

**Understanding Information
& Communication Needs:**

**A study with disaster
prone communities in
Riverine and Coastal areas**

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Understanding Information & Communication Needs: A study with disaster prone communities in Riverine & Coastal areas

Research and Content

NIRAPAD (Network for Information, Response And Preparedness Activities on Disaster)

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ABBREVIATION

ACF	Action Contre la Faim / Action Against Hunger
AKK	Amra Kaj Kori
BARI	Bangladesh Agriculture Research Institute
BBS	Bangladesh Bureau of Statistics
BCAS	Bangladesh Centre for Advanced Studies
BMD	Bangladesh Meteorological Department
BTRC	Bangladesh Telecommunication Regulatory Commission
BWDB	Bangladesh Water Development Board
CDAC	Communicating with Disaster Affected Community
CI	Corrugated Iron
CPP	Cyclone Preparedness Programme
CwC	Communicating with Community
DAE	Department of Agricultural Extension
DDM	Department of Disaster Management
DH&FP	Department of Health and Family Planning
DLS	Department of Livestock Services
DoF	Department of Fisheries
DRM	Disaster Risk Management
FAO	Food and Agriculture Organization
FFWC	Flood Forecasting and Warning Centre
GoB	Government of Bangladesh

HBRI	Housing and Building Research Institute
ICRC	International Committee of the Red Cross
IFRC	International Federation of Red Cross and Red Crescent Societies
IGD	Interactive Group Discussion
INGO	International Non-Governmental Organization
IOM	International Organization for Migration
KII	Key Informant Interview
MSP	Multi-Stakeholder Platform
MoE	Ministry of Education
MoWCA	Ministry of Women and Children Affairs
NCTB	National Curriculum and Textbook Board
NIRAPAD	Network for Information, Response And Preparedness Activities on Disaster
NSS	Nazrul Smirity Sangsad
SoD	Standing Orders on Disaster
SMS	Short Message Service
UN	United Nations
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children’s Fund
UP	Union Parishad
VHF	Very High Frequency

EXECUTIVE SUMMARY

Humanitarian agencies operating in Bangladesh have recognized that Communicating with Community (CwC) is an important element in disaster management. Accordingly, they have established The Shongjog Platform/MSP for the purpose of promoting the application of CwC in humanitarian intervention. To support its work Shongjog has commissioned NIRAPAD to conduct a study to understand the information and communication needs of communities in flood prone riverine and cyclone prone coastal areas of Bangladesh.

The study intended to produce four key outcomes, including identifying disaster management information and communication mechanisms available in the selected study areas; determining the gaps in the availability of disaster management information; determining options and opportunities to minimize gaps in the communities' access to disaster management information; and identifying good practices that demonstrate how two-way information and communication channels mitigate and address needs, saving lives and alleviating distress during a disaster.

The study team carried out an extensive review of the relevant documents on CwC and information on context specific disaster risks, disaster risk reduction and humanitarian response and demography. They then consulted men, women and children in two communities- one from the coastal region exposed to cyclone (Barguna district) and the other from the riverine area that annually experiences flooding (Faridpur district).

The study found that to cope with disaster, communities need support in terms of investment for the replacement and reconstruction of damaged infrastructure, destroyed assets and deteriorated environments, inputs for the recovery of essential services, economic activities and social functions and assistance for reducing physical, emotional and social distress. In addition, communities in disaster prone areas need information to save lives, protect assets, manage the environment, access services and sustain income during and immediately after a disaster.

As for the current practice, humanitarian agencies have a common set of 137 hazard specific messages on minimizing risk, preparedness and response and recovery. In addition, Bangladesh Meteorological Department (BMD) and Flood Forecasting Weather Centre (FFWC) generate and disseminate cyclone warnings and flood forecasts, respectively. The NGOs communicate information about the content of their support packages, and their complaints and response mechanisms.

Critical gaps in the exchange of humanitarian information include: i) the range of humanitarian messages currently disseminated meets only a part of the communities' needs, ii) certain messages are ambiguous and people get very limited guidance on how to comply with them, iii) use of some channels (e.g. television) exclude certain groups (e.g. women) and iv) people sometimes cannot comply with the message because of financial and other constraints.

The study therefore proposes to:

- Generate new messages through research involving the mandated agencies;
- Reinforce messages about child protection, gender based violence and education during an emergency;
- Eliminate any ambiguity from hazard warnings through consulting the communities and involving the relevant government agencies;
- Promote use of Bangla alphabet to send all humanitarian messages to cell phones through advocacy with the service providers and regulatory bodies;
- Promote the use of radio to share hazard warnings to reach rural women;
- Support face to face communication which is gender, age, disability and diversity inclusive to raise risk awareness;
- Advocate to provide supplementary and complementary support to the community to improve their message response capacity.

1. INTRODUCTION

Communicating with Community (CwC) is an important element in disaster management, particularly for emergency response including need assessment, response planning, assistance delivery and monitoring results (UNHCR). Essentially, CwC is a two-way process, and is grounded on a rights based and community based approach. It facilitates information exchange and dialogue between humanitarian actors and disaster affected people. Through such information exchange and dialogue, humanitarian actors better understand affected people's specific needs and it enables them to make humanitarian assistance more relevant. CwC also helps humanitarian actors ensure transparency in planning, designing and implementing their humanitarian intervention, as well as upholding their accountability to the affected population. Furthermore, CwC meets the information and communication needs of the disaster affected people. Through CwC, they can get information that helps them to make informed decisions and take actions to mitigate disaster risks, save lives and access humanitarian assistance. Moreover, it enables them to voice their concerns about disaster risks and humanitarian assistance.

1.1. Background

Globally, Communicating with Disaster Affected Community (CDAC) Network has been formed as a growing platform of more than 30 humanitarian, media development, social innovation, technology, and telecommunication organizations. It is dedicated to saving lives and making aid more effective through communication, information exchange and community engagement. With support from CDAC, The ShongjogPlatform/MSP on Communicating with

Communities in the humanitarian sector has evolved in Bangladesh. It includes members from government, the UN, INGOs and national NGOs as well as voluntary networks such as Bangladesh Red Crescent Society and Bangladesh Fire Service and Civil Defense Urban Volunteers. It aims to ensure that there are identified and credible sources of information which can be managed and updated on a regular basis. A large element of its work includes advocacy that aims to raise awareness among disaster responders. In particular, it seeks to ensure that humanitarian

responders have increased awareness of the importance of integrating two-way communication with disaster affected communities.

