Data on Disaster Risk- Assessment Methodology

(1) The general situation of the community

1. An overview about the Climate

The climate in Mymensingh is tropical. In winter, there is much less rainfall than in summer. This climate is considered to be Aw according to the Köppen-Geiger climate classification. The temperature here averages 25.3 °C. The rainfall here averages 2249 mm. The driest month is December, with 2 mm of rain. Most precipitation falls in June, with an average of 469 mm. July is the warmest month of the year. The temperature in July averages 28.5 °C. In January, the average temperature is 18.4 °C. It is the lowest average temperature of the whole year. There is a difference of 467 mm of precipitation between the driest and wettest months.

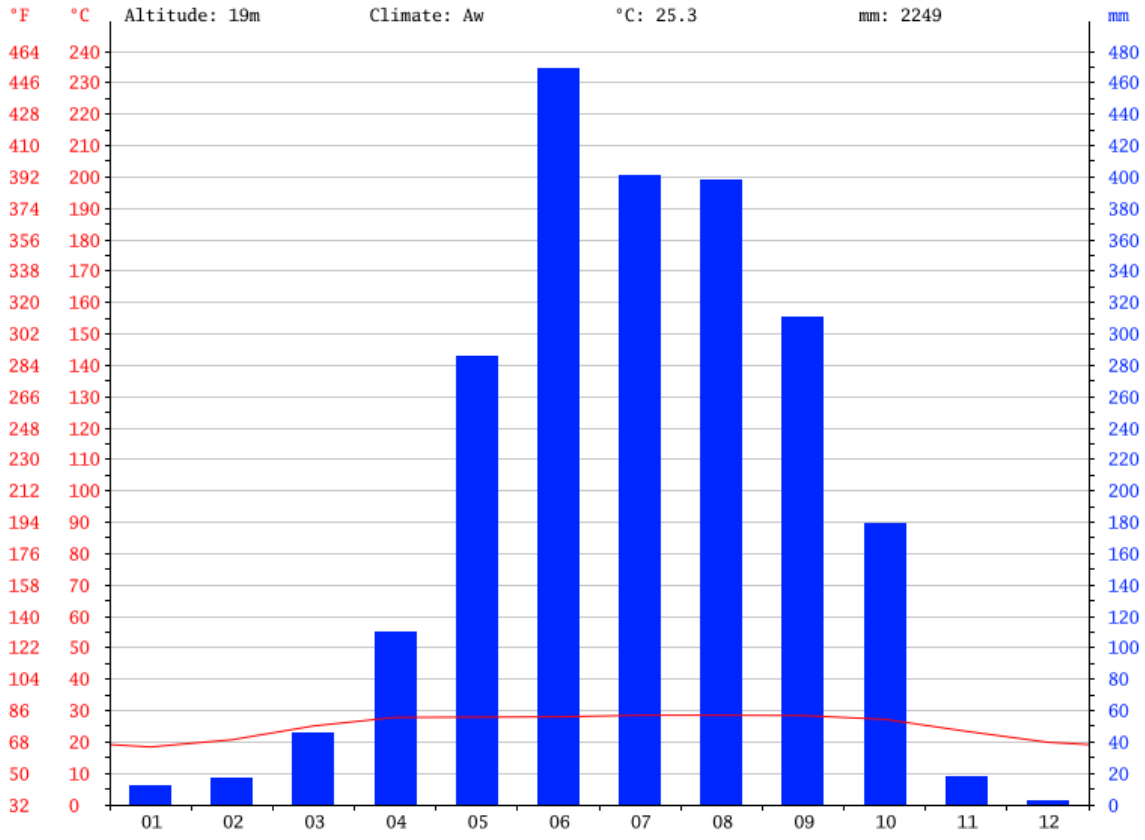

Figure: Climate Graph of Mymensingh

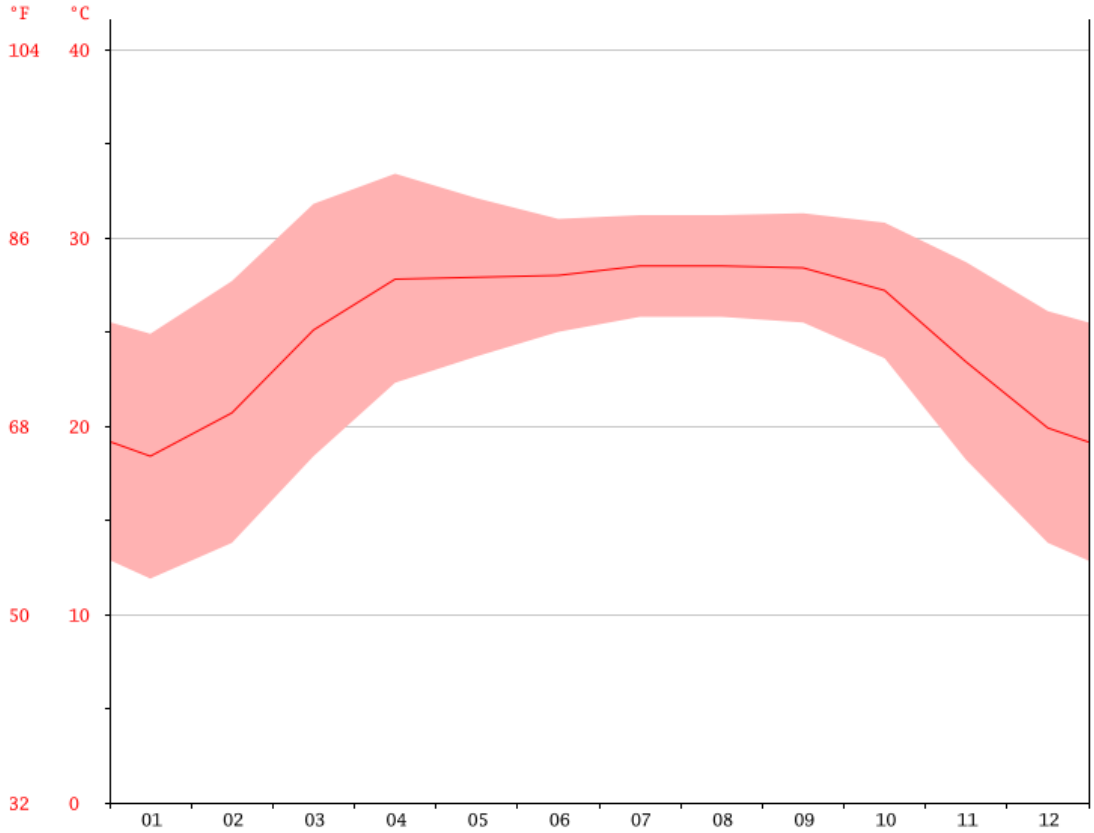

Figure: Temperature Graph of Mymensingh

