

## ***ANNEX-II***

**SUMMARY OF THE RESULT OF SURVEY ON EVACUATION  
CONDITION AND AWARENESS OF FLOOD VICTIMS**







## Executive Summary

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Bangladesh Engineering & Technological Services (BETS) Ltd. was assigned the task of conducting the "Survey on Evacuation Condition and Awareness of Flood Victim" for the Feasibility Study for Improvement of Flood Forecasting and Warning Services and the survey was conducted under the guidance and active participation of the Study Team. The Survey covered 15 locations including 5 major cities, 5 middle-to-small towns and 5 provincial villages which are: Dhaka, Rajshahi, Rangpur, Sylhet and Barisal Cities, Munshiganj, Natore, Kurigram, Sunamganj and Daulatkhan Towns and 5 Villages namely: Sabir Hazi Dangi of Faridpur, Bory Kandi of Bogra, Haldibari of Jaldhaka, Nij Chawra of Kanaighat and Char Fakira of Char Fashion

The locations were selected purposively as per ToR and also through discussion with the Study Team, with the representation of different flooding type, administrative divisions, urban and rural areas. The survey was conducted at 5 levels namely: Central Govt. Agencies, Local Govt. Agencies, NGO/NPOs, Village/Area Information and Household Survey. For the household survey, 20 households were interviewed through random sampling procedure. Conclusions drawn from the summary of findings of the survey are presented below:

### 1. Information from Central Govt. Agencies

#### 1.1 Conditions of Flood and Under-water Submergence

Inundation is a natural recurrent phenomenon which normally covers about 20% area of Bangladesh during the monsoon spanning from June to September/ October each year. The excess of peak water levels from the normal levels causes flood. Floods based on spatiality, timing, intensity and duration are categorized as Flash flood, River flood, Local rainfall flood and Tidal flood. There have been 5 major floods in the 19<sup>th</sup> century and 16 major floods in the 20<sup>th</sup> century. Submersion above danger level lasted for about 2 months in some of the rivers during the flood of 1998.

#### 1.2 Information on Rivers and Flood Control Facilities

Bangladesh has a total of 230 rivers including 57 trans-boundary rivers. 54 of the international rivers come from India while 3 minor rivers enter Bangladesh from Myanmar. Two of the world largest rivers system i.e. the Ganges and the Brahmaputra flow through the country. These two rivers along with the Meghna drain run-off from the total catchment of about 1.6 million sq. km. BWDB works with FCD/FCDI projects having command area of more than 1000 ha. and LGED takes care of projects with command area of 1000 ha or less. BWDB's projects till June 2002 consist of 628 completed and 75 on-going projects. These include 13,697 km of embankment, 10,201 km irrigation and drainage canals and 3,538 nos. of hydraulic structures. Benefited area from flood control and drainage is 5.38 m. ha, irrigation command area covers 1.6 m. ha. and land reclaimed from sea covers 1001 sq. km.

#### 1.3 Rainfall and Water Level Observation Facilities

BWDB maintains about 400 water level measuring stations and 311 rainfall measurement stations. Storm Warning Centre of Bangladesh Metereological Department (BMD) maintains rainfall-measuring stations of their own. BIWTA maintains a number of tidal water level measuring stations.

#### 1.4 Flood Damage

Flood damages cover the whole range of human and natural environment. Prolonged submersion increases the degree of damage to a large extent. Abnormally rapid rise of water also causes damages. Flash floods cause damage by sudden submersion of crops and by covering of agricultural land with sand

carried from upstream. Saline water from tidal bores submerges agricultural land and water bodies. The flood impact on the development process and the rate of economic growth of the country.

### ***1.5 Flood Warning***

Flood Forecasting and Warning Centre (FFWC) of BWDB collects data on water level, weather forecast, satellite imagery, actual water level as well as forecast water level and rainfall from India. These data are used for the preparation of the 'Statistical statement of water level & rainfall', 'Rainfall and river situation summary' as well as 'Forecast formulation'. The prepared output bulletins are transmitted for public dissemination.

### ***1.6 Evacuation***

The process and responsibilities of evacuation at the time of floods have been detailed in the "Standing Orders on Disasters" issued by Disaster Management Bureau of Ministry of Disaster Management, Relief and Rehabilitation (MoDMRR). MoDMRR is authorized to initiate the process of rescue and relief operation involving civil administration, armed forces and other non-government bodies. "Standing Orders on Disaster" also direct Government officials of different departments of locality to assist the civil administration in rescue and evacuation. The Deputy Commissioners of districts organize rescue and evacuation with the help of local officials and Union Parishads (Chairmen and members).

### ***1.7 Actions and Organizations of Related Agencies during Floods***

Activities of the organizations during flood can be broadly divided into (a) Monitoring the flood and issuance of flood forecasting and warning, (b) Providing assistance in evacuation as well as relief and rehabilitation during flood and (c) Keeping the infrastructures and facilities operational during flood. Hydrology Directorate and Flood Forecasting and Warning Centre (FFWC) collects, analyses data and prepares daily bulletin during flood season containing statistical statement of water level and rainfall, rainfall and river situation summary as well as forecast for flood. Forecasts are transmitted for public/private dissemination. The principal Government agency for coordinating disaster management activities is Disaster Management Bureau (DMB) of the Ministry of Disaster Management, Relief and Rehabilitation (MoDMRR). Relief and Rehabilitation Department of MoDMRR coordinates collection and distribution of relief goods. Distribution of relief materials and providing direct assistance to the flood affected people is coordinated by the district administration of the Government. They do the job with the assistance of local Municipal/ Union councils (chairmen and members). In the case of severe distress Armed Forces personnel and logistic are used for evacuation of marooned people, distribution of emergency food and other essentials etc. Temporary accommodation of flood affected people are arranged in the local primary schools. National NGOs, local NGOs and local bodies also participate in relief operation.

### ***1.8 Means of Transportation during Flood***

Country boats are mainly used for transportation during flood. Public and private ships and launches are also used during relief and rescue operation.

### ***1.9 Past Flood Damage Records***

Different agencies keep records of past flood damages. Estimates of losses and damage in the floods of 1987 and 1988 amounted to 450 mil and 775 mil US\$ respectively; which amounted to negative impact of 3.04% and 5.09% on the GDP growth.

### ***1.10 Hazard Map***

Map prepared by FFWC of BWDB showing the flood status of mid-September 1998 and maps showing area of crop damage prepared by CEGIS are given in Chapter 3.

### **1.11 Education for Protection against Disasters**

Topics related to protection from disasters are in the syllabus of social science subjects of classes-V, VI and IX-X. The topics include "Environmental Disasters of Bangladesh" in Chapter – 9 of 'Introduction to Environment – Society' text book of Class-V; "Environmental Disasters of Bangladesh" in Chapter – 14 of the 'Social Science' textbook of Class-VI and "Disasters Management and Bangladesh" in Chapter – 7 of the 'Social Science' textbook of Class- IX & X

### **1.12 Opinions and Requests for Flood Warning and Damage Mitigation**

Procurement of Doppler radar systems for Khepupara, Cox's Bazar and Moulvibazar and addition of hydrological component to the existing radar system of at Rangpur will help BMD in more accurate predication of weather and flood. Procurement of (a) tools and machinery for forecasting flash flood; (b) more upstream flood information from India to increase forecast lead time; (c) procurement of precise Digital Elevation Model (DEM) of the country and (d) procurement of devices/ installations for capturing hourly/3-hourly satellite raw data (digital data) for rainfall estimation as well as flood monitoring will facilitate the issuance of better flood forecasts by the Flood Forecasting & Warning Center (FFWC) of BWDB. Formation of village level committees with group leaders deserves consideration for dissemination of forecast and warning at grass root level. Danger level zoning as well as increase in forecast lead-time will help in dissemination of flood forecasts and warning.

## **2. Information from Local Govt. Agencies**

### **2.1 Flood Warning**

Though there were no organized and specific flood warning system in the area during the last floods the information of floods was received by the flood affected people from different sources. The ways and means of transmission of the flood information were:

Receiving	Transmitting
<ul style="list-style-type: none"> <li>- Received letter from DRRO/DC control room</li> <li>- Wireless message from BWDB</li> <li>- Message on local situation received from local people</li> <li>- Radio/TV/News paper</li> <li>- By miking</li> </ul>	<ul style="list-style-type: none"> <li>- DC office call emergency meeting.</li> <li>- Miking in the area</li> <li>- Person to person</li> <li>- Warning from local NGOs, Voluntary organization</li> <li>- Wireless message</li> <li>- Radio/ Television/ News paper</li> <li>- Upazila administration</li> <li>- Local news bulletin</li> <li>- Warning from local Red-Crescent &amp; individuals</li> <li>- Information on nearest river level observation</li> </ul>

#### **Judgment of warning**

- Water level flowing above the danger level
- Flood situation in near upper areas forecasting by Radio/TV/ news bulletin
- Heavy continuous rainfall in the upper catchment area of the river, especially in hills in India
- Livelihood level damage mitigation

#### **Problem of flood warning**

- In fact no formal flood warning is received. Local warning is received based on observation of flood situation
- Primary stage at the start of flood treated as warning
- Local observation is not enough to take necessary action
- Overall people do not trust advanced flood warning

- Financial problem
- Transport, communication problem
- Miking cost (cost of mike, transport and manpower) is not available

#### Action/mobilization after flood warning

- After the flood warning, Disaster Management Community (DMC) held meeting, communicate message to respective organization
- Mobilize a team for shelter preparation, relief procurements and evacuation preparation
- Rehabilitation work after flood warning
- Before flood nearby educational institutions are closed
- DMC prepares action plan for evacuation activity
- DC, TNO, UP office correspondence
- Food, medicine, transport, shelter arrangement for flood victims

## **2.2 Evacuation**

### **2.2.1 Basis of judgment for evacuation**

- Water flowing above the danger level
- Homesteads inundation
- Movable properties crops etc. to be saved
- Living condition unsuitable including communication, pure water, sanitation disease etc.
- Cattle, poultry, children life insecurity during flood

### **2.2.2 Evacuation places**

- Local educational institutions, office buildings etc.
- Flood shelters
- Union parishad/Pourashava office, open place

### **2.2.3 Responsible/support agencies**

DC office: Disaster Management Committee, UNO office: Disaster Management Committee, Pourashava: Red Crescent, CARE Bangladesh (Mobile), Livestock Department World Vision, Union disaster management , DRRO, PIO, LGED, NGO, Local elite's, DPHE, Non profitable organization, local cultural organization, local political parties, local rich men, UP, upazila offices, local businessmen

### **2.2.4 Items of support**

Food, cloths, WPT, ORS, medicine, shelter, fuel, lights, transport, relief, temporary tube well sinking etc.