To support its interventions, Shongjog has conducted several studies including 'Study on Communicating with Communities (CwC) Gap Analysis in Bangladesh' in 2016. However, Shongjog needed further and more up to date analysis of the disaster affected people's information needs as well as a more sophisticated understanding about the scope and opportunities to promote CwC in humanitarian response in Bangladesh. Therefore, Shongjog has commissioned the Network for Information, Response And Preparedness Activities on Disaster (NIRAPAD) to conduct another study entitled 'Understanding Information & Communication Needs: A study with disaster prone communities in Riverine & Coastal areas'. This report, in the following sections, presents the details of the purpose, process and findings of that study.

1.1.1. Purpose

The purpose of the study was to understand the information needs of the communities in the riverine areas as well as cyclone prone coastal areas of Bangladesh in order to help them minimize their distress during a disaster and to mitigate their disaster risks. The study specifically pursued the following objectives:

- Identify disaster management information and communication mechanisms (both one-way and two-way) available in the selected study area(s);
- Determine the gaps in the availability of disaster management information in the selected study area(s);

- Determine options and opportunities to minimize gaps in the communities' access to disaster management information in the selected study area(s); and
- Identify good practices that demonstrate how two-way information and communication channels mitigate and address needs, save lives and alleviate distress during a disaster.

1.1.2. Approach

The study concentrated mainly on qualitative information. The subject of the inquiry focused on disaster management information and communication with communities. It looked specifically at two communities- one from the coastal region exposed to cyclones and the other from the riverine area that annually experiences flooding. As the study focused on communities' information and communication needs, the key issues concerned were: i) content and form of disaster management information, ii) channels for dissemination of messages and iii) targeted audiences for disaster management information dissemination.

To explore these key issues, the study reviewed and analyzed secondary documents relating to CwC, program intervention by Shongjog, and information on context specific disaster risks, disaster risk reduction and humanitarian response and demography. It also accumulated primary data applying a range of methods for data collection that included Interactive Group Discussion (IGD), in- depth individual interviews, key informant interviews and meetings. It was followed by an analysis to produce the report.

Graphical presentation of the approach is given below:



1.1.3. Data Collection and Analysis

The study collected and analyzed secondary documents relating to: i) Communicating with Community, ii) context specific disaster risk, humanitarian response and disaster management information and iii) demography. For collecting primary data, the NIRAPAD team visited Chhota Bagi union under Taltali upazila of Barguna district and Gazirtek union under

Charbhadrasan upazila of Faridpur district. In these areas, the team conducted 10 IGDs, 40 in-depth interviews and 10 KIIs (see details in the table below). Also, the study team collected 19 case studies for documenting 'good practices'. In addition, an intensive observation visiting 'on the ground' situations was made by NIRAPAD.

Tools and frequency used in collecting data		
Tools & Techniques	Frequency	
	Description	Total
Consultation with key stakeholders	Interactive Group Discussions (IGDs) with men, women, children, minority and riverbank erosion affected men-women group	Total 10 in 02 locations (01 with men, 01 with women, 01 with children, 01 with minority and 01 with riverbank erosion affected men-women group in each location)
	In-depth interviews with different representatives: with key men, women, children, minority and stakeholders Persons with Disabilities	Total 40 in 02 locations (04 with men, 04 with women; 04 with children, 04 with minority group & 04 with Persons with Disabilities in each location)
	Key Informant Interview with union level officer of DAE and DH&FP, UP Chairman and NGO representative	Total 10 (05 in each of the 02 locations)
Good practice	Case study collection	Total 19 from 02 locations

After collecting primary data, the study team analyzed data applying an analytical framework. The analysis focused on the communities' disaster management information needs, specifically those that help them take action to i) save lives, ii) protect assets, iii) manage the environment, iv) sustain income and v) access services.

Finally, the report was developed to include the information needs of the disaster affected communities, gaps in availability of DRM information, scope for minimizing gaps in information availability and good practices in DRM information management.

1.1.4. Scope and Limitations

The scope of the study was defined by the terms of reference of the study. The investigation focused on the communities' needs for disaster related information. Therefore, it did not explore the other material and non-material needs of the disaster affected people. Moreover, it relied

mainly on qualitative data collected through community consultation and literature review. Also, it looked at two localities only – one in the coastal region exposed to cyclone and the other in a riverine area that annually experiences flooding. Therefore, the findings will not cover all of the hazards or the country as a whole.

1.2. Community Context

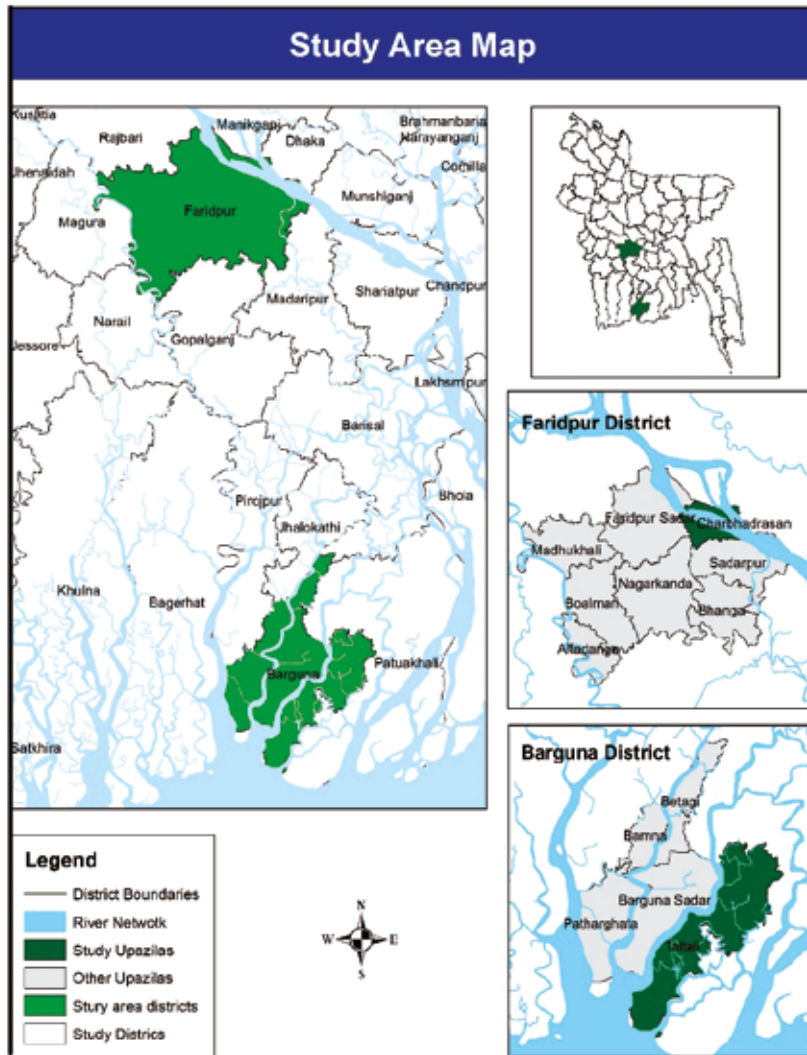
As noted above, the study selected two locations for investigation. One of them is in the central region of riverine areas and the other in the south central coastal region. Then, in two specific localities, the study looked at the demographic features and the exposure of the communities to various hazards.