The average temperatures vary during the year by 10.1 °C. Useful hints about reading the climate table: For every month, you will find data about precipitation (mm), average, maximum and minimum temperature (degrees Celcius and Fahrenheit). Meaning of the first line: (1) January, (2) February, (3) March, (4) April, (5) May, (6) June, (7) July, (8) August, (9) September, (10) October, (11) November, (12) December.

month	1	2	3	4	5	6	7	8	9	10	11	12
mm	12	17	46	110	286	469	401	398	311	179	18	2
°C	18.4	20.7	25.1	27.8	27.9	28.0	28.5	28.5	28.4	27.2	23.4	19.9
°C (min)	11.9	13.8	18.4	22.3	23.7	25.0	25.8	25.8	25.5	23.6	18.2	13.8
°C (max)	24.9	27.7	31.8	33.4	32.1	31.0	31.2	31.2	31.3	30.8	28.7	26.1
°F	65.1	69.3	77.2	82.0	82.2	82.4	83.3	83.3	83.1	81.0	74.1	67.8
°F (min)	53.4	56.8	65.1	72.1	74.7	77.0	78.4	78.4	77.9	74.5	64.8	56.8
°F (max)	76.8	81.9	89.2	92.1	89.8	87.8	88.2	88.2	88.3	87.4	83.7	79.0