### **2.2.5 Problems encountered**

- Lack of transport for evacuation and relief operation
- Social security problem in the flood shelters, women insecurity
- Man power not available, insufficient goods (food, medicine etc)
- Safe water not available
- Coordination and support service providing to different distant shelter, transport problem
- Financial problem, support service problem

### **2.2.6 Suggestion/requirement for providing better evacuation**

- Providing flood shelter
- Enhance transport support for evacuation and relief operation and coordination



- Skill person about evacuation, sufficient goods, suitable shelter, fund needed
- Vigilance team/ manpower needed
- Awareness building of the people on flood
- Support services in shelters like T.W, latrine, lighting system etc.
- Medical support
- Relief/ food supply to be available

### **2.2.7 Opinions and requests for flood warning**

- DC, TNO, NGOs jointly ensure sending warning to people
- DC office should provide warning before 3 days occurrence of flood
- Form a flood vigilance team for warning, evacuation shelter management and relief operation
- During flood period information system regarding sending message from field should be developed i.e. Proper transportation, sending message through mobile phone etc. to be ensured specially peak time of flood
- Awareness grow for grass root level, nation-wide campaign before flood, drum, beating, folk-song, drama, video show arranged
- Hat/bazar, community based miking, hand miking

### **2.2.8 Opinion and suggestion for flood damage mitigation**

- Better living condition facilities to be provided to flood shelters
- Warning before 3 days of flood occurrence
- Make good shelter and enhance management
- Farmers should be aware on flood possibility
- Quick transport available, flood shelter, cattle shelter, food storage system, person about evacuation, warning for early crops cultivation method before flood
- Flood embankment repair, sluice gate, flood shelter, khal re-excavation, erosion control, revetment work by CC (stone) block, construction of spur, groyne, main river be to dredged
- Homestead raising project for most affected area

## **3. Information from NGO/NPOs**

### **3.1 Flood Warning in the area**

Organized advance flood warning system does not exist due to various reasons but flood information are received by people form different scattered sources. However, flood messages are transmitted through Deputy Commissioner Office, Pourashava, TNO office, Agricultural Extension Department, Union Parishad office, Bangladesh Water Development Board (BWDB), Upazial Parishad and the NGOs. Usual ways and means of transmitting a warning in the area are: Mass media: TV/ radio, announcement from district/ pourashava/ upazila administration, news papers, announcement from union parishad, warning from local red crescent and others like leaflet, group meeting, person to person communication, miking etc. Basis for making a warning are: flood forecasting information, danger level (water level) at the nearby river, heavy rainfall, stormy wind, river erosion, self awareness. Process of disseminating flood warning in the area are: miking, local news bulletin, communication through messengers, voluntary organizations, volunteers (youth team), official correspondence and others like person to person contact, group meeting, leaflet etc.

### **3.2 Actions taken after warning is received:**

- Participate in the meetings organized in the locality for planning the activities
- Buildup awareness among the groups and people for coping with the flood
- Procure necessary materials and fund for the flood affected people and arrange flood shelter

### **3.3 Problems of flood warning**

Sufficient manpower is not available, transport problem, financial problem, people do not trust the warning, can not arrange food/ cooking, water, communication problem, lack of flood awareness

### **3.4 Evacuation**

Basis of judgment for evacuation are: high water level, river erosion, cooking problem, problem for safe water, sanitation problem. If the danger level exceeded, dc arrange meeting with all relevant offices and ngos, homestead is submerged, over flood water increasing by danger level. Processes of evacuation are: make people aware, aware the people, arrange suitable shelter, arrange transport, food, medicine, tube-well installed.

#### **3.4.1 Evacuation places, routes and means of transportation**

Places of evacuation are: Embankment, Road side, School, College building, UP office, high land, relative's houses, red crescent unit

Routes are: road and water way

Means of transportation are: rickshaw/ van, boat/ engine boat, speed boat, head load etc.

Problems related to evacuation are: transport problem, shelter problem, disease, food, water & sanitation, financial problem, communication

Suggestion for solution are: weariless are to be provided, more shelter, needs control room, fund availability, available transport supply, medicine support, supply food, water

#### **3.4.2 Opinions and suggestions regarding flood warning and damage mitigation**

Flood warning are: awareness build up, advance warning, leaflet, postering, union parishad, college teachers to be active, school, madrasha teachers to be active, imam, club members to be active, ngos to be active with gob officials, voluntary organizations.

Damage mitigation measure are: to aware the people, high level platform at houses, early warning system, tree plantation, control river erosion, embankment, suitable shelter arrangement, training, road development, effective community of flood mänge, dredging of rivers, embankment with sufficient inlets and outlets.

Ways and means of warning are: more vigilance, radio/tv, warning received before 7 days, newspaper, village/ward committee, union parishad, upazila administration, district administration, miking, village meeting, red flag, alert the community by elites/social organization and make the aware, district administration

## **4. Information from Residents-Village/Area**

### **4.1 Underwater Submergence by flood**

Year wise under water submergence of house, courtyard, cowshed, cropland, nearby roads have been reported by the key informants which shows that submergence of houses were reported as an average of 36% in 2000 flood, 84% in 1998, 86% in 1988 and 59% in 1987. Croplands were submerged on average of 93% in 2000, 97% in 1998, 100% in 1988 and 92% in 1987.

### **4.2 Flood warning in different years**

The key informants informed that of the survey locations in most of the locations, though no organized warning system was in practice to receive warning by them, they received information on floods from different sources including Union Parishads/Pourashava. Out of the 15 locations, 12 locations reported receiving of flood information in 2000, 14 in 1998, 1988 and 12 in 1987. Ways and means of receiving flood information are: person to person contact, radio/ TV, DC, own observation, red flag, miking (hand), news paper. Out of the 15 locations, flood warning/disaster management awareness campaign was

reported to be held in 3 locations namely: Shariakandi Kutubpur UP, Baraikandi Nayapara, Dhaka and Faridpur. Contents of the campaign were awareness, evacuation, transport, evacuation place, relief & rehabilitation, signal, red flag, shelter etc. and also availability of country boat, raft, foot etc.

#### **4.3 Flood shelter in the area**

In most of the locations there is no specific flood shelter. But School, College, Road, embankment etc are used as temporary flood shelters. During 1998 flood, most of the people took shelter in these temporary shelters. In 11 of such shelters, an average of 279 persons took shelter. Means of transportation used during the flood are Raft, boat, on-foot, Head load, Rickshaw, Van, Engine boat, Troller etc.

#### **4.4 Support agencies/ NGOs/NPOs involved in the past in different activities related to flood**

A large number of supporting agencies have been reported by the key informants to be involved in flood related activities. Among them district and upazila administration, Pourashava, Union Parishad, NGOs voluntary agencies, clubs etc are involved.

### **5 Information from Residents-Household Survey**

#### **5.1 Socio-economic background of the sample households surveyed**

Out of the 305 respondents 69% are male and 31% female, their average age is 43 years. 48% of the respondents have no formal education, 34% completed 1 to 5 years of education, 15% completed 6 to 10 years, only 2% completed 11-12 years while only 1% completed 13 to 16 years of education. Average household size is 6.2. 51% are male and 49% are female, only 22% are earning members and average earning members per household is only 1.6. Out of the 478 earning members, 28% are engaged in agricultural activities and 27% in business, 62% houses are made of C.I. Sheets, only 1% are building, 12% are semi pucca and the 24% houses are thatched ones. Again 83% households have own houses, 8% have rented ones and 9% have others i.e. relative's houses, gift houses etc.

#### **5.2 Condition of Flood and Under-water Submergence**

Major flood affected years as per the respondents are: 2002, 2001, 2000, 1998, 1997, 1996, 1995, 1994, 1991, 1988, 1987, 1984. The depth of flood was more in 1988 than in 1998 and in 1987. Average depth of flood in 1988 was 4.7 ft, in 1998 was 4 ft, in 1987 3.3 ft and in 2000 was 2.5 ft. 4-5 ft water in the courtyard was reported by 44% in 1988, 42% in 1998, 32% in 1987 and 20% in 2000. Average days of duration of flood in all the 3 stages (days of attaining max. water level, stagnation days at max. level and receding days from max.) in 1998 was the highest than those of the other 3 severe flood years. A total of 49 days (9+23+17) was the duration of the 1998 flood, while it was 37 days (7+17+13) in 1988, 27 days (6+11+10) in 2000 and 24 days (6+9+9) in 1987.

#### **5.3 Flood warning**

##### **5.3.1 Receiving flood warning and warning sources**

As reported by the respondents, in true sense of the term 'Warning' is not in practice for flood as a organized effort rather in practice what is happening is the general information of flood status in specific river stations as 'danger level' which is forecasted through radio, television or news papers. May be in specific areas, the local administration or local government institutions take same effort on piecemeal basis to aware people, about flood information. But for cyclones and for tornados specific warning signals are transmitted mainly in the coastal regions by different government agencies, NGOs etc. However, in the survey the two words 'flood warning' and 'flood status information/forecast' were considered as synonymous. Even self-awareness through personal observation of the respondents on flood situation and also information of flood obtained through personal communication from different sources including neighbours, villagers etc. were considered as warning.

In the survey the two words 'flood warning' and 'flood status information/forecast' were considered as synonymous. Even self-awareness through personal observation of the respondents on flood situation were considered as warning. About 84 to 92% of the respondents received flood warning /information in different flood years of 2000, 1998, 1988 and 1987. Spatial distribution shows that 80% in Dhaka, 60% in Rajshahi, about 100% in Rangpur and Sylhet and 95% in Barisal reported receiving of flood information. The sources of information are TV/radio, newspaper, pourashava, union parishad, UDMC, District/Upazila Control Room, Red Crescent and other NGOs, personal observation and contact through neighbours, villagers, and relatives etc. The reported sources are for Dhaka, TV/radio 60% and own source 30%, for Rajshahi own 60% and TV 30%, for Rangpur own 60% and TV 40%, for Sylhet own 60% and TV 25% and for Barisal TV 45%, Red crescent 25% and own 20%. 24 to 37% of the respondents received flood warning/ information in different flood years before 1 week of the flood in their area, 17 to 20% received before 3 days, 13 to 28% received before 24 hours, 5 to 10% received before 12 hours and 13 to 24% received the flood warning/ information within 12 hours of the flood. Spatial distribution shows that in Dhaka, Rajshahi, and Sylhet, flood information was received before 1 week, in Rangpur before 3 days and in Barisal within 12 hours. The residents of Sylhet reported that they continuously observe the cloudy sky and collect information from the Meghalayan hills about continuous rainfall there and thus gets information before 1 week.

### **5.3.2 Receiving evacuation instructions/information**

Organized and pre-planned 'evacuation' rarely reported. Rather, people take shelter by their own contact and effort in different temporary shelters, like schools, colleges, auditoriums, offices, high lands, roads, embankments, relatives houses etc. But in the coastal area, cyclone shelters have been built mainly for cyclones, tornadoes or tidal surges and evacuation have been done through organized efforts there. 64 to 71% of the respondents received any sort of evacuation instructions/ information in different flood years. As the sources of evacuation information/ message, TV/radio, newspaper, district/upazila administration, NGO/Voluntary organization, social leaders and neighbour, relatives, villagers etc. Spatial distribution shows that 40% in Dhaka, 10% in Rajshahi, about 90% in Rangpur, 35% in Sylhet and 90% in Barisal reported receiving of evacuation instructions/information. The reported sources are for Dhaka, TV/radio 30% and own source 50%, for Rangpur own 60% and TV 35%, for Sylhet own 90% and for Barisal TV 35%, Red crescent 20%, union 20% and own 15%.

### **5.3.3 Ways and means of receiving flood warning/ information**

About receiving flood warning/ information respondents mentioned TV/Radio (67%), Pourashava/ Union Parishad (37%), Red Crescent Society/other NGOs (23%), newspaper (15%), district/upazila administration (14%), personal observation/contact with neighbours, relatives, villagers etc (59%).

### **5.3.4 Problems for not receiving flood warning**

Among the stated problems, 100% of the 61 respondents stated the problems as "Could not shift household goods/furniture" and "Could not arrange food/cooking arrangement", 98% reported the problems as "Could not shift family members" and "Could not arrange pure drinking water" 95% reported "Could not be prepared for evacuation". Priority wise problems faced for not receiving flood warning shows that the 1<sup>st</sup> priority problem was 'could not arrange food items and cooking arrangement' for the flood time stated by 53% respondents, "Could not shift family members" stated by 14% respondents. "Could not be prepared for evacuation" and "Could not protect house" were mentioned both by 8% respondents and "Could not shift household goods/furniture" stated by 5% respondents.