1.2.1. Geographic Location

The study targeted the two most vulnerable, and hazard exposed, upazilas; Taltali upazila under Barguna district and Charbhadrasan upazila under Faridpur district. Taltali upazila is located in the south

central coastal region and Charbhadrasan is located in the central region of riverine area. Two unions, namely,

Chhota Bagi union under Taltali upazila and Gazirtek union under Charbhadrasan upazila were selected as field locations.



1.2.2. Demographic Features

Compared to the national average of 976 people per sq. km (BBS, 2015), the population densities of two of the studied upazilas are very low – 541 and 410 in Taltali and Charbhadrasan, respectively. The average household size of the upazilas under

the study is consistent with the national average of 4.35 (BBS, 2015). The literacy rate of Taltali upazila is consistent with the national average of 53.7 percent (BBS, 2013); whereas, in Charbhadrasan upazila it is significantly lower (40.5 percent)..

Table 01: Geographic and Demographic features

Name of Upazila	Total Population	No. of Male	No. of Female	Sex Ratio	Population density (per sq km)	Average HH Size	Literacy Rate (%)
Taltali, Barguna	88,424	43,747	44,697	95	541	4.3	52.8
Charbhadrasan, Faridpur	63,477	30,357	33,120	92	410	4.4	40.5

Source : Bangladesh Bureau of Statistics, 2015

1.2.3. Hazard Exposure

Due to geographic location, river systems and climate, both of the case study upazilas are exposed to multiple hazards. Cyclones including storm surge and salinity intrusion are the major threats in the south central coastal upazila Taltali, whereas flooding is the major hazard in the riverine upazila Charbhadrasan. However, riverbank erosion, nor'westers and lightening are common to both.

Taltali has experienced several devastating cyclones including Cyclone Sidr 2007 and Tropical Cyclone Mahasen 2013. Cyclones typically hit the region during the pre-monsoon (April-May) and post-monsoon (October-November) seasons. The latest disaster that occurred in Taltali was Tropical Cyclone Mahasen. It hit Taltali in May, 2013 and took an enormous toll on lives, assets and the environment. Strong winds, associated with storm surges, damaged or destroyed infrastructure and other physical assets such as houses, roads and embankments, and household and other assets. It uprooted many trees and destroyed crops including mung beans, summer vegetables and sunflowers. The cyclone also destroyed livestock such as goats, chicken and ducks, as well as a significant number of cows, sheep and buffalo. Fish farms were damaged and more importantly fishers were unable to go sea fishing meaning they suffered from loss of livelihood. A large proportion of families in

Taltali suffered due to full or partial damage to their houses. It destroyed sanitation facilities and water sources. Damage and destruction caused by the cyclone resulted in disruptions in service delivery and social functions, and many people suffered from trauma and emotional distress.

Flooding is an annual phenomenon in Charbhadrasan that primarily occurs during the monsoon season between June and August and affects a considerable number of people residing outside the embankment. The latest disaster that occurred in Charbhadrasan was a flood. Flood 2016 in Charbhadrasan destroyed crops including jute, summer vegetables, ground nut and chili, damaged infrastructure including houses, roads and embankments and swept away household assets, agricultural implements, fish farms, livestock and poultry. It resulted in a substantial reduction in income and employment opportunities, in particular for agricultural laborers and female headed households. A large proportion of families in Charbhadrasan suffered due to their houses being fully or partially flooded and their sanitation facilities and water sources destroyed. They were forced to make temporary shelters with polythene and CI sheets on the embankment where they then suffered due to lack of sanitation facilities with women and adolescent girls suffering most. In addition, the need to collect water increased the hardship among the women and young girls.

2. Communities' Needs in Coping with Disasters

Nearly all parts of the country suffer from natural hazards such as cyclones, storm surges, flooding, riverbank erosion, earthquakes, salinity intrusion, drought, tornado, nor'westers and lightning. The coastal region of the country is exposed to cyclones and these generally lead to tidal surges. Strong winds and surges of water breach embankments, destroy houses and other infrastructure, uproot trees, and sweep people, animals, crops and household assets away. Riverine areas, on the other hand, experience monsoon floods annually. Rivers swell during the monsoon, overflow their banks and flood the low-lying areas.

Occasionally, rising water breaches the embankments; and the strong current of water sweeps away houses, household assets, domestic animals and crops. People affected by cyclones or flooding suffer due to death or injuries, loss of assets and a serious reduction in their access to shelter, food, water, sanitation and medical care as well as income opportunities. Children, women and people with disabilities in the affected communities additionally suffer due to increasing exposure to neglect, abuse, violence and exploitation. Understandably, the disaster affected people need assistance in terms of goods and services to minimize their distress and return to normality.

To cope with disaster, people need more than physical necessities. During an emergency, they urgently need information

to access humanitarian assistance as well as information that helps them better understand their risk and take cautionary measures. Consultations with men, women and children in Taltali and Charbhadrashan suggested that relevant and worth while information would be hugely useful for them to mitigate their risks, manage their distress and provide access to humanitarian services.