Figure: Historical Weather Data of Mymensingh

2. An overview about the topography and geology:

The district covers an area of 4363.48 km2, with several small valleys between high forests. It is at the foot of Garo hills of Meghalaya, and includes some chars (sandy islands) founded on the bed of the Old Brahmaputra River and also some ancient forests of mainly a single wood tree, the Sal tree. The city of Mymensingh stands on the bank of the Old Brahmaputra, as the 1897 Assam earthquake changed the main flow from Brahmaputra to the Jamuna River which flows west of the greater Mymensingh region. The area of Greater Mymensingh, the north front line is just at the foot of Garo hills of Meghalaya of India, the south this area excludes Gazipur district, the east ends in the rich watery land of Bangladesh as native calls 'Hawor', the west ends in the ancient single wood forest (e.g. Muktagacha, Fulbaria and Valuka Upozillas) and the Chars of Jamalpur district sided north-west of Mymensingh district.

3. The socio - economic overview:

Ward 14 is a business oriented area in Municipality of Mymensingh, having 60 medical facilities and business centers based on medical services including 1 medical college and hospital, 3 banks, a good number of drug stores, diagnostic centers, and local confectionaries shop. The residential part of the community also has a local market in Cluster 5 selling groceries during day time.

4. Community administrative boundaries:

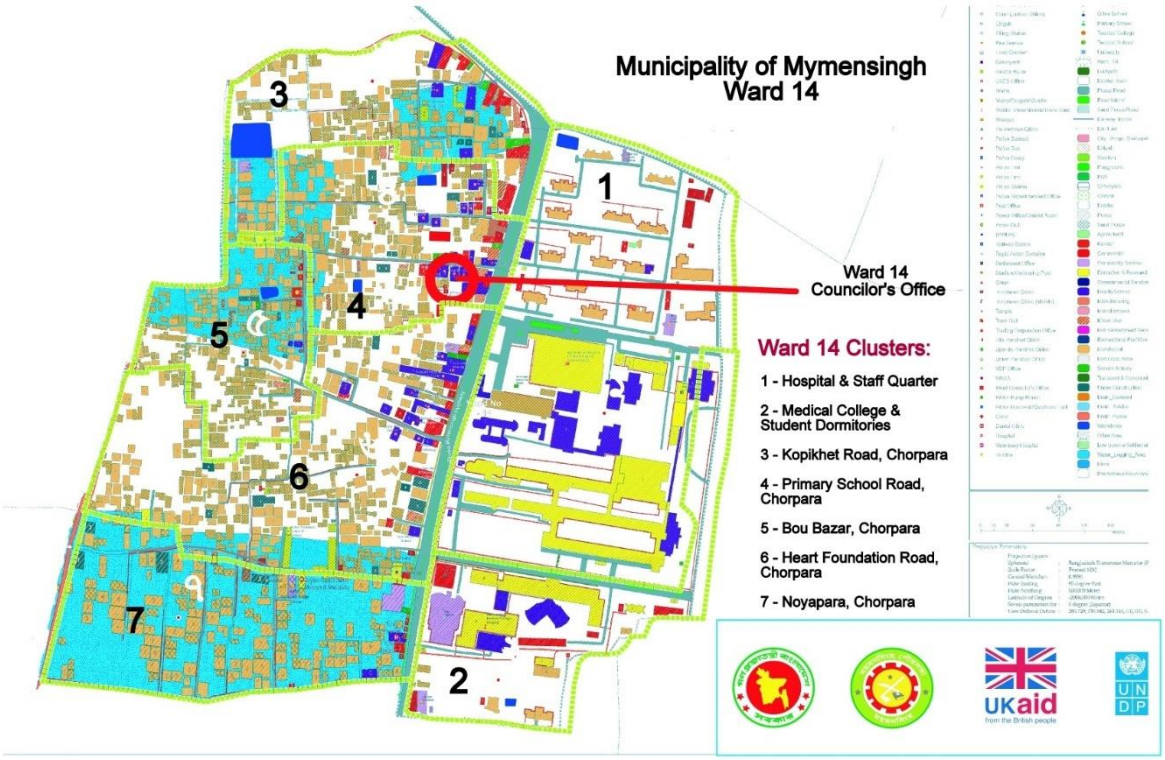

Figure: Administrative boundary of Ward 14, Municipality of Mymensingh

Ward-14, the pilot community for CBDM Asia II in Bangladesh is surrounded by Ward-13 and Ward-17 in north, Ward-15 in south, and Ward-19 in east. The west boundary demarcates border between municipality and union (prefecture).