### **5.3.5 Benefits of receiving flood warning in advance**

Regarding benefits of receiving advance flood warning 91% respondents reported the benefit as "Could arrange food/cooking" for the flood time, 68% reported "Could shift family members", 67% reported "Could be prepared for evacuation", and 65% stated "Could shift household goods/furniture" etc.

### **5.3.6 Flood warning/evacuation awareness campaign**

Only 14 (5%) respondents stated that they observed/participated in any flood warning/evacuation awareness campaign. Flood awareness, flood warning, preparation for flood with food items and their preservation system, health awareness and issues were discussed in the campaign.

## **5.4 Evacuation**

### **5.4.1 Preparatory measures adopted for coping with flood**

Various preparatory measures were 92% reported as arranged food/ cooking (92%), shifting of family members (62%), arrangement of shelter (60%), both shifting of household goods/ furniture and making raised platform in the house etc (53%).

### **5.4.2 Factors considered to take decision for evacuation**

90% respondents reported as high water level, 86% reported food/cooking arrangement, 80% reported as living condition unsuitable in the house during flood, 76% stated the problems of sanitation facilities and 72% mentioned problems of communication etc.

### **5.4.3 Evacuation of the respondents during floods in different years**

During the 2000 flood year, only 26% of the respondents evacuated. Out of them, 36% evacuated in the nearby educational institutions, 27% in embankments, roads, high places, helipads etc., and 25% in neighbours, relatives, other villagers houses etc. on personal contact.

### **5.4.4 Routes of evacuation and means of transportation**

During the 2000 flood, 70% of the evacuators reported their routes of evacuation as waterways, 29% as road and only 1% as railway. As regards means of transportation, each of the means of transport of on foot/ head load, raft and boat has been reported by 28% evacuators.

### **5.4.5 Supports provided to the respondents during floods**

The agencies involved are Govt., Semi-govt. and Local govt. agencies, NGOs, Private organizations and individuals. But most of them are involved in relief works. Very few were involved in flood warning and evacuation

### **5.4.6 Problems faced by the respondents during evacuation as per priority**

As regards problems during evacuation 73% respondents stated transport problem, 71% mentioned financial problem, 58% reported suitable shelter problem, 57% reported the problem as damage of household goods and furniture and 14% stated other problems like insecurity, problems of sanitation, etc. Priority wise the problems shows that as the 1<sup>st</sup> priority, transportation problem was stated by 24% respondents, financial problem by 22% and suitable shelter problem by 22% respondents.

### **5.4.7 Reasons of Non evacuation during floods**

About 67% of the respondents reported insecurity of properties at houses as the reason of non-evacuation, followed by evacuation place was not suitable stated by 50%, lack of nearby evacuation place reported by 38%, could not evacuate at short time was reported by 20%, did not trust the warning stated by 16% and did not receive any warning was reported as a reason by 12% respondents.

#### 5.4.8 Evacuation of livestock animals in different flood years

During 2000 flood, 25% respondents evacuated their livestock animals. Out of them 45% shifted their animals to embankments, roads, high places, helipads etc; 25% shifted the animals to educational institutions and 20% to neighbours, relatives/ villagers house.

#### 5.5 Life condition during floods

About their life condition during the floods, 96% stated about their food problem, 91% reported isolation/ communication problem, 88% stated drinking water problem and sanitation problem, 84% reported sleeping problems, 74% stated about diseases and damage of properties etc.

#### 5.6 Flood damage during 1998 flood

##### 5.6.1 Reported damage in 1998 flood

The flood damage of the responding households during the 1998 flood were estimated by themselves. A total of 21 households (7%) reported deaths of 38 members due to various reasons related to flood like wash away, snake bites and mostly due to diarrhoeal diseases. Thus an average death of 1.8 members per household. Again 137 households (45%) reported injury of a total of 298 members i.e. an average of 2.2 members per household and average cost per household was Tk. 1636. A total of 281 households (92%) reported any sort of damage of their house during the flood and the average cost of repair of those houses was reported to be Tk. 5158 per household. Summarizing all the loss/ damages of flood, an average loss/ damage due to the 1998 flood, comes to the estimated value of Tk. 19245 per household.

##### 5.6.2 Estimated damage in ideal conditions during 1998 flood

The respondents were further asked, if proper warning was disseminated before 5 days and an organized evacuation was arranged, what would have been the damage of his household properties during the flood of 1998. Summarizing all the loss/ damages of flood, an average loss/ damage due to the 1998 flood, comes to the estimated value of Tk. 6321 per household if an ideal condition of flood warning and arrangement of proper evacuation could have been arranged.

##### 5.6.3 Net damage/loss due to lack of ideal conditions during 1998 flood

An analysis of the above 2 sections (9.6.6.1 & 9.6.6.2) a large amount of loss could have been saved if ideal condition would have been prevailed. Summarizing all the net savings from flood damage, an average saving from 1998 flood damage comes to the estimated value of Tk. 12924 per household.

#### 5.6.4 Flood depth vs flood damage

Flood depth vs flood damage analysis of actual damage, damage with ideal conditions and net impact due to lack of ideal conditions have been analyzed and presented below.

Depth (ft)	No. of HH	Actual damages (Tk)	Avg. actual/H H	No. of HH	Condition al damages (Tk)	Avg. condition al/ HH	Net impact value	Avg. impact value/HH
1-3	104	1575430	15148	99	691206	6982	884224	2899
4-5	132	3341257	25313	124	785710	6336	2555547	8379
6-10	58	896935	15464	58	430547	7423	466388	1529
11-12	3	22360	7453	4	12150	3038	10210	33
-	8	33625	4203	4	8325	2081	25300	83
Total	305	5869607	19245	289	1927938	6671	3941669	12924

The analysis states that the net impacted loss due to lack of ideal conditions comes to Tk. 3941669 for the 305 households which could be saved and the average per household comes to Tk. 12924.

### **5.7 Possibility of evacuation during the future floods**

About 77% of the respondents would need evacuation during future floods. Spatial distribution shows that 73% in Dhaka, 47% in Rajshahi, 65% in Rangpur, 98% in Sylhet and 97% in Barisal needs future evacuation. Among them, 98% likes to evacuate in future. 52% mentioned the future evacuation place as organized flood shelter, 29% stated as educational institutions, 11% stated about personal shelters, 4% stated about embankments, roads, high places and others etc. Spatial distribution shows that possible future evacuation according to the despondence are cyclone shelters (100%) in Barisal, about 60-70% in Dhaka and Rangpur but in Dhaka, Rajshahi, Rangpur and Sylhet mostly reported the possible place as educational institutions.

#### **5.7.1 Routes of future evacuation and means of transportation**

Routes of future evacuation were reported as waterways (57%), road by (43%) and as railway by only 1% respondents. Means of transportation during future evacuation were reported as boat by 50% respondents, followed by rickshaw/van by 31%, on foot/head load by 27%, engine boat by 9%, raft by 6% and truck/bus/mini bus or truck by only 2% respondents.

#### **5.7.2 Conditions for future evacuation**

As many as 87% respondents stated the availability of a suitable shelter as a condition for future evacuation, 85% stated about high water level, 84% stated about security of their houses and 28% mentioned about other reasons as conditions. As reasons for non-evacuation during future floods, 86% respondents reported insecurity of properties at their houses, 85% mentioned lack of a suitable shelter, 52% stated about transport problem and 16% stated about other reasons.

#### **5.7.3 Suggestions for mitigation of the future flood damage**

About 78% respondents suggested for arrangement of suitable flood shelters, 77% stated about arrangement of transport for evacuation, 71% suggested for an effective early warning system, 61% stated to ensure living condition facilities in the flood shelter, 45% suggested for flood control embankment, 25% stated for other flood control facilities.

### **5.8 Usual means of transportation used by the flood affected households during floods**

Usual means of transportation used by the flood affected people during floods shows that 68% stated the means as on foot/ head load and also boat, 45% mentioned as raft, 25% mentioned as rickshaw/van, engine boat was mentioned by 13%, truck/bus were mentioned by only 1% and rail as well as motor launch were stated each by only 1 respondents.

### **5.9 Land use condition and consideration in cropping pattern**

In the rainy season, duration of crop is considered by 33% respondents, time of crop harvesting before flood is considered by 29%, possibility of recurrence of flood is considered by 25% and 14% reported other considerations. Again in the dry season, 43% reported their consideration as diversification of crops, 33% stated their consideration as possibility of changing cropping pattern due to flood experience in the preceding year, possibility of increasing land under cultivation is considered by 29% and 14% have other considerations.

### **5.10 Respondent's Suggestions to improve flood warning system, evacuation operation and damage mitigation measures**

The respondents suggested for transmitting flood warning before 5.6 days on average. It varies from an average of 2.9 days to 8.9 days. 80% respondents suggested for an organized flood warning system by village/ ward committees, 70% suggested for transmitting actual location specific, flood warning through TV/Radio, 40% suggested for transmitting flood warning through Union Parishad in an organized way, 20% suggested for organizing flood warning through Upazila administration and 11% suggested to organize through district administration.

Respondents suggestions on ways and means of improved flood warning system shows that 63% respondents suggested for transmitting flood warning through miking in the area. 51% suggested transmission of the warning through TV/Radio, while 43% suggested village meeting, 35% suggested transmission through newspaper, 20% suggested red alerts through red flags, 5% suggested postering and 4% suggested leaflets.

Respondents suggestion for the improvement of evacuation operation shows that 77% respondents suggested to organize the evacuation operation by Village/ Ward Committees, 57% suggested to organize it by Union Parishad, 32% suggested Upazila administration, 29% suggested to organize the evacuation operation by the NGOs and 15% suggested of organize by district administration.

Suggestions of the respondents on the flood damage mitigation measures shows that 89% of the respondents suggested for arrangement of suitable flood shelters, 70% suggested for transport facilities during flood time and construction/ repair of embankment, road, bridge etc, 40% suggested for raising homestead, 37% suggested for medical facilities, 28% suggested for making raised platform, 26% suggested for protection of homestead, 24% suggested for tree plantation, 17% suggested for removal of water congestion and flood awareness raising and 9% suggested for dredging of the rivers.