2.1. Goods and Services as Aid

Disasters such as cyclones and floods kill or injure people, destroy infrastructure, crops and other assets and cause the physical environment to deteriorate. They disrupt services such as water supply, sanitation systems, medical care, children's educational activities, power supply, communication, transport and access to markets. It puts the affected communities

in distress. Affected people suffer from physical distress such as hunger, thirst, illness and emotional distress such as anxiety, fear and trauma as well as social distress such as poverty and humiliation. Understandably, preventing further deterioration of the situation and minimizing their distress is crucial.

2.1.1. Assistance in Reducing Distress

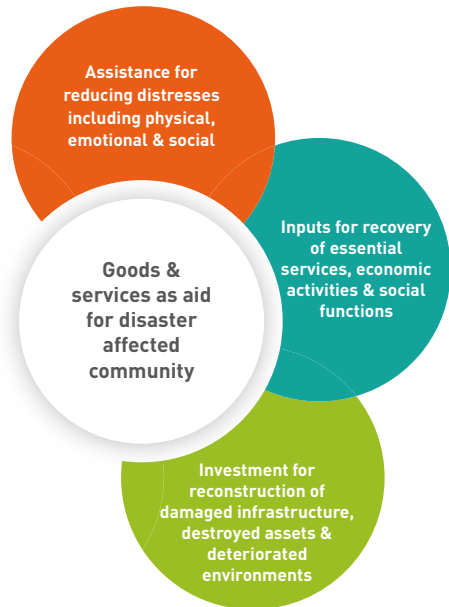
Disaster affected communities urgently need both material and non-material assistance in terms of:

- Food, water, sanitation, medicine, clothing, shelter and household items to minimize their physical distress;
- Information and psychosocial support to overcome their emotional distress, social protection to prevent neglect, abuse and violence against children and women, and assistance to help affected communities, women in particular, to uphold their dignity.

2.1.2. Inputs for Recovery

The communities need assistance to reestablish disrupted services. They need information and other support to restore:

- Water sources to supply safe water;
- Sanitation facilities to maintain personal hygiene;
- Medical centers to provide treatment and preventative care;
- Schools to run children's educational activities;
- Social protection support services to prevent neglect, abuse and violence against children and women;
- Markets to supply essential goods and services;



- Farms, factories and industries to generate employment.

2.1.3. Investment for Reconstruction

Communities need the reconstruction of damaged infrastructure and the replacement of destroyed assets. Therefore, they need relevant information to seek assistance in terms of investment for:

- Reconstruction of infrastructure such as roads, bridges, culverts, embankments, schools, medical centers and houses;
- Procurement of household items, productive tools and equipment;
- Restarting crop cycle, e.g. material and financial inputs for draught animals, seed, fertilizer and irrigation;
- Restoration of the environment, e.g. removing sand deposited in crop fields and debris from ponds or living areas.

Humanitarian responders, generally, intervene to meet affected communities' immediate and urgent needs, restore services and undertake any reconstruction. However, they do it on the basis of sound assessment. Also, the affected communities know and have information on whether and how they could access humanitarian assistance. Therefore, humanitarian communication, particularly communication with communities' becomes a crucial element in humanitarian response.

2.2. Information and Communication as Aid

Communicating with Community is a two-way process that enables communities to access humanitarian information as well as voice their concerns about humanitarian assistance and risk mitigation. The study noted that communities in Taltali and

Charbhadrasan have already received some information on hazard warning and risk mitigation, and actively apply this to lessen disaster and minimize the extent of their distress. For example, in Taltali, people have begun to grow plantain around their homestead to act as a windbreak and in Charbhadrasan, they sow aman seed in groundnut fields so that they can get twice as many crops. They also move their houses from the flooded part of their homestead to the embankment. Understandably, they plan and pursue these activities within the constraints of the resources and information at their disposal. They claimed that **access to additional information would enhance communities' knowledge and understanding of disaster risk and enable them to manage disaster risk more effectively**. Consultation further noted that the information they need should cover a range of issues, grouped under the following categories: i) information for saving lives,



ii) information for protecting assets, iii) information for managing the environment, iv) information for sustaining income and v) information for accessing services.

2.2.1. Saving Lives

Cyclones and floods threaten life. It is useful to understand how various groups in the communities (e.g. children, women, the elderly and people with disabilities) are at risk of death and injury and how communities at risk could take preventative measures..

Communities specifically need information about:

- Susceptibility of different groups in the community, for example:
 - o Why children, the elderly and people with disabilities need additional care and assistance and how the community as an entity can assist;
 - o How the traditional role and subordination to men imposes extra burden on women and how men can act to minimise that burden;
 - o How social and economic constraints deny marginalized and poor households access to risk mitigation measures and how this could be resolved;
 - o How children, the elderly, people with disabilities and women are at risk of death or injury during cyclones or flooding and what people could do to prevent that.
- Threat to life during cyclones or floods, for example:
 - o How people staying in open water or in poorly constructed houses can be killed by strong currents during cyclones or floods and how strong

communication can be a tool to minimize risk and damage;

- o Why people should take shelter in safe places and avoid being hit and hurt during cyclones and floods;
- o How large trees being too near to the living quarters may cause death or injury by falling on houses during a cyclone;
- o How affected communities could take preventive measures to minimize their risk of waterborne diseases, snakebites, drowning and lightening damage, etc. during floods and cyclones.

2.2.2. Protecting Assets

Cyclones and flooding can damage infrastructure, destroy productive and household assets and cause loss of livestock and crops. In this regard, communities need information to know about:

- Protecting houses during cyclones or floods, for example:
 - o How people could take preventative measures to prevent their houses from being inundated during a flood;
 - o How people could make their houses strong and prevent them from being blown away during a cyclone;
- Protecting crops and livestock, for example:
 - o How and what communities at risk could do to reduce loss of standing crops during a cyclone or flood;
 - o How affected communities could organize emergency animal feed for their cattle during a cyclone or flood,
 - o How people could minimize loss of domestic animals and birds during a cyclone or flood;

- Protecting the water supply and sanitation facilities, for example:
 - o How communities at risk could take pre-disaster measures to prevent tube-wells from being inundated during a cyclone or flood;
 - o How people could prevent tube-wells from being contaminated by saline water during a cyclone or flood and, if contaminated, what actions affected communities could take for safe water consumption;
 - o How people could have functional, hygienic latrines during a cyclone or flood.