(2) General situation of disaster bearing body:

1. Community population:

Collection of information resulted to quantity, age structure, gender structure, education level, the disabled and other special populations is underway and validation is needed as such general population number and academic institutes information have been provided. According to Bangladesh Bureau of Statistics, 2011 the total population of Ward 14 was 12,239, and an estimation of population growth forecast (growth rate: 0.121) provides 21,665 as 2016 population.

Name of the locality	**No. of families**	**Population**				
		Female	**Male**	**Children (under 18 years)**	**Disabled**	
					Female	Male
Charpara	2194	6428	5714		38	59
Information Source: Bangladesh Bureau of Statistics, 2011						

Table: Population of Ward 14 in 2011

Clusters	**Area Name**	**Population (approx.)**
01	Hospital & Staff Quarter	3000
02	Medical College & Dormitories	2000
03	Kapikhet Road, Chorpara.	2700
04	Primary School Road, Chorpara.	3200
05	Bou Bazar, Chorpara.	2600
06	Heart Foundation Road, Chorpara.	3800
07	Nayapara, Chorpara.	2600
Total Population (approx.)		**19900**

Table: Distribution of population of Ward-14, Mymensingh Pourashava according to clusters

Sl. No	Name of School	Education level	Total student	Boys	Girls	Cluster
1	Charpara Govt. Primary School	Pre-primary - Class 5	515	245	270	4
2	Bir Muktijoddha Oddhokko Motiur Rahman Academy School & College	Play Group - Class 12	1000	450	550	6
3	Inocent Child School & College, Mymensingh	Play Group - Class 9	450	200	250	3
4	Point Model School	Play Group - Class 5	250	100	150	7
5	Childhood Kindergarten School	Play Group - Class 5	100	40	60	6
6	Alamgir Model School	Play Group Group - Kindergarten	40	10	30	7
7	Bornomala Kindergarten	Play Group - Class 3	150	75	75	6
8	Baytul Salam Jame Mosjid Hafiizia Madrasha	Hafizia	39	39	0	7

Table: Academic institutes and students' information in Ward 14

2. **The structure type of community building, the period of use of a building:**

The structures of the community buildings can be divided into three general categories. The average design life varies from 20 years (Multistoried brick building) to 50 years (Multistoried RCC building), and in most cases the buildings are used beyond their design life by 20-40 years. The identified building categories are as follows:

A. Multistoried RCC (reinforced cement concrete) building

B. Multistoried brick building

C. Single storied brick house with/without tin/slab as roof

3. **The information of infrastructure:**

The common infrastructures in Ward 14 are as follows:

- **Market places**: There is one grocery market present in Cluster 5, which is a brick walled structure with tin roof, and operates during the day time.
- **Shops**: There are a number of confectionaries and drug shop located near the Dhaka-Mymensingh highway.
- **Roads:**

Road Type	Width	Remarks
1. Bituminous Pavement	4 lane road	Dhaka-Mymensingh Highway, located between residential areas and MMCH
2. RCC Road	3 meters	There are very few roads connecting the community with the Dhaka-Mymensingh Highway
3. CC Road	1.5 meters	Pedestrian road, covers most of the community area
4. Brick flat soling	1.5 meters	Pedestrian road

- **Schools:** There are 8 schools with about 2500 students teaching from pre-school to class 12.
- **Mosque:** There are 5 mosques present within Ward 14.
- **Culvert:** A canal runs along western margin of Ward 14, and there are two culverts present to connect the roads from east to western side of Ward 14.
- **Sewerage lines**

Information on infrastructures in the context of earthquake risks have been provided with the GIS data.

(3) The overview of the disaster-causing factors

Over the past decade, different kinds of natural disasters took place in Mymensingh district which affected the community as well. The natural disasters are: earthquake (just tremors, epicenters were located in the neighboring countries), seasonal storm, fire, high temperature, heavy rainfall, strong wind etc.