Location wise tables of the household survey results

Locations	Respondents by sex (Table-A1)			Respondents by Age (Table-A2)						Respondents by years of education completed (Table-A3)							Number of Household Members (Table-A4)					
	Male	Female	Total	18-30	31-60	61-80	Total No.	Total Age	Avg. Age	0	1-5	6-10	11-12	13-16	>16	Total	Male	Female	Total	Avg. HH Size	No. of Income earners	Avg./HH
Dhaka	17	4	21	5	15	1	21	868	41	6	9	2	4		21	72	74	146	7.0	33	1.6	23
Munshiganj	13	7	20	2	16	2	20	939	47	13	3	4			20	60	63	123	6.2	35	1.8	28
Faridpur	12	11	23	5	17	1	23	930	40	11	9	3			23	72	61	133	5.8	40	1.7	30
Total	42	22	64	12	48	4	64	2737	43	30	21	9	4	0	64	204	198	402	6.3	108	1.7	27
Rajshahi	15	5	20	2	16	2	20	873	44	7	8	3	1	1	20	54	54	108	5.4	32	1.6	30
Natore	14	6	20	3	17		20	824	41	13	3	4			20	53	48	101	5.1	30	1.5	30
Bogra	14	6	20	1	16	3	20	941	47	7	5	7	1		20	62	53	115	5.8	32	1.6	28
Total	43	17	60	6	49	5	60	2638	44	27	16	14	2	1	60	169	155	324	5.4	94	1.6	29
Rangpur	11	9	20	1	17	2	20	906	45	6	8	5		1	20	65	71	136	6.8	28	1.4	21
Kurigram	20	0	20	2	16	2	20	902	45	8	9	3			20	59	48	107	5.4	30	1.5	28
Nelphamari	17	3	20	1	16	3	20	923	46	12	7	1			20	66	62	128	6.4	32	1.6	25
Total	48	12	60	4	49	7	60	2731	46	26	24	9	0	1	60	190	181	371	6.2	90	1.5	24
Sylhet	9	11	20	3	15	2	20	870	44	9	10	1			20	62	79	141	7.1	26	1.3	18
Sunamganj	12	8	20	7	10	3	20	831	42	12	4	4			20	66	64	129	6.5	30	1.5	23
Kanaighat	14	6	20	5	13	2	20	799	40	11	8	1			20	68	70	148	7.4	35	1.8	24
Total	35	25	60	15	38	7	60	2500	42	32	22	6	0	0	60	196	213	409	6.8	91	1.5	22
Barisal	11	9	20	3	13	4	20	872	44	11	8	1			20	63	57	120	6.0	30	1.5	25
Dawlatkhan	12	9	21	5	13	3	21	901	43	9	9	3			21	69	47	116	5.5	29	1.4	25
Char Fashion	18	2	20	6	11	3	20	827	41	11	4	5			20	80	70	150	7.5	36	1.8	24
Total	41	20	61	14	37	10	61	2600	43	31	21	9	0	0	61	212	174	386	6.3	95	1.6	25
G. Total	209	96	305	51	221	33	305	13206	43	146	104	47	6	2	305	971	921	1892	6.2	478	1.6	25

Location wise tables of the household survey results

Locations	Main occupation of the Income earners (Number of earners) (Table-A5)														Total Annual Income of the Household (Tk.) (Table-A6)									
	Agriculture	Agri-Labour	Other Labour	Transport	Boat man	Fisherman	Mason	Carpenter	Welder	Business	Service	Small trade	Others (Specify)	20001-40000		40001-75000		75001-100000		>100000		Total		
														No.	TK.	No.	TK.	No.	TK.	No.	TK.	No.	TK.	
Dhaka	8	1	1	0	2	0	1	0	1	11	0	5	3	6	190500	4	230000	1	90000	5	1118000	21	1688300	80395
Munshiganj	9	7	0	2	2	0	1	0	0	2	2	3	7	7	206000	6	362000		1	200000		20	858500	42925
Faridpur	4	5	9	2	0	0	0	1	0	0	3	7	9	9	265400	5	278400					23	685620	29810
<b>Total</b>	<b>21</b>	<b>13</b>	<b>10</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>13</b>	<b>5</b>	<b>15</b>	<b>19</b>	<b>22</b>	<b>661900</b>	<b>15</b>	<b>870400</b>	<b>1</b>	<b>90000</b>	<b>6</b>	<b>1318000</b>	<b>64</b>	<b>3232420</b>	<b>50507</b>
Rajshahi	0	0	1	4	0	0	0	0	2	3	2	5	10	8	237600	5	280000		3	472000		20	1043000	52150
Natore	2	2	3	1	0	0	2	0	0	0	5	4	11	8	213000	1	45000					20	435600	21780
Bogra	18	10	0	0	0	0	0	0	0	0	4	4	2	4	103600	5	276000	1	90000	1	135000	20	730400	36520
<b>Total</b>	<b>20</b>	<b>12</b>	<b>4</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>11</b>	<b>13</b>	<b>23</b>	<b>20</b>	<b>554200</b>	<b>11</b>	<b>601000</b>	<b>1</b>	<b>90000</b>	<b>4</b>	<b>607000</b>	<b>60</b>	<b>2209000</b>	<b>36817</b>
Rangpur	0	0	0	0	0	0	0	0	1	1	4	13	0	12	369680	4	230700		1	144000		20	792980	39649
Kurigram	1	9	3	0	0	0	1	0	2	0	0	2	11	12	342780	1	60000					20	512840	25642
Nephamari	9	14	1	0	0	0	0	0	0	1	1	1	1	12	347435	2	102100	1	90000			20	600590	30030
<b>Total</b>	<b>10</b>	<b>23</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>5</b>	<b>16</b>	<b>12</b>	<b>36</b>	<b>1059895</b>	<b>7</b>	<b>392800</b>	<b>1</b>	<b>90000</b>	<b>1</b>	<b>144000</b>	<b>60</b>	<b>1906410</b>	<b>31774</b>
Sylhet	0	0	3	2	0	4	1	0	0	4	1	9	0	5	151200	8	420000	3	264000	2	256000	20	1120200	56010
Sunamganj	3	0	0	2	0	6	0	0	0	5	5	5	2	4	108000	8	442000	1	78000	5	764000	20	1424400	71220
Kanaighat	2	11	5	0	0	5	1	2	0	0	2	2	0	7	204000	7	416000	2	178000	2	256250	20	1079850	53993
<b>Total</b>	<b>5</b>	<b>11</b>	<b>8</b>	<b>4</b>	<b>0</b>	<b>15</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>9</b>	<b>8</b>	<b>16</b>	<b>2</b>	<b>16</b>	<b>463200</b>	<b>23</b>	<b>1278000</b>	<b>6</b>	<b>520000</b>	<b>9</b>	<b>1276250</b>	<b>60</b>	<b>3624450</b>	<b>60408</b>
Barisal	0	0	11	0	0	0	0	0	0	2	1	11	5	10	261350	3	130200	2	162800	1	108000	20	719850	35993
Dawlatkhan	0	0	1	1	1	3	1	7	0	5	0	8	3	5	149100	7	331200	1	100000			21	696900	33186
Char Fashion	14	7	0	0	0	13	0	0	0	0	0	2	0	8	225400	5	267000	1	90000			20	666530	33327
<b>Total</b>	<b>14</b>	<b>7</b>	<b>12</b>	<b>1</b>	<b>1</b>	<b>16</b>	<b>1</b>	<b>7</b>	<b>0</b>	<b>7</b>	<b>1</b>	<b>21</b>	<b>8</b>	<b>23</b>	<b>635850</b>	<b>15</b>	<b>728400</b>	<b>4</b>	<b>352800</b>	<b>1</b>	<b>108000</b>	<b>61</b>	<b>2083280</b>	<b>34152</b>
<b>G. Total</b>	<b>70</b>	<b>66</b>	<b>38</b>	<b>14</b>	<b>5</b>	<b>31</b>	<b>8</b>	<b>10</b>	<b>6</b>	<b>34</b>	<b>30</b>	<b>81</b>	<b>64</b>	<b>117</b>	<b>3375045</b>	<b>71</b>	<b>3870600</b>	<b>13</b>	<b>1142800</b>	<b>21</b>	<b>3453250</b>	<b>305</b>	<b>13055560</b>	<b>42805</b>

Location wise tables of the household survey results

Locations	House Type (Table-A7)					House Ownership (Table-A8)				Livelihood Level (Table-A9)				
	Building	Semi Pucca	C.I. Sheet	Thatched	Total	Own	Rented	Others (Specify)	Total	Rich	Middle	Poor	Very Poor	Total
Dhaka	4	2	14	1	21	18	1	2	21	6	6	4	4	20
Munshiganj	0	0	19	1	20	13	4	3	20	3	7	6	4	20
Faridpur	0	0	17	6	23	15	4	4	23	0	9	11	3	23
<b>Total</b>	<b>4</b>	<b>2</b>	<b>50</b>	<b>8</b>	<b>64</b>	<b>46</b>	<b>9</b>	<b>9</b>	<b>64</b>	<b>9</b>	<b>23</b>	<b>21</b>	<b>11</b>	<b>64</b>
					0				0					
Rajshahi	0	11	0	9	20	19	0	1	20	3	0	0	3	6
Natore	0	7	2	11	20	19	0	1	20	0	0	3	1	4
Bogra	0	0	14	6	20	20	0	0	20	2	3	2	3	10
<b>Total</b>	<b>0</b>	<b>18</b>	<b>16</b>	<b>26</b>	<b>60</b>	<b>58</b>	<b>0</b>	<b>2</b>	<b>60</b>	<b>6</b>	<b>10</b>	<b>21</b>	<b>23</b>	<b>60</b>
					0				0					
Rangpur	0	0	19	1	20	16	1	0	17	1	10	9	0	20
Kurigram	0	0	20	0	20	20	0	0	20	0	7	12	1	20
Nelphamari	0	0	12	8	20	16	0	3	19	1	8	8	3	20
<b>Total</b>	<b>0</b>	<b>0</b>	<b>51</b>	<b>9</b>	<b>60</b>	<b>54</b>	<b>1</b>	<b>5</b>	<b>60</b>	<b>2</b>	<b>25</b>	<b>29</b>	<b>4</b>	<b>60</b>
					0				0					
Sylhet	0	11	7	2	20	17	3	0	20	5	5	2	0	12
Sunamganj	0	5	12	3	20	15	5	0	20	5	10	3	2	20
Kanaighat	0	2	5	13	20	15	4	0	19	4	8	4	2	18
<b>Total</b>	<b>0</b>	<b>18</b>	<b>24</b>	<b>18</b>	<b>60</b>	<b>47</b>	<b>12</b>	<b>1</b>	<b>60</b>	<b>16</b>	<b>26</b>	<b>13</b>	<b>5</b>	<b>60</b>
					0				0					
Barisal	0	0	20	0	20	16	2	2	20	3	6	9	2	20
Dawlatkhan	0	0	20	1	21	16	0	5	21	1	9	9	2	21
Char Fashion	0	0	9	11	20	15	1	4	20	1	7	9	3	20
<b>Total</b>	<b>0</b>	<b>0</b>	<b>49</b>	<b>12</b>	<b>61</b>	<b>47</b>	<b>3</b>	<b>11</b>	<b>61</b>	<b>5</b>	<b>22</b>	<b>27</b>	<b>7</b>	<b>61</b>
					0				0					
<b>G. Total</b>	<b>4</b>	<b>38</b>	<b>190</b>	<b>73</b>	<b>305</b>	<b>252</b>	<b>25</b>	<b>28</b>	<b>305</b>	<b>38</b>	<b>106</b>	<b>111</b>	<b>50</b>	<b>305</b>

Location wise tables of the household survey results

Locations	Condition of Flood and under water Submergence:																										
	If you remember, please mention the flood affected years in your area beginning from 1980 till date. (Please tick) (Table A10)													Depth of floods in different years in your courtyard? (Table A11)													
														Depth of Flood, 2000													
														0		1-3		4-5		6-10		11-12		Total			
	2002	2001	2000	1998	1999	1997	1996	1995	1994	1991	1988	1987	1984	No.	ft	No.	ft	No.	ft	No.	ft	No.	ft	No.	ft		
Dhaka	8	6	13	21	1	1	0	2	1	2	19	11	0			10	16.50								10	16.50	
Munshiganj	1	5	13	20	0	0	0	5	5	0	17	1	0	2	1.00	11	18.00									13	19.00
Faridpur	22	22	23	21	5	2	1	12	5	5	21	17	0	1	0.50	16	31.50	2	10.00	2	12.00					21	54.00
Total	31	33	49	62	6	3	1	19	11	7	57	29	0	3	1.50	37	66.00	2	10.00	2	12.00	0	0.00		44	89.50	
Rajshahi	0	0	0	20	0	0	0	0	0	0	18	3	0														
Natore	0	0	0	20	0	0	0	0	0	0	4	0	0														
Bogra	0	0	18	19	0	0	0	0	0	0	20	14	4	2.00	6	6.50										10	8.50
Total	0	0	18	59	0	0	0	0	0	0	42	23	14	4	2.00	6	6.50	0	0.00	0	0.00	0	0.00		10	8.50	
Rangpur Sadar	23	18	20	20	10	2	0	2	0	0	19	15	0			17	38.50	3	12.00						20	50.50	
Kurigram	19	20	20	20	19	11	3	2	0	0	20	20	0			21	52.75								21	52.75	
Nelphamari	20	20	20	20	19	1	0	0	0	0	19	18	0	1	0.50	19	42.25	1	4.00						21	46.75	
Total	59	58	60	60	48	14	3	4	0	0	58	53	0	1	0.50	57	133.50	4	16.00	0	0.00	0	0.00		62	150.00	
D+R+R	90	91	127	181	54	17	4	23	11	7	157	105	14	8	4	180	206	6	26	2	12	0	0		116	249	
Sylhet	20	20	20	20		0	0	10	20	0	15	2	0			20	40.50								20	40.50	
Sunamganj	20	20	20	20	10	1	1	9	15	0	12	4	0			19	39.00	1	4.00							43.00	
Kamalghat	20	20	20	20		3	0	10	19	0	17	4	0			20	36.50								20	36.50	
Total	60	60	60	60	10	4	1	29	54	0	44	10	0	0	0.00	59	116.00	1	4.00	0	0.00	0	0.00		40	120.00	
Barisal	19	12	20	20	11	2	6	1	0	19	20	16	0			2	3.00								2	3.00	
Dawlatkhan	0	4	21	21	0	0	19	0	0	20	21	20	0			12	21.50	1	4.00						13	25.50	
Char Fashion	20	20	20	20		1	19	20	20	20	19	0				8	24.00	12	52.00						20	76.00	
Total	39	36	61	61	31	3	44	21	20	59	61	55	0	0	0.00	22	48.50	13	56.00	0	0.00	0	0.00		35	104.50	
G. total	189	187	248	302	95	24	49	73	85	66	262	170	14	8	4	181	370.5	20	86	2	12	0	0		191	472.5	