2.2.3. Managing the Environment

Disasters such as cyclones and floods can damage or cause the environment to deteriorate. As a result, communities may not be able to use their land or ponds for fishing and farming. To overcome such calamities, it would be beneficial for the communities to have information about:

- Adaptation methods to manage deteriorated environment, for example:
 - o How people could use sandy land to grow alternative crops;
 - o How communities could find and use saline or flood tolerant varieties to better use highly saline lands for crop cultivation;
 - o How people could recover debris from their ponds for fish farming.

2.2.4. Sustaining Income

Floods as well as cyclones destroy standing crops, seriously reducing the incomes of the local farmers. Farm laborers experience income loss due to a serious reduction in employment opportunity. Also, cyclones

stop fishers from going fishing in the open water, therefore, not receiving their regular incomes. Fishers in flood affected areas also suffer, because, although they can catch more fish they have fewer customers to whom they can sell their catch. Loss of productive assets such as ploughs, power tillers, boats and fishing gear prevents affected households from participating in economic activities immediately after a disaster. In addition, local factories may be damaged or flooded and become unable to open for employment. Therefore, it is crucial that people in disaster prone communities are well informed about how their incomes are susceptible to cyclones or floods and what they can do to sustain their incomes during and after a disaster.

In this regard, people in cyclone or flood prone areas need information about:

- Diversification of income opportunities, for example:
 - o How communities could vary their regular crops along with growing saline or flood tolerant crops;
 - o How people could rear domestic animals and birds seasonally to avoid any income loss;
 - o How local farmers could switch to high value crop production gaining financial solvency during a cyclone or flood;
 - o How local people could identify and develop skills for alternative employment.

2.2.5. Accessing Services

Disaster disrupts services and disaster affected people suffer due to a reduction in their access to water, sanitation, medical care, education and protection services. Affected people try to find

alternatives, and government and non-governmental humanitarian agencies make temporary arrangements to help affected communities until these systems are fully restored. Communities in Taltali and Charbhadrasan suggested that it would be immensely useful if they could access information about the availability of these services, including beneficiary selection criteria and entitlement, and the location and time of any service delivery.

Specifically, the affected communities need to know about:

- Entitlement to humanitarian assistance, for example:
 - o How affected communities can access humanitarian assistance;
 - o What the disaster affected household should get in terms of food and the quantity and quality of food items;
 - o What the disaster affected household should get in terms of non-food items and the quantity and quality of these items;
 - o What the disaster affected household should get in terms of shelter support and the quantity and quality of shelter support.
- Ensuring access to water, sanitation and hygiene, for example:
 - o How people could purify water and have access to safe water during cyclones and floods;
 - o How people could use a hygienic latrine during cyclones and floods;
 - o How people could maintain hygiene practice during cyclones and floods;
- Receiving medical and nutritional care, for example:
 - o How people could access medical treatment for illnesses during cyclones and floods;
 - o How people could get preventative medical care during cyclones and floods;
 - o How people could get assistance to maintain nutrition during cyclones and floods;
- Continuing children's educational activities, for example:
 - o How the affected communities could arrange learning sessions for children during a disaster;
 - o How the affected communities could restore educational services during a disaster;
- Ensuring children's and women's protection:
 - o How the disaster affected community could protect their children against neglect, abuse, violence or exploitation during a cyclone or flood;
 - o How the disaster affected community could minimize women's exposure to abuse, violence, exploitation and sexual harassment during a cyclone or flood;
- Provide feedback on humanitarian assistance, for example:
 - o How the disaster affected community could communicate with aid and service providers about the quality, quantity or delivery process of humanitarian assistance;
 - o How the disaster affected community could feedback on relevance, efficacy, timeliness or quality of humanitarian goods and services received during a cyclone or flood.

3. Humanitarian Communication in Bangladesh

“Humanitarian communication is technical capacity building, information collection and dissemination, preparedness activities, and/or data analysis for the purposes of saving lives, alleviating suffering, and protecting the dignity of crisis-affected populations when performed in accordance with international standards of humanity, impartiality, neutrality, and independence.”¹ Many humanitarian agencies have recognized CwC as an approach to pursue humanitarian communication.

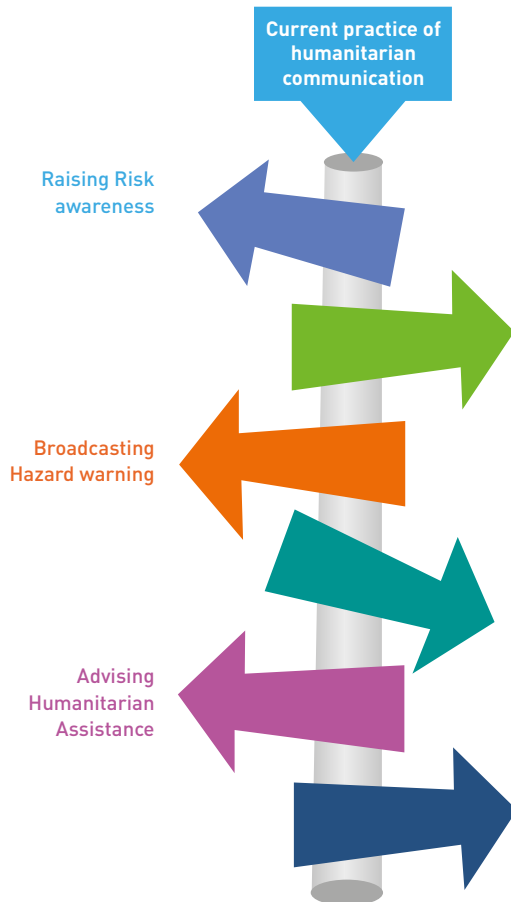
CwC centers on information exchange, applying two-way communication in generating and disseminating information. Generally, in Bangladesh, humanitarian responders collect information using a two-way process for needs assessment. During a needs assessment they consult affected people to understand their needs. To raise communities’ risk awareness, humanitarian agencies also use face-to-face communication to some extent, for example, courtyard meetings. The primary concern of the agencies during the delivery of hazard warnings is to reach as many as people as quickly as possible, and it is still commonly considered a challenge in humanitarian communication.

