Md; Ibrahim	4	Shelter	01819-621758
09	Md: Jamal Uddin	5	Shelter assistance	01732-449615
10	Md: abchhar	5	Relieve	01822-879564
11	Namita Das	6	Primary treatment	01831-413869
12	Tapan Das	6	Relieve	01813-168835
13	Md: Musa	7	Micking of signal	01815-185908
14	Joynal Abedin	7	Shelter	01827-418907
15	Abdus Samad	8	Rescue	01831-759746
16	Md: Babul	8	Shelter	01811-673954
17	Ratan Das	9	Rescue	01846-532097
18	Mostaq Ahmed	9	Primary treatment	01820-035650

Volunteers list of Borkal Union

Sl No.	Name	Ward No.	Training	Mobile no.
01	Abu Chupian	1	Micking of signal	01822-065263
02	Md: Alamangir Rahaman	1	Rescue	01827-476436
03	Md: Habib	2	Rescue assistance	01829-445172
04	Hosne Ara	2	Warning assistance	01837-216415
05	Aminul Islam	3	Primary treatment	01835-105968
06	Seneyara Begum	3	Primary treatment	01828-033520
07	Rejiya Begum	4	Relieve assistance	01846-420796
08	Badsha Miah	4	Shelter	01839-238711
09	Abdul Jalil	5	Shelter assistance	01828-769562
10	Mahbubur Arman	5	Relieve	01815-585866
11	Sona Mia	6	Primary treatment	01811-980743
12	Shirin Akhtar	6	Relieve	01817-717588
13	Jamal Hossain	7	Micking of signal	01832-755072
14	Banu Akhtar	7	Shelter	01835-053994
15	Ahabab Hossain	8	Rescue	
16	Jafan Barua	8	Shelter	01824-643433
17	Md:Idris Mia	9	Rescue	01831-027220
18	Badruddoza Chowdhury	9	Primary treatment	01826-181214

Volunteers list of Barma Union

Sl No.	Name	Ward No.	Training	Mobile no.
01	Mannan	1	Micking of signal	01822-315065
02	Monoyara	1	Rescue	01823-320636
03	Abdul Salam	2	Rescue assistance	01858-463697
04	Shah Alam	2	Warning assistance	01820-252720
05	Sekendar	3	Primary treatment	01813-807372
06	Md: Jasim	3	Primary treatment	01827-418571
07	Abu Taher	4	Relieve assistance	01811-537121
08	Sharmin Akhtar	4	Shelter	
09	Babul	5	Shelter assistance	
10	Jaldas Nirmol	5	Relieve	
11	Abdul Mabub	6	Primary treatment	01814-292595
12	Mohasina Khatun	6	Relieve	01813-957735
13	Abhijit	7	Micking of signal	01825-384713
14	Soleman	7	Shelter	01823-320636
15	Samrat	8	Rescue	01815-357531
16	Mohiuddin	8	Shelter	
17	Abu Chhaeed	9	Rescue	01814-988384
18	Abul Alam	9	Primary treatment	01735-810965

Volunteers list of Dhopachari Union

Sl No.	Name	Ward No.	Training	Mobile no.
01	Rafiqul Islam	1	Micking of signal	01818-702979
02	Rasheda Begum	1	Rescue	01819-525714
03	Adhir Barua	2	Rescue assistance	01818-118058
04	Amena Begum	2	Warning assistance	01831-731656
05	Sagir Ahmed	3	Primary treatment	01829-970400
06	Rumana Begum	3	Primary treatment	
07	Mohammad Alam	4	Relieve assistance	01816-830376
08	Jasmine Akhtar	4	Shelter	
09	Abdul Jabbar	5	Shelter assistance	01814-234716
10	Nurjahan Begum	5	Relieve	01833-256355
11	Mojaffar Ahmed	6	Primary treatment	01817-400189
12	Chakina Begum	6	Relieve	
13	Abdur Rahman	7	Micking of signal	01813-227459
14	Md: Jalil	7	Shelter	
15	Nasir Uddin	8	Rescue	01821-840154
16	Hafcha Begum	8	Shelter	01816-221474
17	Nurul Alam Sikdar	9	Rescue	
18	Nasreen Akhtar	9	Primary treatment	