Location wise tables of the household survey results

Locations	Depth of Flood 1998												Depth of Flood 1998											
	0		1-3		4-5		6-10		11-12		Total		0		1-3		4-5		6-10		11-12		Total	
	No.	ft.	No.	ft.	No.	ft.	No.	ft.	No.	ft.	No.	ft.	No.	ft.	No.	ft.	No.	ft.	No.	ft.	No.	ft.	No.	ft.
Dhaka			7	19.50	10	45.00	2	12.00			19	76.50			7	19.00	8	35.00	3	20.00			18	74.00
Munshiganj			7	20.00	12	51.00	1	6.00			20	77.00			4	11.50	9	41.00	4	26.00			17	78.50
Faridpur			3	8.75	12	56.50	6	48.00	1	12.00	21	125.25			7	35.00	14	109.00					21	144.00
Total	0	0.00	17	48.25	34	152.50	9	66.00	1	12.00	60	278.75	0	0.00	11	30.50	24	111.00	21	155.00	0	0.00	56	296.50
Rajshahi			13	29.00	6	26.50					19	55.50	1	0.75	8	17.50	6	27.50	4	27.00			19	72.75
Natore			20	34.00							20	34.00			1	1.00	1	4.50					22	5.50
Bogra	4	2.00	15	30.50					1	51.00	20	83.50			17	40.00	3	13.00					20	53.00
Total	4	2.00	48	93.50	6	26.50	0	0.00	1	51.00	59	173.00	1	0.75	26	58.50	10	45.00	4	27.00	0	0.00	61	151.25
Rangpur Sadar			12	35.75	8	33.00					20	68.75			1	3.50	16	74.50	1	6.00			18	84.00
Kurigram			6	19.25	14	61.25					20	81.00			2	6.75	18	82.75					20	89.50
Nelphamari			8	24.00	12	54.00					20	78.00			2	6.00	17	79.00					19	85.00
Total	0	0.00	26	79.00	34	148.25	0	0.00	0	0.00	60	227.75	0	0.00	5	16.25	51	236.25	1	6.00	0	0.00	57	258.50
Dhaka R.R.	4	2	91	220.75	74	327.25	9	66	2	63	179	679.5	1	0.75	42	105.25	85	392.25	26	198	0	0	174	686.25
Sylhet			5	14.00	15	62.50					20	76.50			4	11.00	10	42.00	1	6.00			15	59.00
Sunamganj			5	14.00	13	55.00	2	12.00			20	81.00			1	3.00	10	49.00					11	52.00
Kanailhat			17	50.50	3	12.00					20	62.50			10	31.00	6	24.00					16	55.00
Total	0	0.00	27	78.50	31	129.50	2	12.00	0	0.00	60	220.00	0	0.00	15	45.00	26	115.00	1	6.00	0	0.00	42	166.00
Barisal					2	8.00					2	8.00					2	14.00					2	14.00
Dawlatkhan			4	12.00	7	32.00	9	55.00			20	99.00					2	10.00					20	167.00
Char Fashion					5	25.00	15	100.00			20	125.00					20	168.00					20	168.00
Total	0	0.00	4	12.00	14	65.00	24	155.00	0	0.00	42	232.00	0	0.00	0	0.00	2	10.00	39	228.00	1	11.00	42	249.00
G. total	4	2	122	311.25	119	521.75	35	233	2	63	281	1131.5	1	0.75	57	150.25	113	517.25	66	522	1	11	258	1201.25

Location wise tables of the household survey results

Locations	Depth of Flood 1987											
	0		1-3		4-5		6-10		11-12		Total	
	No.	ft.	No.	ft.	No.	ft.	No.	ft.	No.	ft.	No.	ft.
Dhaka			9	21.50							9	21.50
Munshiganj												
Faridpur			12	23.50	3	14.00	2	13.00			17	50.50
Total	9	0.00	21	45.00	3	14.00	2	13.00	0	0.00	26	72.00
Rajshahi	2	1.00	1	1.00							3	2.00
Natore												
Bogra			13	25.00							13	25.00
Total	2	1.00	14	26.00	0	0.00	0	0.00	0	0.00	16	27.00
Rangpur Sadar			11	30.50	4	18.00					15	48.50
Kurigam			14	40.50	6	27.25					20	67.75
Nelphamari			6	17.00	9	38.50					15	55.50
Total	0	0.00	31	88.00	19	83.75	0	0.00	0	0.00	50	171.75
P. R. & R.	2	1	66	139	22	97.75	2	13	0	0	92	270.75
Sylhet					1	4.00					1	4.00
Sunamganj			4	8.00							4	8.00
Kanaijhat			3	7.00							3	7.00
Total	0	0.00	7	15.00	1	4.00	0	0.00	0	0.00	8	19.00
Barisal					1	5.00					1	5.00
Dawlatkhan			7	11.00	12	52.00					19	63.00
Char Fashion			3	9.00	9	41.00	8	49.00			20	99.00
Total	0	0.00	10	20.00	22	98.00	8	49.00	0	0.00	40	167.00
G. total	2	1	83	194	45	199.75	10	62	0	0	140	456.75

Location wise tables of the household survey results

How many days these floods took to rise and recede? (Table-A.12)													
Region	Particulars	Days taken to rise max. water level				Days around max. water level				Days taken to recede water from max. to normal level			
		2000	1998	1988	1987	2000	1998	1988	1987	2000	1998	1988	1987
Dhaka City	Max	20	30	25	30	30	60	45	60	20	45	30	30
	Min	3	6	5	5	7	7	7	7	5	10	9	6
	count	13	21	19	11	13	21	19	11	13	21	19	11
	Total Days	149	339	271	122	226	722	508	189	168	465	333	153
	Avg days	11	16	14	11	17	34	27	17	13	22	18	14
Munshiganj	Max	40	30	20	0	30	80	70	0	30	60	50	0
	Min	4	10	4	0	5	12	15	0	3	12	12	0
	count	13	20	17	0	13	20	17	0	13	20	17	0
	Total Days	138	357	216	0	247	866	557	0	190	510	392	0
	Avg days	11	18	13	0	19	43	33	0	15	26	23	0
Faridpur	Max	20	25	30	15	30	40	35	20	25	30	30	25
	Min	5	6	4	4	3	10	12	7	5	10	8	7
	count	23	23	21	17	23	23	21	17	23	23	21	17
	Total Days	202	267	258	123	294	682	417	191	271	414	344	203
	Avg days	9	12	12	7	13	30	20	11	12	18	16	12
Dhaka Region	Max	40	30	30	30	30	80	70	60	30	60	50	30
	Min	3	6	4	4	3	7	7	7	3	10	8	6
	count	49	64	57	28	49	64	57	28	49	64	57	28
	Total Days	489	963	745	245	767	2270	1482	380	629	1389	1069	356
	Avg days	10	15	13	9	16	35	26	14	13	22	19	13
Rajshahi City	Max	0	12	15	15	0	30	40	25	0	30	30	15
	Min	0	3	3	5	0	5	5	8	0	7	6	7
	count	0	18	18	3	0	19	18	3	0	19	18	3
	Total Days	0	132	115	32	0	264	324	43	0	285	239	30
	Avg days	0	7	6	11	0	14	18	14	0	15	13	10
Natore	Max	0	30	15	0	0	90	60	0	0	60	15	0
	Min	0	3	10	0	0	15	20	0	0	8	7	0
	count	0	20	4	0	0	20	4	0	0	20	4	0
	Total Days	0	301	45	0	0	750	150	0	0	573	52	0
	Avg days	0	15	11	0	0	38	38	0	0	29	13	0
Sariakandi	Max	8	7	15	10	40	30	40	30	30	40	30	30
	Min	3	2	2	2	3	5	2	5	5	7	7	3
	count	19	20	19	19	19	20	19	19	19	20	19	19
	Total Days	89	79	86	118	227	280	300	212	251	331	309	242
	Avg days	5	4	5	6	12	14	16	11	13	17	16	13

Location wise tables of the household survey results

How many days these floods took to rise and recede? (Table-A12)													
Region	Particulars	Days taken to rise max. water level				Days around max. water level				Days taken to recede water from max. to normal level			
		2000	1998	1988	1987	2000	1998	1988	1987	2000	1998	1988	1987
Rajshahi Region	Max	8	30	15	15	40	90	400	30	30	60	30	30
	Min	3	2	2	2	3	5	2	5	5	7	6	3
	count	19	58	41	22	19	59	41	22	19	59	41	22
	Total Days	89	512	246	150	227	1294	774	255	251	1189	600	272
	Avg days	5	9	6	7	12	22	19	12	13	20	15	12
Rangpur City	Max	5	6	5	4	17	20	20	12	17	25	12	8
	Min	2	3	2	2	7	11	6	4	8	10	5	4
	count	20	20	18	15	20	20	18	15	20	20	18	15
	Total Days	68	85	65	42	234	297	208	120	235	327	143	91
	Avg days	3	4	4	3	12	15	12	8	12	16	8	6
Kurigram	Max	12	16	15	10	22	35	22	17	20	35	22	16
	Min	6	10	8	7	11	30	14	11	12	14	10	10
	count	20	20	20	20	20	20	20	20	20	20	20	20
	Total Days	181	269	224	174	313	643	329	257	307	623	286	282
	Avg days	9	13	11	9	16	32	16	13	15	31	14	14
Jaldhaka	Max	4	4	4	3	18	40	17	12	15	35	20	12
	Min	1	2	2	2	10	28	10	8	8	20	10	8
	count	20	20	19	15	20	20	19	15	20	20	19	15
	Total Days	40	59	61	36	298	661	253	153	209	511	303	145
	Avg days	2	3	3	2	15	33	13	10	10	26	16	10
Rangpur Region	Max	12	16	15	10	22	40	22	17	20	35	22	16
	Min	1	2	2	2	7	11	8	6	8	10	5	4
	count	60	60	57	50	60	60	57	50	60	60	57	50
	Total Days	289	413	350	252	845	1601	790	530	751	1461	732	518
	Avg days	5	7	6	5	14	27	14	11	13	24	13	10
Sylhet City	Max	10	13	10	18	30	42	30	25	18	27	25	25
	Min	2	2	1	8	5	15	8	17	4	10	8	0
	count	20	20	16	2	19	19	14	2	19	18	13	1
	Total Days	103	154	100	26	239	515	270	42	222	307	189	25
	Avg days	5	8	6	13	13	27	19	21	12	17	15	25
Sunamganj	Max	15	20	15	12	25	45	25	12	35	40	35	15
	Min	2	5	3	4	5	12	15	7	3	10	10	7
	count	20	20	11	4	20	20	11	4	20	20	11	4
	Total Days	129	210	98	29	254	557	220	39	256	394	174	42
	Avg days	6	11	9	7	13	28	20	10	13	20	16	11