3.1. Current Practices

Humanitarian agencies operating in the country have been involved in raising communities’ awareness on disaster risks. Governmental agencies’ focus in this regard were sector based, whereas, non-governmental organizations (NGOs) focus was on planning, developing and disseminating the messages individually. Recently, however, the Department of Disaster Management (DDM) has streamlined all these awareness raising messages into hazard specific, common messages. Textbooks for primary, junior and secondary high schools include topics on disaster risk reduction. A very large element of disaster management information in Bangladesh includes information about hazard warning. Following the devastating cyclone in 1991,

¹ What is ‘humanitarian communication’? Towards standard definitions and protections for the humanitarian use of ICTs; Published: October 9, 2015 | By al Achkar, Z., Card, B. and Raymond, N. | EISF publication; <https://www.eisf.eu/library/what-is-humanitarian-communication/>

the country has prioritized developing weather forecasting and cyclone warning communication to reduce loss of life during natural hazards. The humanitarian agencies involved in response also generate and communicate information about their support services.



However, efforts of the individual agencies were not adequately coordinated in terms of use of language, people's knowledge base, local beliefs and culture, and efficacy of the messages. The Department of Disaster Management has begun streamlining all these messages into

- Hazard specific information on minimizing loss, preparedness and response and recovery, compiled by DDM and disseminated by field staff of DH&FP, DAE and NGOs operating in the localities;
- Textbooks for primary and junior and secondary high schools include topics on disaster risk reduction, and children learn that through their educational activities.
- Cyclone warning generated by Bangladesh Meteorological Department and disseminated through television, radio, mobile phone SMS and local public announcement system;
- Flood forecasting and warning, generated by FFWC under Bangladesh Water Development Board and disseminated through website, email, telephone, fax and mobile phone.

Information on intervention, beneficiary selection, composition of support packages and procedures for complaints and response mechanisms disseminated through the respective agencies' field staff.

3.1.1. Raising Risk Awareness

Humanitarian agencies working in disaster prone communities have been generating and disseminating various messages to help them improve their disaster risk awareness. Nearly all governmental and non-governmental agencies involved in disaster risk reduction have included this element in their respective interventions.

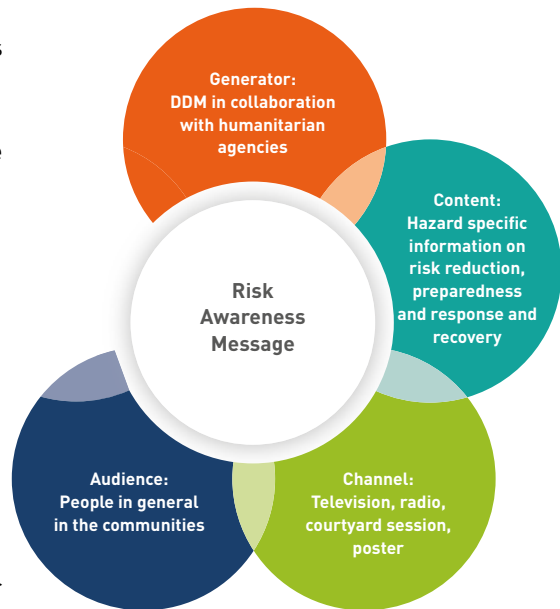
hazard specific common messages. With coordination and support from BBC Media Action, Unicef and Shongjog, the Department of Disaster Management began to review the existing messages followed by extensive field tests.

The common messages compiled by the DDM cover six different types of hazard: i) cyclone, ii) earthquake, iii) flood, iv)

landslide, v) riverbank erosion and vi) tornado. For each type of hazard, messages are clustered under a) minimizing damage, b) preparedness and c) response and recovery. **There are 137 messages (cyclone related 24, earthquake related 24, flood related 38, landslide related 20, riverbank erosion related 16 and tornado related 15) including similar messages listed under more than one type of hazard.** The messages are formulated so that each message describes an action and then the corresponding benefits to disaster exposed people.

- Actions under minimizing damage seek to protect houses, homesteads, productive assets, valuable items, water sources, crops and agriculture and timely repair and maintenance of the People in general in the communities Television, radio, courtyard session, poster embankment.
- Preparedness actions focus on paying attention to warning messages, timely evacuation of pregnant mothers, women, children, the elderly and people with disabilities, protecting domestic animals and sealing tube-wells.
- Response and recovery actions are to ensure the safety and security of children, adolescent girls, women and people with disabilities in the shelter, treatment of injured people, vaccination of children, care of pregnant mothers and infants and cleanliness to prevent the outbreak of waterborne diseases.

These messages are disseminated mainly by the field staff of NGOs, Department of Health and Family Planning (DH&FP) and Department of Agricultural Extension (DAE). DAE field staff messaging is concentrated on crops, agriculture



and domestic animals. They mainly hold community meetings or attend farm schools with male and female farmers, and they use interactive discussion to communicate these messages. DH&FP field staff concentrate on health, hygiene and sanitation related messages. They target women and deliver their messages through routine courtyard sessions which are significantly interactive. They also conduct routine learning sessions in schools to share the messages among the children. NGO staff share all of these messages through courtyard sessions as well as sometimes organizing intensive training or learning sessions (e.g. Cash for Training). Usually, their audience is mainly women

National radio and television broadcasting systems also communicate disaster management information. In particular, during a flood or cyclone, various radio and television channels broadcast messages relating to risk mitigation and disaster

preparedness information such as ways to purify water, the importance of using sanitary latrines, washing hands to prevent diarrheal diseases and ensuring children's vaccination. More recently, young people have started to use social media, e.g. Facebook, to share disaster management information. For example, one of the girls participating in IGD in Taltali, informed us that she had received warnings about the cyclonic storm Mora through Facebook. Accordingly, she persuaded other members of her family to go to a shelter.

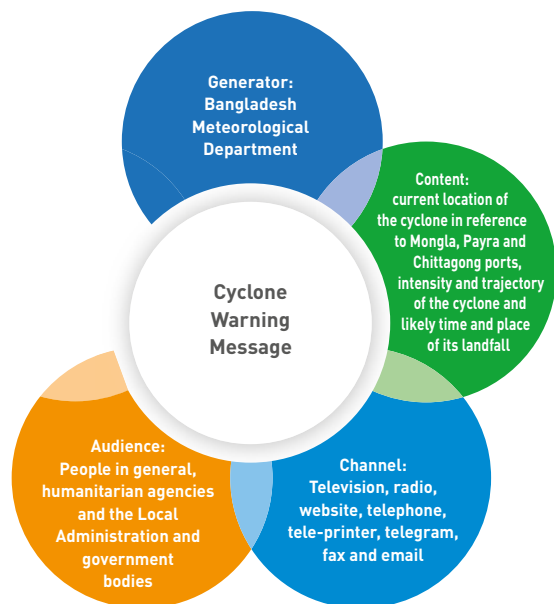
Children who participated in IGD suggested that they have learned about disaster and disaster risk reduction through school. A review of school textbooks indicated that the National Curriculum and Textbook Board (NCTB) has incorporated disaster risk reduction in the text books. The topics included are under Social Science, English literature and Agriculture Studies, in all three levels of school; primary school, junior high school and secondary high school. DRR topics for primary school include environmental pollution and protection, climate change and adaptation, disaster and disaster management, focusing on flood, cyclone and fire. Topics for secondary high school include natural disasters in Bangladesh.