Annuxere 4

List of shelter center management committee in the table below:

Shelter Center	Name of shelter center	Responsible person	Mobile no.
School cum shelter	Kanchanabad Govt. pri. School	Fatematuj Johara	0177-2405551
	Allahabad Govt. pri. School	Anurup Mohajan	01717-024444
	West Allahabad Govt. pri. School	Joya	01813-178303
	Fathenagar Govt. pri. School	Rahela Akhtar	01725-962569
	Abdus Chhobhan Govt. pri. School	Milton Das	01819-821647
	Jamerjuri Govt. pri. School	Bishnu Jaya Chakrabarti	01717-161446
	Rahman High School	Shah Alam	
	East Dohazari Afzal Govt. pri. School	Chabera Khatun	01819-609899
	Diyakul Seniyara Govt. pri. School	Abdullah Al Mamun	01816-238542
	West Dhopachari Govt. pri. School	Sirajul Islam	01814-314002
	Dhopachari High School	Jahangir Alam	01816-442001
	Tayabiya High School	Nurul Alam's Moulana	01818-891480
	Hashimpur High School	Panni Akhtar	01814-246786

Government/Non-Govt. organization:

Name of shelter center	Responsible person	Mobile no.
Adrosho Gram shelter center	Mohammad Ali	01835-319003
Char Barma shelter center	Nurul Islam	01819-808048
Jafarabad shelter center	Ahmed Sayed	01770-205063
Basatnagar shelter center	Sagir Ahmed	01770205061
Joara Parishad	Fakir Hossain	01814-832014
Satbaria Parishad	Mahmudur Rahman	01819-611507
Bailtali Parishad	Md. Sayed	01770205060
Hashimpur Parishad	Mohammad Ali	01835-319003

High Road & Embankment:

No embankment in this Upazila

Health Management Committee

List of health management committee in the table below:

sl no.	Name	Title	Mobile no.
01	Alhazz Nazrul Islam Chowdhury, Member of Parliament	President	01816-614015
02	Md. Abdul Jabbar Chowdhury, Chairman, Chandanaish	Vice-President	01713-103940
03	Maulana Suleiman Faroukhi Vice-Chairman (male), Chandanaish	Member	01815-330715
04	Mr. shahnaz Parvin, vice-chairman (female), Chandanaish	Member	01716-208263
05	Mr. Ishrat Reza, UNO, Chandanaish	Member	01711-468109
06	Alhazz Md. Ayub Kutubi, mayor, Chandanaish	Member	01819-101745
07	Mr. S. M. Bodiujjaman, Police Station Officer-in-charge, Chandanaish	Member	01713-373651
08	Md. Mohiuddin, Social Services Officer, Chandanaish	Member	01712-863883
09	Dr. Md. Shahin Hossain Chowdhury, Medical Officer, Chandanaish	Member	01815-647143
10	Dr. Susama Chowdhury, Medical Officer, Chandanaish	Member	01952-654392
11	Md. Alauddin Al-Azad, family planning Officer, Chandanaish	Member	01819-366706
12	Mr. Habibur Rahman, Chairman, Borkal	Member	01813-345431
13	Mr. Zahidul Islam Jahangir	Member	01714-117803
14	Mr. Zafar Ali Hir, -Divisional Commander, Chandanaish	Member	01819-206326
15	Mr. Sheikh Md. Tipu Chowdhury	Member	01713-150607
16	Mr. Anwar Hossain, teachers, Chandanaish	Member	01818-915803
17	Mr. Abu Chadek Md. Musa, Principal, (Retd), Chandanaish	Member	01818-882294
18	Md. Helal Uddin Chowdhury, counselor, Chandanaish	Member	01711-325189
19	Mr. Khorsheda Begum, female counselor, Chandanaish	Member	01822-345790
20	Md. Selim, BRAC, Representative Chandanaish	Member	01730-349421
21	Mr. Nurul Alam, President, Press Club, Chandanaish	Member	01190-315570
22	Mr. Krishna Rani Biswas (Nursing Representatives), Chandanaish	Member	01913-242214
23	Mr. Nurul Anwar, Hhealth complex, Chandanaish	Member	01816-240168
24	Mr. Gopal Kanti Biswas Health complex, Chandanaish	Member	01820-099258
25	Mr. Sisir Kumar Roy, Upazila Health family planning Officer, Chandanaish	Member Secretary	01711-724037