Location wise tables of the household survey results

How many days these floods took to rise and recede? (Table-A12)													
Region	Particulars	Days taken to rise max. water level				Days around max. water level				Days taken to recede water from max. to normal level			
		2000	1998	1988	1987	2000	1998	1988	1987	2000	1998	1988	1987
Kanaighat	Max	5	5	12	5	12	18	25	10	7	12	12	7
	Min	1	1	1	2	1	2	5	3	1	2	3	3
	count	20	20	16	3	20	20	16	3	20	20	16	3
	Total Days	44	57	62	9	97	183	151	17	78	127	90	14
	Avg days	2	3	4	3	5	9	9	6	4	6	6	5
Sylhet Region	Max	10	20	15	18	30	45	30	25	35	40	35	25
	Min	1	1	1	2	1	2	5	2	1	2	3	3
	count	60	60	43	9	59	59	41	9	59	58	40	8
	Total Days	276	421	260	64	590	1255	641	98	556	828	453	81
	Avg days	5	7	6	7	10	21	16	11	9	14	11	10
Barisal City	Max	7	8	10	6	8	15	15	11	7	15	20	8
	Min	2	2	2	3	3	4	4	2	3	4	3	3
	count	20	20	20	15	20	20	20	15	20	20	20	15
	Total Days	70	98	96	53	106	172	194	86	94	159	172	71
	Avg days	4	5	5	4	5	9	10	6	5	8	9	5
Daulatkhan	Max	4	6	7	4	7	10	12	6	5	7	8	5
	Min	2	3	3	2	2	6	9	2	2	4	4	2
	count	20	20	20	19	20	20	20	19	20	20	20	19
	Total Days	64	103	82	56	89	181	224	80	74	110	129	61
	Avg days	3	5	4	3	4	9	11	4	4	6	6	3
Char Fashion	Max	7	9	9	6	7	8	10	7	7	8	12	9
	Min	3	4	5	4	4	4	5	4	4	4	5	4
	count	20	20	20	20	20	20	20	20	20	20	20	20
	Total Days	92	129	140	94	111	139	154	117	108	128	136	118
	Avg days	5	6	7	5	6	7	8	6	5	6	7	6
Barisal Region	Max	7	9	10	6	8	15	15	11	7	15	20	9
	Min	2	2	2	2	2	4	4	2	2	4	3	3
	count	60	60	60	54	60	60	60	54	60	60	60	54
	Total Days	226	330	318	203	306	492	572	283	276	397	437	250
	Avg days	4	6	5	4	5	8	10	5	5	7	7	5
All Regions	Avg. Max	15	21	17	16	26	54	107	29	24	42	31	22
	Avg. Min	2	3	2	2	3	6	5	4	4	7	5	4
	Total count	248	302	258	163	247	302	256	163	247	301	255	162
	Total Days	1369	2639	1919	914	2735	6912	4259	1546	2463	5264	3291	1477
	Avg. days	6	9	7	6	11	23	17	9	10	17	13	9

Location wise tables of the household survey results

What are your estimation about the velocity of flow of floods in different years? (Please tick) (Table-A13)																
Locations	Violent				Severe				Moderate				Quiet			
	2000	1998	1988	1987	2000	1998	1988	1987	2000	1998	1988	1987	2000	1998	1988	1987
Dhaka	0	6	2	0	1	6	12	1	5	8	5	5	8	1	0	5
Munshiganj	0	6	9	0	0	11	6	0	9	3	2	0	4	0	0	0
Faridpur	0	8	17	2	5	15	4	13	18	0	0	2	0	0	0	1
Total	0	20	28	2	6	32	22	14	32	11	7	7	12	1	0	6
Rajshahi	0	6	15	0	0	13	3	3	0	0	0	0	0	0	0	0
Natore	0	3	4	0	0	14	3	0	0	0	0	0	0	0	0	0
Bogra	7	10	16	2	12	10	3	16	1	0	0	5	0	0	0	0
Total	7	19	35	2	12	37	9	19	1	0	0	5	0	0	0	0
Rangpur Sadar	0	0	0	6	3	20	18	1	18	0	0	8	0	0	0	0
Kurigram	0	4	4	0	2	16	16	10	14	0	0	14	0	0	0	0
Nelphamari	0	16	3	0	10	5	15	14	10	0	0	1	0	0	0	0
Total	0	20	7	6	15	41	49	25	42	0	0	23	0	0	0	0
D-RRR	7	59	70	10	33	110	80	58	75	11	7	35	12	1	0	6
Sylhet	0	10	9	0	3	10	6	1	16	0	0	0	1	0	0	0
Sunamganj	0	6	8	0	4	14	3	2	13	0	0	2	2	0	0	0
Kanaighat	0	9	14	0	12	11	2	3	8	0	0	0	0	0	0	0
Total	0	25	31	0	19	35	11	6	37	0	0	2	3	0	0	0
Barisal	7	19	20	14	12	1	0	3	1	0	0	0	0	0	0	0
Dawlatkhan	0	21	21	0	1	0	0	20	20	0	0	0	0	0	0	0
Char Fashion	12	20	20	14	8	0	0	6	0	0	0	0	0	0	0	0
Total	19	60	61	28	21	1	0	29	21	0	0	0	0	0	0	0
G. total	26	144	162	38	73	146	91	93	133	11	7	37	15	1	0	6

Location wise tables of the household survey results

Locations	How much of your area was submerged by these floods in different years? Area under Water Submergence (Table-A14)																							
	House (sq. ft)				Courtyard (sq. ft)				Cowshed (sq. ft)				Crop land (Dec.)				Nearby roads (km)				Others (Specify)			
	2000	1998	1988	1987	2000	1998	1988	1987	2000	1998	1988	1987	2000	1998	1988	1987	2000	1998	1988	1987	2000	1998	1988	1987
Dhaka	2941	12043	10609	3916	5668	29701	26006	18791	1038	3058	2950	1228	967	1419	1417	1020	13	24	17	12	158	178	178	158
Munshiganj	939	4540	4108	0	4757	6621	6171	0	135	892	853	0	414	946	983	0	8	19	16	0	0	0	0	0
Faridpur	4883	8304	7631	3132	9161	16955	16183	15181	298	1033	1127	813	319	2121	2523	2540	20	20	18	14	101	101	101	101
Total	8763	24886	22347	7048	19586	53277	48360	33972	1471	4983	4930	2041	1700	4486	4923	3560	41	64	51	26	259	279	279	259
Rajshahi	0	2376	2468	0	0	3320	2670	0	0	0	0	0	0	0	0	0	0	6	5	0	0	48	48	0
Natore	0	984	444	0	0	4572	820	0	0	108	0	0	0	236	66	0	0	8	2	0	0	40	40	0
Bogra	0	4590	5670	2544	6331	20601	21601	9041	340	1541	1971	842	1355	2295	2714	1942	17	23	22	20	14	14	50	14
Total	0	7950	8582	2544	6331	28493	25091	9041	340	1649	1971	842	1355	2531	2780	1942	17	36	29	20	14	102	98	14
Rangpur Sadar	8217	8044	6640	5803	6598	6771	6134	5432	308	369	223	223	132	0	0	0	8	8	7	6	430	419	365	284
Kurigram	5890	5780	5780	5780	7412	7412	7412	7412	1637	1475	1363	1194	1385	1550	1672	1738	11	12	11	11	1886	1886	1886	1886
Nelphamari	7619	7619	7338	5889	9321	9321	9175	7157	1872	1872	1791	1488	3312	3345	3773	2463	47	47	45	36	1237	1237	1156	792
Total	21726	21442	19757	17471	23330	23503	22720	20000	3817	3716	3376	2905	4829	4895	5445	4201	63	66	63	53	3552	3542	3407	2961
D.R.R.	30489	54279	50686	27063	49247	105273	96172	63013	5628	10347	10277	5787	7884	11912	13148	9703	124	165	143	99	3825	3923	3784	3234
Sylhet	1338	3630	5003	288	11019	11219	10361	544	0	70	0	0	0	0	0	0	11	21	16	1	0	0	0	0
Sunamganj	1133	4575	3352	352	8015	7619	4335	1981	213	474	349	213	986	986	879	879	10	18	12	3	0	0	0	0
Kanaihat	1681	6750	6691	523	10678	10678	8746	2371	1346	1346	980	135	726	726	660	99	14	23	20	2	0	0	0	0
Total	4152	14956	15046	1163	29712	29516	23442	4896	1558	1889	1329	348	1712	1712	1539	976	34	61	48	6	0	0	0	0
Barisal	1619	5073	5073	4104	617	617	617	0	0	0	0	0	0	0	0	0	21	21	21	18	0	0	0	0
Dawlatkhan	0	4883	4759	3813	3559	5044	5044	4814	0	0	0	0	0	0	0	0	4	4	4	4	0	0	0	0
Char Fashion	4478	5409	5259	5259	12417	12417	12417	12417	1760	1760	1760	1760	2352	2352	1552	1552	5	5	5	5	0	0	0	0
Total	6097	15365	15091	13175	16592	18077	18077	17231	1760	1760	1760	1760	2352	2352	1552	1552	29	29	29	26	0	0	0	0
Grand Total	40737	84600	80823	41401	95551	152866	137690	85139	8946	13996	13365	7895	11948	15976	16239	12233	187	256	220	131	3825	3923	3784	3234