3.1.2. Broadcasting Hazard Warnings

Bangladesh has developed a sound system to generate early warnings and forecasts. Most prominent is the cyclone warning. It is generated by Bangladesh Meteorological Department (BMD). Flood Forecasting and Warning Centre (FFWC) under Bangladesh Water Development Board (BWDB) regularly informs the other actors about changes in the water levels in the different rivers around the country.

There is ongoing research to develop early warning systems for other types of disaster such as flash flooding, tsunamis and riverbank erosion, but as this is still in progress, as well as being beyond the scope of this study, the details are not included in this report. **It should be noted that dissemination of these message is largely a one-way process. Very little of it involves face-to-face communication.**

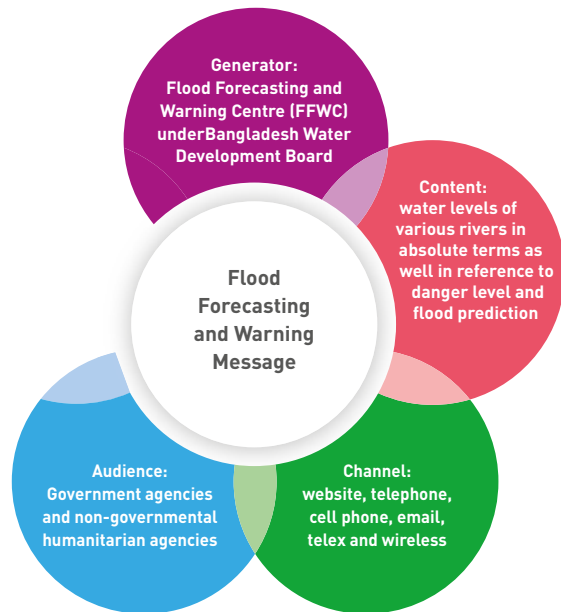
Cyclone warning - Bangladesh Meteorological Department has an elaborate network of observatories (measuring surface and atmospheric air pressure), radar and satellite stations, and meteorological telecommunication systems. It monitors the formation of depressions and cyclones in the sea and tracks their progress. Based on the findings, it broadcasts local cautionary, 'danger' and 'great danger' signals, using national television and radio as well as its website to disseminate this information. It also communicates directly with other relevant actors as listed in the



Standing Orders on Disaster (SoD) through telephone, tele-printer, telegram, fax and email. Information disseminated by Bangladesh Meteorological Department mainly denotes the current location of the cyclone in reference to Mongla, Payra and Chittagong ports, the intensity and trajectory of the cyclone and the likely time and place of its landfall.

Following a 'danger' signal or 'great danger' signal being issued by the Bangladesh Meteorological Department, the district and upazila authorities mobilize all resources under their disposal, including the police, ansar and Cyclone Preparedness Programme (CPP) volunteers, and send them to every area in the communities to advise people through megaphones to move to safe shelters. NGOs' field staff also participate in this. It is supported by mobile phone SMS as well as by the mosque's public announcement system. In addition, flags are hoisted which denote cyclone warning in the localities. The purpose of these messages is to inform the public about an impending cyclone and to urge evacuation to save lives. Therefore, along with information dissemination, the local administration embark upon evacuating people to safe places.

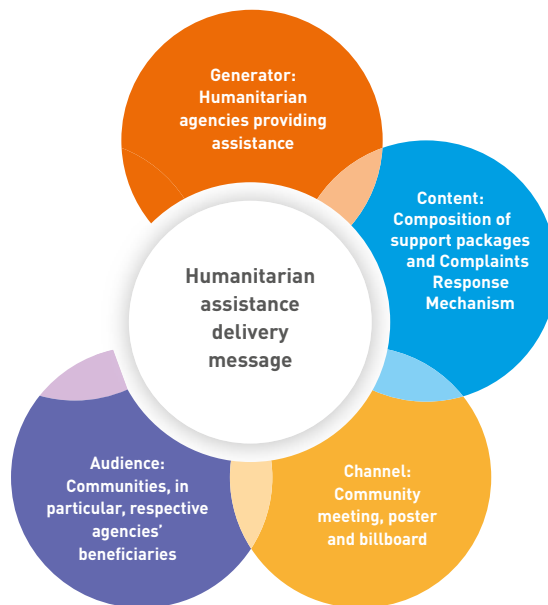
Flood Forecasting and Warning (FFWC) generates and provides flood forecasts and warning information based on scientific principles, real time data, weather forecast information and mathematical models. The purpose of this is to enhance the disaster management capacity of national agencies and communities. FFWC, amongst other matters, monitors the water flow of the rivers in Bangladesh. During a monsoon it specifically monitors the rise and fall of the water levels of various rivers from ninety- five stations every day. Based on



its findings, FFWC shares the facts about the water level as well as referencing the danger level and flood prediction. According to the FFWC the "danger level at a river location is the level above which it is likely that the water may cause damage to nearby crops and homesteads. In a river which has no embankment, the danger level is at about the annual average flood level. In an embanked river, the danger level is fixed slightly below the level of the embankment." To predict water level conditions, FFWC "collects measurements of water level and rainfall and satellite pictures and simulates the water level conditions by use of a numerical model of the Bangladeshi river network. Every day during most of the monsoon season this model simulates the water level conditions during the previous seven days (hind-cast simulations) and during the coming three days (forecast simulation)." Bangladesh FFWC communicates this information to all stakeholders through telephone, cell phone, email, telex and wireless.