Fire Safety Committee:

Fire Safety Committee list of Chandanaish Upazila in the table below

Name of fire station	Responsible person	Designation	Mobile no.
Chandanaish Fire Service station & Civil defence	Md: Abdul Jabbar Chowdhury	Upazila Chairman, Chandanaish	01713-103940
	Ishrat Reza	Upazila Nirbahi Officer, Chandanaish	01711-468109
	Md. Awrangojeb	Project Implementing Officer, Chandanaish	01711-715753
	Dolon Acharjo	Fire Station Officer, Chandanaish	01718-459656
	Md. Arif Ullah Khan	Upazila Engineer, LGED, Chandanaish	0303356072

Engine-driven:

List of Chandanaish Upazila boat driven profession in the table below:

Name Union/Ward	Responsible person	Mobile no.
Dohazari iUnion	Khulia Mia	01829-562742
Joara Union	Rafiqul Alam	01815-711148
Dhopachari Union	Abdul Gani	01814-317320
Borkal Union	Harun	01817-201309
Barma Union	Nasir	01912-435392
Barma Union	Arjun Jal Das	01830-480240
Bailtali Union	Bashir Ahmed	01711-313199
Dhopachari Union	Khorshed Alam	01830-556565
satberia Union	Khorshed	01731-745062
Bailtali Union	Kamal	01839-151081

Local Business:

Chandanaish Upazila locally engaged in various professions in person below

Name Union/Ward	Name of local businessman	Mobile no.
Hashimpur Union	Shah Amin Ullah Fakir	01815-673841
Hashimpur Union	Md: AAbdul Mannan	01819-305005
Hashimpur Union	Suman Chowdhury	01838-067758
Hashimpur Union	Aminul Islam	01829-645500
Hashimpur Union	Md: Mamun	01814-727428
Bailtali Union	jakam shukkur	01819 -262094
Bailtali Union	Md: Selim	01816-490725
Bailtali Union	Dr. Kazi Md. Mohiuddin	01819-624094
Dhopachari Union	Md. Faisal	01829-057176
Dhopachari Union	Paritosh Chowdhury	01822-733407
Borkal Union	Md. Sohail	01823-907356
Borkal Union	Md. Mafizur Rahman	01816-154736
Barma Union	Md. Bogdadia	01815-335709
Barma Union	Harunur Rashid	01819-332305
Barma Union	Abu Tayeb	01815-146152
Barma Union	Md. Rafiq	01821-795688
Barma Union	Md. Nasir	01820-276229
Barma Union	Md. Sahabuddin	01840-415002
Dohazari Union	Nurul Alam	01811-536680
Dohazari Union	Md. Yusuf	01824-461564
Dohazari Union	Saddam Hossain	01817-755636
Dohazari Union	Shah Alam	01821-794153
Dohazari Union	Zakir Hossain	01829-433349
Dohazari Union	Md. Farooq	01817-252362
Dohazari Union	Md. Golam Quader	01837-927758
Kanchanabad Union	Md. Jasim	01814-369009
Kanchanabad Union	Abdul Khalek	01814-307470
satberia Union	Md. Karim	01837-607489
satberia Union	Sultan Ahmed	01817-125637
satberia Union	Abdur Rahim	01812-654914
Joara Union	Amol Deb	01814-937514
Joara Union	Md. Nasir	01826-111828
Joara Union	Sultan Ahmed	01835-096510
Joara Union	Abu Sayem	01833-202515
Joara Union	Abul Fazal	01820-222942
Dhopachari Union	Belal Hossain	