Location wise tables of the household survey results

Flood Warning																																				
Whether you received warning from any source before occurrence of floods in different years. (Pease tick) (Received warning) (Table-A15)																																				
Locations	Yes				No				Source (including self)																											
									2000					1998					1988					1987												
	2000	1998	1988	1987	2000	1998	1988	1987	1-TV/Ra dio	2- Newsp aper	3- Pouras hova, UP, BS, UDMC other union level sources	4- District /upazil a control room and other sources of district/ upazila	5-Red crescen t, other NGOs	6- Neighb ours, villager s, relative s, own observa tion,	7-other specify	1-TV/Ra dio	2- Newsp aper	3- Pouras hova, UP, BS, UDMC other union level sources	4- District /upazil a control room and other sources of district/ upazila	5-Red crescen t, other NGOs	6- Neighb ours, villager s, relative s, own observa tion,	7-other specify	1-TV/Ra dio	2- Newsp aper	3- Pouras hova, UP, BS, UDMC other union level sources	4- District /upazil a control room and other sources of district/ upazila	5-Red crescen t, other NGOs	6- Neighb ours, villager s, relative s, own observa tion,	7-other specify							
Dhaka	9	19	16	8	4	3	4	4	7	3	2	0	0	7	0	16	7	4	0	1	8	0	15	9	3	0	0	6	0	7	4	2	0	0	4	0
Munshiganj	12	20	15	0	1	0	2	0	4	0	0	0	0	11	0	17	3	0	0	0	10	0	13	1	0	0	0	8	0	0	0	0	0	0	0	0
Faridpur	18	23	20	14	4	0	1	4	13	1	9	0	4	13	1	15	2	12	0	7	20	1	16	2	10	0	1	19	1	11	2	5	0	0	15	0
Total	39	62	51	22	9	3	7	8	24	4	11	0	4	31	1	48	12	16	0	8	38	1	44	12	13	0	1	33	3	18	6	7	0	0	19	0
Rajshahi	0	16	15	2	0	4	3	0	0	0	0	0	0	0	12	4	0	0	0	16	0	10	5	0	0	0	15	0	2	1	0	0	0	2	0	0
Natore	0	12	0	0	0	8	4	0	0	0	0	0	0	0	7	0	0	0	0	14	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
Bogra	11	11	9	9	9	9	10	10	2	1	0	0	0	17	0	3	1	0	0	18	0	0	1	0	0	0	19	0	0	1	0	0	0	0	19	0
Total	11	39	24	11	9	21	17	10	2	1	0	0	0	17	0	22	5	0	0	48	0	10	6	0	0	0	39	0	2	2	0	0	0	0	21	0
Rangpur Sadar	20	20	18	15	0	0	0	0	20	1	3	0	0	20	0	20	1	3	0	0	20	0	18	1	2	0	0	18	0	14	1	1	0	0	14	0
Kurigram	20	20	20	20	0	0	0	0	11	0	0	0	0	20	0	15	0	0	0	20	0	15	0	0	0	0	20	0	15	0	0	0	0	0	20	0
Nelphamari	20	20	19	15	0	0	0	0	11	0	0	0	0	20	0	11	0	0	0	20	0	10	0	0	0	0	19	0	10	0	0	0	0	0	16	0
Total	60	60	57	50	0	0	0	0	42	1	3	0	0	60	0	46	1	3	0	60	0	43	1	2	0	0	57	0	39	1	1	0	0	50	0	
D+K+B	110	161	132	83	18	24	24	18	68	6	14	0	4	108	1	116	18	19	0	8	146	1	97	19	15	0	1	129	1	59	9	8	0	0	90	0
Sylhet	20	20	15	1	0	0	0	0	7	4	0	0	0	18	0	11	7	0	0	18	0	3	2	0	0	0	15	0	0	0	0	0	0	0	1	0
Sunamganj	20	20	11	4	0	0	0	0	6	1	2	1	0	17	0	8	3	3	0	0	17	0	5	1	1	0	0	10	0	0	0	0	0	0	4	0
Kanaighat	20	20	16	3	0	0	0	0	1	1	0	0	0	19	0	1	1	0	0	19	0	0	0	0	0	0	16	0	0	0	0	0	0	0	3	0
Total	60	60	42	8	0	0	0	0	14	6	2	1	0	54	0	20	11	3	0	0	54	0	8	3	1	0	0	41	0	0	0	0	0	8	0	
Barisal	20	20	20	14	0	0	0	5	20	0	19	1	0	11	0	20	0	19	1	0	11	0	16	1	0	10	0	14	0	9	0	0	5	0		
Dawlatkhan	20	21	21	18	1	0	0	2	19	1	16	11	20	2	0	20	1	15	11	21	9	0	12	9	19	7	0	17	0	7	9	15	3	0		
Char Fashion	20	20	18	18	0	0	2	2	18	0	6	1	16	6	0	18	0	7	1	17	7	0	13	0	5	0	15	6	0	12	0	1	3	11	7	0
Total	60	61	59	50	1	0	2	9	57	1	41	13	36	19	0	58	1	41	13	38	27	0	53	1	33	10	34	23	0	43	0	17	12	26	15	0
Grand Total	230	282	233	141	19	24	26	27	139	13	57	14	40	181	1	194	30	63	13	46	227	1	158	23	49	10	35	193	1	102	9	25	12	26	113	0

Location wise tables of the household survey results

When did you received flood warning in different years (please tick)? (Table-A16)																												
Locations	Before half month				Before 1 week				Before 3 days				Before 24 hours				Before 12 hours				Within 12 hours				Received no warning			
	2000	1998	1988	1987	2000	1998	1988	1987	2000	1998	1988	1987	2000	1998	1988	1987	2000	1998	1988	1987	2000	1998	1988	1987	2000	1998	1988	1987
Dhaka	1	5	1	1	6	10	8	2	0	1	2	2	1	1	3	2	1	0	1	2	0	0	0	0	5	4	4	3
Munshiganj	2	9	7	0	10	11	7	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0
Faridpur	0	0	1	0	4	11	5	3	1	7	5	1	12	5	8	7	3	1	2	3	0	1	2	1	3	0	1	3
Total	3	14	9	1	20	32	20	5	2	8	7	3	13	6	13	9	4	1	3	5	0	1	2	1	8	4	6	6
Rajshahi	0	1	2	0	0	17	12	3	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Natore	0	10	2	0	0	8	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
Bogra	0	0	0	0	12	12	7	15	7	7	13	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	11	4	0	12	37	20	18	7	11	17	5	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
Rangpur Sadar	0	0	0	0	2	2	1	5	5	15	8	3	13	3	9	7	0	0	0	0	0	0	0	0	0	0	0	0
Kurigram	0	9	5	0	4	2	5	8	15	5	6	11	2	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Nelphamari	0	5	3	1	2	5	8	3	7	6	8	7	11	4	1	4	0	0	0	0	0	0	0	0	1	1	1	1
Total	0	14	8	1	8	9	14	16	27	26	22	21	26	12	13	11	0	0	0	0	0	0	0	0	1	1	1	1
DERFER	3	39	21	2	40	78	54	39	36	45	46	29	39	18	26	20	4	1	3	5	0	1	2	1	9	7	7	7
Sylhet	0	0	0	0	10	18	6	1					0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Sunamganj	0	0	0	0	4	12	3	0	11	5	3	1	4	1	3	2	1	1	1	0	0	1	1	1	0	0	0	0
Kanaighat	0	0	0	0	1	4	4	1					6	5	4	0	0	1	4	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	15	34	13	2	11	5	3	1	10	6	11	2	1	2	5	0	0	1	1	1	0	0	0	0
Barisal	0	0	0	0	0	0	0	0	0	0	0	0	11	11	3	0	2	2	4	6	7	7	13	7	0	0	0	6
Dawlatkhan	0	0	0	0	0	0	0	0	0	0	0	0	5	2	0	0	7	10	3	5	8	9	18	12	1	0	0	3
Char Fashion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	20	19	18	19	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	16	13	3	0	9	13	7	11	25	25	49	38	1	0	0	10
Grand Total	3	39	21	2	55	112	67	41	47	50	49	30	65	37	40	22	14	16	15	16	35	37	52	40	10	7	9	17

Location wise tables of the household survey results

Did you receive usual instructions before evacuation during floods in different years (Please tick)? Received instructions for evacuation- (Table-A17)																																								
Locations	Yes				No				If yes, source																															
									2000					1998					1988					1987																
	2000	1998	1988	1987	2000	1998	1988	1987	1- TV/Radio	2- Newspaper	3- District/Upazila administration	4- Pourasahova/Union Parishad level	5- NGO/Voluntary Organization	6- Teachers/Imams/Social Leaders	7- Neighbour/Relatives, Villagers	8- Others (Specify)	1- TV/Radio	2- Newspaper	3- District/Upazila administration	4- Pourasahova/Union Parishad level	5- NGO/Voluntary Organization	6- Teachers/Imams/Social Leaders	7- Neighbour/Relatives, Villagers	8- Others (Specify)	1- TV/Radio	2- Newspaper	3- District/Upazila administration	4- Pourasahova/Union Parishad level	5- NGO/Voluntary Organization	6- Teachers/Imams/Social Leaders	7- Neighbour/Relatives, Villagers	8- Others (Specify)								
Dhaka	6	9	9	5	8	12	10	7	5	0	1	0	0	0	5	0	8	1	2	0	0	1	7	0	8	1	3	0	0	1	7	0	3	0	1	0	0	0	4	0
Munshiganj	1	16	14	0	12	4	3	0	0	0	1	0	0	0	0	0	5	3	0	10	0	2	4	0	3	1	0	10	0	0	4	0	0	0	0	0	0	0	0	0
Faridpur	13	18	15	7	10	5	6	10	10	2	4	3	3	3	10	0	12	2	6	6	4	4	14	0	10	2	6	2	3	4	10	1	5	2	3	0	0	2	4	0
Total	20	43	38	12	30	21	19	17	15	2	5	4	3	3	15	0	15	6	8	16	4	7	25	0	21	4	12	3	5	21	0	8	2	4	0	0	2	8	0	
Rajshahi	0	9	9	0	0	10	9	2	0	0	0	0	0	0	0	0	0	0	8	0	0	4	0	0	0	0	8	0	0	3	0	0	0	0	0	0	0	0	0	
Natore	0	0	1	0	0	20	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
Bogra	0	2	2	0	20	18	17	19	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Total	0	11	12	0	20	48	29	21	0	0	0	0	0	0	0	0	0	0	3	0	0	6	0	0	0	0	8	0	0	6	0	0	0	0	0	0	0	0	0	0
Rangpur Sadar	20	20	18	14	0	0	0	11	0	0	1	0	0	20	0	11	0	0	1	0	0	20	0	8	0	0	1	0	0	18	0	6	0	0	1	0	0	15	0	
Kurigram	20	20	20	20	0	0	0	0	9	0	0	0	0	20	0	12	0	0	0	0	0	20	0	12	0	0	0	0	0	20	0	12	0	0	0	0	0	0	20	0
Neiphamari	19	19	18	15	1	1	1	0	9	0	0	0	1	0	17	0	9	0	0	0	1	0	16	0	9	0	0	0	16	0	7	0	0	0	0	0	14	0		
Total	59	59	56	49	1	1	1	0	29	0	1	1	0	57	0	32	0	0	1	1	0	56	0	29	0	0	1	1	0	54	0	25	0	0	1	0	0	39	0	
DakR	79	113	106	61	51	70	49	38	44	2	5	5	4	3	72	0	57	6	8	25	5	7	87	0	50	4	9	21	4	5	81	1	33	2	4	1	0	2	57	0
Sylhet	13	18	13	0	6	2	2	1	0	0	2	0	3	12	0	5	2	0	2	0	3	16	0	2	1	0	1	0	1	12	0	0	0	0	0	0	0	0	0	
Sunamganj	10	13	7	0	10	7	4	4	0	0	4	0	3	7	0	3	2	0	4	1	3	8	0	2	1	0	1	0	1	4	0	0	0	0	0	0	0	0	0	
Kanaighat	2	2	1	1	18	18	15	2	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	
Total	25	33	21	1	34	27	21	7	0	0	6	0	7	20	0	8	4	0	0	1	7	25	0	4	2	0	2	0	2	17	0	0	0	0	0	0	0	1	0	
Barisal	17	19	19	12	3	1	1	6	17	0	6	10	0	4	13	0	19	0	4	12	0	6	14	0	19	0	2	10	0	3	14	0	12	0	1	6	0	10	0	
Dawlatkhan	20	21	21	17	1	0	0	3	20	1	13	17	20	0	0	0	21	1	14	15	21	0	5	0	21	1	9	9	17	0	7	0	17	0	8	8	12	0	4	0
Char Fashion	19	20	17	15	1	0	3	5	19	1	2	5	11	0	4	0	19	0	1	6	14	0	5	0	11	0	1	6	6	0	9	0	10	0	1	2	9	0	3	1
Total	56	60	57	44	5	1	4	14	56	2	21	32	31	4	17	0	59	1	19	33	35	6	24	0	51	1	12	25	23	3	30	0	39	0	10	16	21	0	17	1
G. total	160	206	184	106	90	98	74	59	100	4	26	43	35	14	109	0	124	11	27	64	41	20	136	0	105	7	21	48	27	10	128	1	72	2	14	17	21	2	75	1