1. **The number of floods, the specific time of occurrence, place of occurrence, resulting in losses:** Ward 14 did not suffer from flood, instead waterlogging due to heavy rainfall has been a common problem for the community over years. Waterlogging usually takes place on the roads, and some resident courtyards.
2. **The number of earthquake disasters, the specific time of occurrence, place of occurrence, resulting in losses:**
   Earthquake tremors were felt around 4 times last year, whereas the epicenters were located in Nepal, Myanmar and India.
3. **The number of fire disasters, the specific time of occurrence, place of occurrence, resulting in losses:**
   Ward 14 experienced fire incidents a number of times from electric power lines, but no major losses incurred for those incidents yet.

4. **Other major disasters, the specific time of occurrence, place of occurrence, resulting in losses:**

   As mentioned earlier, waterlogging has been a major concern for the community over past decade, which hampers the regular activities and works in the community.

(4) The disaster reduction capacity

1. **Road construction:**

   The Dhaka Mymensingh highway passing through the middle of Ward 14 is constructed with bituminous pavement, and there are few RCC roads and a major number of CC roads connecting the community with the main road. Few residential bodies also need to be accessed using brick flat soling.

2. **Fire station distribution, service scope and equipment quantity and distribution:**

   There are no fire stations within Ward 14. The distribution of fire station is concentrated in a single location. The main office for fire station is about 3 km away from Ward 14, and has a travel time of 30 minutes under normal traffic condition with limited access to community.