Annuxure 5

At a glance of Chandanaish Upazila

SI NO.	Area	201. 99 Km..	SI No.	church	
1	Union/Upazila	09 unions and 1 Pourashava	26	Idgah ground	14
2	Maujas	38	27	Bank	14
3	village	65	28	Post office	10
4	Family	40255	29	Club	62
5	Total population	240730 people	30	Hat/Bazar	23
6	Men	122514	31	Place grave	376
7	Women	118216	32	Crematory	133
8	Educational Institution	103	33	chicken farm	101
9	Government Primary School	64	34	Industrial factory	-
10	Primary School Resi.	-	35	Deep tube-wells	102
11	Secondary School	22	36	shallow tube-wells	1072
12	College	03	37	tube-wells	6424
13	Temple	76	38	tube-wells	1157
14	Madrassa, Fazil, Kamil	12	39	River	2 (about 50 km).
15	Brac school	-	40	Canal	28
16	Kindergartens	28	41	Bill	There is no
17	% of education	41 percent 68.	42	Chara	There is no
18	community clinics	35 t	43	Ponds	In 1989
19	Dam	5 (dam almost 17 km.)	44	Jalashoy	36 acres
20	Sluice Gate	4	45	Road	163. What is 50. me.
21	Bridge	95	46	Cncrete road	117 Km.
22	Mosque	303	47	Mobile tower	-
23	Vulverts	503	48	play ground	19
24	Stock Fisheries	7	49	Cow farm	16
25	Call ice	2	50	Goats farm	15

Annuxure 6

List of Bangladesh Radio broadcast on some important program

Radio center	Name of Program	Broadcast time	Name of day
Dhaka-Ka	Krishi Samachar	At 6:55 and 7:00	Every day
	Sukher Thikana	At 7:25 and 7:30	Every day
	Health is Wealth	At 11:30 12:00	Every day except on Friday
	Sonali Fashol	At 06:05 - 6:35	Every day
	The weather news	At 06:50 - 7:00	Every day
Chittagong	Krishi Katha	6:55 am-07:00	Every day
	Krishi Samachar	At 06:10 - 06:50	Every day
	Sukhi Sangshar	At 06:55 and 08:30	Every day
Rajshahi	Khet Khamar Samachar	06:55 am-07:10	Every day
	Green Bangla	At 06:05 and 06:50	Every day
Khulna	Health Information	06:55 am-07:00	Every day
	cultivation	At 06:10 - 06:50	Every day
Rangpur	Sukher Thikana	07:25 AM-07:30	Every day
	Khet Khamar	At 06:05 and 06:30	Every day
Sylhet	In today's cultivation	06:55 am-07:00	Every day
	Sukher Thikana	07:25 AM-07:30	Every day
	Shymol Sylhet	At 06:05 and 06:25	Every day except on Friday
Thakurgaon	Kishen Mati Desh	At 06:05 and 05:25	Saturday, Monday and Wednesday
Cox's Bazar	In today's Agriculture	At 03:07 and 03:25	Every day
	Sonali Prantor	At 03:40 and 03:45	Tuesday and Thursday
Barisal	To agriculture	At 03:15 03:30	Every day except Saturday and Wednesday
	Small family	At 03:35 03:50	Monday, Wednesday and Friday every day except
Rangamati	Giboner Katha	At 01:40 and 01:55	Every day
	Khamar Bari	At 03:05 and 03:15	Every day



Development of Disaster Management Plan at Upazila Level

Upazila: Chandanaish, District: Chittagong

Plan Developed by-
Upazila Disaster Management Committee,
Chandanaish, Chittagong

Co-ordinated by:



GHARONI

July 2014

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Comprehensive Disaster Management
Program (CDMP-2)
Ministry of Disaster Management & Relief



Empowered lives.
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