Location wise tables of the household survey results

Locations	What are the ways and means of receiving warning (please tick)? (Table-A18)					
	1. Mass media: TV / Radio	2: Announcement from district/ Upazila administration	3: Announcement from Pourashava / Union Parishad through mike	4. News Paper	5. Warning from local Red Crescent	6. Others (Specify)
Dhaka	18	4	3	12	2	13
Munshiganj	16	1	2	4	1	14
Faridpur	19	6	22	4	5	20
<b>Total</b>	<b>53</b>	<b>11</b>	<b>27</b>	<b>20</b>	<b>8</b>	<b>47</b>
Rajshahi	12	1	7	4	0	12
Natore	8	0	0	0	0	14
Bogra	2	0	0	3	0	19
<b>Total</b>	<b>22</b>	<b>1</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>45</b>
Rangpur Sadar	19	2	11	2	9	17
Kurigram	17	0	8	2	7	14
Nelphamari	12	0	9	0	5	13
<b>Total</b>	<b>48</b>	<b>2</b>	<b>28</b>	<b>4</b>	<b>21</b>	<b>44</b>
<b>Dt. Bar. R.</b>	<b>123</b>	<b>14</b>	<b>62</b>	<b>31</b>	<b>29</b>	<b>136</b>
Sylhet	11	0	0	7	0	0
Sunamganj	9	0	2	5	0	9
Kanaighat	1	0	0	1	0	0
<b>Total</b>	<b>21</b>	<b>0</b>	<b>2</b>	<b>13</b>	<b>0</b>	<b>9</b>
Barisal	20	1	20	0	0	18
Dawlatkhan	21	15	17	1	21	10
Char Fashion	20	12	11	0	20	8
<b>Total</b>	<b>61</b>	<b>28</b>	<b>48</b>	<b>1</b>	<b>41</b>	<b>36</b>
<b>G. total</b>	<b>205</b>	<b>42</b>	<b>112</b>	<b>45</b>	<b>70</b>	<b>181</b>

## Location wise tables of the household survey

Problems and benefits related to flood warning- Please state the problems and benefits related to flood forecasting and warning), in order of priority. (Table-A19)

Region : Dhaka

### 1. Location : Dhaka City

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1	1	1	1	1			13	2	2
2	2	1	3	5	1	1		6	1
3	2	2	4	2	1	1	3	2	2
4	1	2	3	1	2	3		1	4
5	2	2	2	1	1		1	1	2
6		1	3			1			3
7			1	1	1	1			0
8						1			0
9					1				0
10									0
<b>Total</b>	<b>8</b>	<b>9</b>	<b>17</b>	<b>11</b>	<b>7</b>	<b>8</b>	<b>17</b>	<b>12</b>	<b>14</b>

### 2. Location : Munshiganj Town

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1		1	4	2	2	1	6	4	0
2	2	2	3			4	3	4	1
3	1	1	7	2	3	1	2	1	2
4	3	2	1	1	1	2	4		3
5	2	2	1	2		2			1
6		1	1				1		1
7	1								0
8									0
9									0
10									0
<b>Total</b>	<b>9</b>	<b>9</b>	<b>17</b>	<b>7</b>	<b>6</b>	<b>10</b>	<b>16</b>	<b>9</b>	<b>8</b>

### 3. Location : Faridpur Village

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1		4					15		4
2	4	1		2	1	1	4	7	3
3	2	1	11	1			1	4	3
4	1	3	1	2	6	1	2	3	3
5	2	3	2	1	2	3	1	2	5
6	3	2	4	1	1	1		1	1
7		4	1		1				3
8	1			1					0
9						1			0
10									0
<b>Total</b>	<b>13</b>	<b>18</b>	<b>19</b>	<b>8</b>	<b>11</b>	<b>7</b>	<b>23</b>	<b>17</b>	<b>22</b>

### Region Total

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/cooking	Could not arrange water	Others
1	1	6	5	3	2	1	34	6	6
2	8	4	6	7	2	6	7	17	5
3	5	4	22	5	4	2	6	7	7
4	5	7	5	4	9	6	6	4	10
5	6	7	5	4	3	5	2	3	8
6	3	4	8	1	1	2	1	1	5
7	1	4	2	1	2	1	0	0	3
8	1	0	0	1	0	1	0	0	0
9	0	0	0	0	1	1	0	0	0
10	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>30</b>	<b>36</b>	<b>53</b>	<b>26</b>	<b>24</b>	<b>25</b>	<b>56</b>	<b>38</b>	<b>44</b>
<b>%</b>	<b>47</b>	<b>56</b>	<b>83</b>	<b>41</b>	<b>38</b>	<b>39</b>	<b>88</b>	<b>59</b>	<b>69</b>



## Location wise tables of the household survey

Problems and benefits related to flood warning- Please state the problems and benefits related to flood forecasting and warning), in order of priority. (Table-A19)

Region : Rajshahi

4. Location : Rashahi City

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1	2		1			7	9		1
2		3	5			7	4	1	0
3	1	6	3	1	1	1	2	1	3
4	1	2	5			1	2	1	2
5	1	2	1				1		0
6	1				1				0
7								1	0
8									0
9									0
10									0
Total	6	13	15	1	2	16	18	4	6

5. Location : Natore Town

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1	1	4	1	1	4	5	4		0
2	3	1	2	1	1	7	5		0
3	2		4	1	5	4	2	2	0
4	1	1		2	2	2	4		0
5		1				1	2	1	0
6	1		1						0
7									0
8									0
9									0
10									0
Total	8	7	8	5	12	19	17	3	0

6. Location : Sariakandi Village

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1	2	2	3	2	1	8	2		0
2		6	2	5	1	3	2	1	0
3	2	4	1	4	2	3	4		0
4	2	4	3	3	1	1	3	1	0
5	2	1	2	1	2		2		0
6	1		1		2	1	1	1	0
7					1	1	1	1	0
8			1					1	1
9							1		0
10									0
Total	9	17	13	15	10	17	16	5	1

Region Total

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/cooking	Could not arrange water	Others
1	5	6	5	3	5	20	15	0	1
2	3	10	9	6	2	17	11	2	0
3	5	10	8	6	8	8	8	3	3
4	4	7	8	5	3	4	9	2	2
5	3	4	3	1	2	1	5	1	0
6	3	0	2	0	3	1	1	1	0
7	0	0	0	0	1	1	1	2	0
8	0	0	1	0	0	0	0	1	1
9	0	0	0	0	0	0	1	0	0
10	0	0	0	0	0	0	0	0	0
Total	23	37	36	21	24	52	51	12	7
%	38	62	60	35	40	87	85	20	12

## Location wise tables of the household survey

Problems and benefits related to flood warning- Please state the problems and benefits related to flood forecasting and warning), in order of priority. (Table-A19)

Region : Rangpur

7. Location: Ranpur City

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1				2		2	16		0
2	2	4	2		2	1	3	4	2
3	3	3	5			4	1	3	0
4	8	3	3		3	2		2	0
5	3	4	2	1	1			1	4
6	2	1				1		2	1
7		1		1					0
8									0
9									0
10									0
Total	18	16	12	4	6	10	20	12	7

8. Location: Kurigram Town

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1	3	3		2			11	1	0
2	5	4		3		2	2	3	1
3	2	5	2	1		2	6	1	0
4	3	5	5	2	1			4	0
5	4	2	2	1	1	4	1	1	1
6		1		3		1			0
7									0
8									0
9									0
10									0
Total	17	20	9	12	2	9	20	10	2

9. Location: Jaldhaka Village

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1	1	5		3			12		0
2	2	4	3	3		1	4	2	1
3	3	1	2	9	1		3		0
4	3	3	2	4		3	1	3	0
5	8	2	1		1	1			0
6	1				1			2	0
7						1			0
8									0
9									0
10									0
Total	18	15	8	19	3	6	20	7	1

Region Total

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1	4	8	0	7	0	2	39	1	0
2	9	12	5	6	2	4	9	9	4
3	8	9	9	10	1	6	10	4	0
4	14	11	10	6	4	5	1	9	0
5	15	8	5	2	3	5	1	2	5
6	3	2	0	3	1	2	0	4	1
7	0	1	0	1	0	1	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Total	53	51	29	35	11	25	60	29	10
%	88	85	48	58	18	42	100	48	17

## Location wise tables of the household survey

Problems and benefits related to flood warning- Please state the problems and benefits related to flood forecasting and warning), in order of priority. (Table-A19)

Region : Sylhet

10. Location : Sylhet City

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1			2				18		0
2	3	1	2		1	1		11	1
3	2	3	1		5	4	1	1	1
4	5	4	1		3	5			0
5	5	3	1		2			1	0
6		1							0
7									0
8									0
9									0
10									0
Total	15	12	7	0	11	10	19	13	2

11. Location : Sunamganj Town

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1		1	1				17	1	0
2		2	4	1		5	2	6	0
3		2	5	3	3	4		3	0
4	8	1		1	6	1			1
5	4	3			2	1			0
6			1	1	2				0
7									0
8									0
9									0
10									0
Total	12	9	11	6	13	11	19	10	1

12. Location : Kanaighat Village

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1							20		0
2	3	4	4	1	1	3		4	0
3	5	2		1	6	5		1	0
4	2	3	1	3	6	3			0
5	2	3	1	1	1	3			0
6	4		2						0
7									1
8									0
9									0
10									0
Total	16	12	8	6	14	14	20	5	1

Region Total

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/cooking	Could not arrange water	Others
1	0	1	3	0	0	0	55	1	0
2	6	7	10	2	2	9	2	21	1
3	7	7	6	4	14	13	1	5	1
4	15	8	2	4	15	9	0	0	1
5	11	9	2	1	5	4	0	1	0
6	4	1	3	1	2	0	0	0	0
7	0	0	0	0	0	0	0	0	1
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Total	43	33	26	12	38	35	58	28	4
%	72	55	43	20	63	58	97	47	7

## Location wise tables of the household survey.

Problems and benefits related to flood warning- Please state the problems and benefits related to flood forecasting and warning, in order of priority. (Table-A19)

Region : Barisal

13. Location : Barisal City

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1	3	8	1				7		1
2		3	6				8	1	0
3	1	1	5				5	8	0
4	7	1	7			1		3	1
5	2	6	1			1		7	3
6	1	1		2		2		1	4
7	2			1		1			3
8					1				0
9									0
10									0
Total	18	20	20	3	1	5	20	20	12

14. Location : Daulatkhan Town

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Others
1	8	8	1				4		0
2		3	3				14	1	0
3	2	1	9				1	9	0
4	6	2	7				2	4	0
5	4	6	1					7	1
6		1							6
7						1			0
8									0
9									0
10									0
Total	20	21	21	0	0	2	21	21	7

15. Location : Char Fashion Village

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/ furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/ cooking	Could not arrange water	Othes
1	2	5	1				11		1
2	1	4	2	1			6	4	1
3	1	3	6	1			2	7	0
4	5	2	5		1	1	1	5	0
5	8	3	4	3				2	0
6	2	2	2	6		1		1	0
7				1	1				0
8	1								0
9									0
10									0
Total	20	19	20	12	2	2	20	19	2

Region Total

Priority	Problems and priority								
	Could not be prepared for evacuation	Could not shift family members	Could not shift households goods/furniture	Could not shift livestock animals	Could not raise floor	Could not protect house	Could not arrange food/cooking	Could not arrange water	Others
1	13	21	3	0	0	0	22	0	2
2	3	10	11	1	0	0	28	6	1
3	4	5	20	1	0	0	8	24	0
4	18	5	19	0	1	2	3	12	1
5	14	15	6	3	0	1	0	16	4
6	3	4	2	8	0	4	0	2	10
7	2	0	0	2	1	2	0	0	3
8	1	0	0	0	1	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Total	58	60	61	15	3	9	61	60	21
%	95	98	100	25	5	15	100	98	34