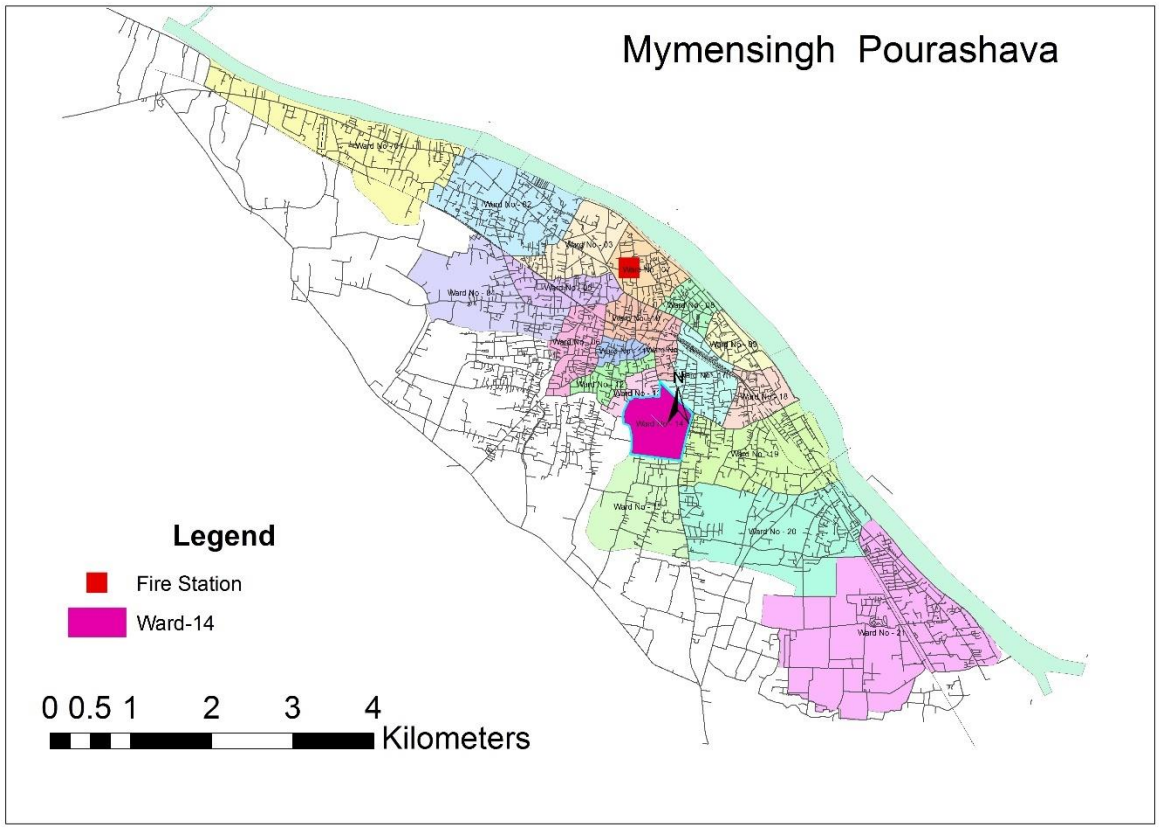

Figure: Map of distribution of fire stations within Municipality of Mymensingh

3. **The number and distribution of nearby medical and health facilities:**

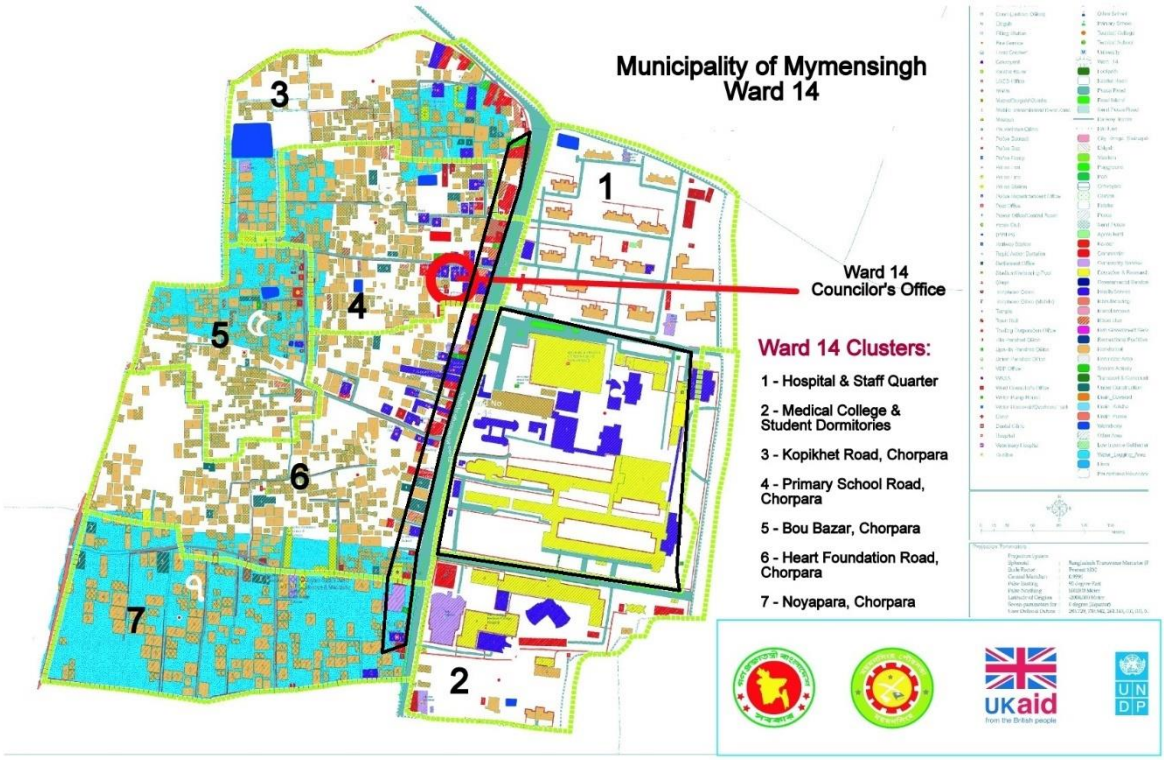

Figure: Distribution of hospitals in Ward 14

There are 60 hospitals, clinics and diagnostic centers present within Ward 14, including Mymensingh Medical College and Hospital (MMCH). About 23 clinics have an approximate capacity of accommodating 300 patients, while MMCH alone accommodate more than 3,000 patients. Most of the medical facilities are located around the main road (Dhaka-Mymensingh Highway), as marked in black in the map. Detailed locations of the medical facilities have already been provided in the GIS map.

4. **The number and distribution of emergency shelters:**

   There are no existing emergency shelters present in the community.

5. **Community emergency communication capabilities:**

   Emergency communications are usually done manually using battery-run mic with amplifier. But there is no such system available for emergency communication. People mostly use mobile phones.