3.1.3. Advising on Humanitarian Assistance

Humanitarian agencies involved in response often generate and share information about their support services. GoB support service is generally an expansion of a safety net program as well as distribution of free relief items and cash. Humanitarian program implementation committees at union and ward levels share details of the intervention including the allocation of relief items and beneficiary list in the communities through community meetings and notice boards at prominent places as well as billboard displays. Non- governmental organizations include information about the purpose and location of their intervention, beneficiary selection criteria and procedures, the framework of their support service, and mode of assistance delivery as well as information about complaint and response procedures. Field staff of the respective



agencies disseminate this information in their operation areas through community meetings. Sometimes, they use billboards, posters or leaflets to inform the community about their support packages or their complaint and response procedures.

3.2. Good Practices

A good practice is an action that has been proven to work well and has produced the desired result. It is a successful experience that has been tested and validated and therefore, can be recommended as a model. As FAO noted, the key elements of good practice include: i) effectiveness – the most effective way in achieving a specific objective, ii) sustainability – meeting the current needs of the community without compromising the ability to address future needs, iii) feasibility – technically sound and can be implemented and iv) adaptability – is applicable to achieve similar objectives in varying situations. For capturing good practices in humanitarian communication the study looked at key actions under communication – i.e. message generation, dissemination, application channels and audience targeting, and determined whether and to what extent any of these actions qualify for effectiveness, sustainability, feasibility and adaptability. The study has identified some good practices concerning disaster management messages and communication.

3.2.1. Communicating Disaster Risk

Findings from this study suggest that dissemination of cautionary measures through the local mosque's loud speaker is most trusted by the communities.

It is quite common in the rural areas to make public service announcements

through the loud speaker of the local mosque. These announcements are easily accessible and people generally trust them.

During the flood in 2016, Union Parishad members of Gazirtek union were visiting various parts of their localities. They noted that some of the tube-wells, particularly, in the low-lying areas were flooded and had become contaminated. So, to prevent outbreak of diarrheal diseases they advised people to stop using water from these

contaminated tube-wells. They shared this advice using the loud speakers of the local mosques. People in the communities trusted it, and they stopped using the water, and made efforts to collect water from safe tube-wells instead.

Broadcasting hazard risk information through national television channels gets greater coverage.

Evidence

Mr. Sheikh Shafique (50 years) lives in Madhu Farirer Danggi village of Gazirtek union under Charbhadrasan upazila. He is a transport worker. Flood in 2016 had severely affected his village. Many houses in the low-lying areas, as well as, tube-wells nearby his houses were inundated. Announcement through the mosque's loud speaker caught his attention and he became aware that flood water had contaminated the tube-well near his house and water from this tube-well was no longer fit for human consumption. Responding to this announcement, he stopped using water from this tube-well and took the trouble to get bottle water supplied by AAK and BRAC as well collect water from safe tube-well located at some distance from his house.

Source: Mr. Sheikh Shafique, age- 50, occupation - transport worker, village- Char Hajiganj, union - Gazirtek, upazila- Charbhadrasan, district- Faridpur

Bangladesh Television broadcast various public service announcements to help people be aware of disaster risks. The Department of Disaster Management in particular broadcasts documentaries and awareness raising messages through television. The purpose of these broadcasts is to raise awareness about disaster risks and enable people to take cautionary measures during floods, cyclones or other hazards. Generally, people rely on these messages and try to apply them when the situation permits.

During the monsoon in 2016, some awareness raising announcements were broadcast through Bangladesh Television. Specifically, some of the messages

concentrated on advising how to purify water using water purifying tablets. Many people from flood affected Charbhadrasan could listen to these announcements while they were in the tea stalls in the local market place. They were able to learn the process and apply it to have safe water for drinking.

Field workers from humanitarian agencies working in the communities discuss disaster risk and risk mitigation measures with the local women through courtyard sessions. For example, field facilitators from Nazrul Smirity Sangsad (NSS) with support from ACF regularly conducted courtyard sessions. The sessions are engaging and participatory. They help

Evidence

Mr. Sheikh Sarwar Hossain (40 years, Physically Challenged), lives in Beparidanggi village of Gazirtek union under Charbhadrasan upazila. He has a tea stall and has television in his stall. One day, he watched an awareness program on BTV about how to purify water using water purification tablets. He learned the process through a video documentary. When the flood in 2016 inundated tube-wells in Beparidanggi village, he started to purify water using water purification tablets. He believed, it helped him avoid diarrheal disease during the flood period.

Source: Mr. Sarwar Hossain, age- 40, occupation- shopkeeper, village- Char Hajiganj, union- Gazirtek, upazila- Charbhadrasan, district- Faridpur

the local women to identify and explore various preparedness measures. One topic they discussed was how they could store food items by keeping them underground. They learned the process and some of the participants realized that if they could store food safely during a cyclone, they could also store potable water in the same manner.

When the warning for cyclone Mahasen was broadcast, one of the participants of the courtyard sessions collected about 20 liters of potable water in a large jerry can. She dug a hole in the ground and buried the

jerry can there. When the cyclone moved on, she came back and dug out the jerry can and had her supply of potable water.

Generated information on sack cultivation to help people grow vegetables in saline prone areas.

Humanitarian agencies working in the communities communicate various messages to help disaster prone communities improve their disaster coping capacities. One message is about growing vegetables in sacks, because in some

Evidence

Mrs. Doli Begum (38 years) lives in Bagir Hat village of Chhota Bagi union under Taltali upazila. She is a housewife. She attended NSS courtyard meeting. There she had learned how to store food to keep it safe during cyclone. She thought if food could be stored under water, potable water also could be kept safely during cyclone in the same manner. Therefore, when she heard warning for cyclone Mohasen, she filled in a 20 liter jerry can with potablewater; then, dug a hole on the ground and buried the jerry can there. When the cyclone passed away, she returned from cyclone shelter and dug out the jerry can full potable water from the ground.

Source: Mrs. Doli Begum, age- 38 years, village- Bagir Hat, occupation- housewife, village- Chhota Bagi, union- Chhota Bagi, upazila- Taltali, district: Barguna

parts of the coastal regions, during the dry season soil salinity remains very high and people cannot grow any vegetables in the fields.

3.2.2. Communicating Imminent Threats

Contextualize flood warnings to make information meaningful for the community to act. Union Parishad of Gazirtek union

Evidence

Mrs. Salina (40 years) lives in Bagir Hat village of Chhota Bagi union under Taltali upazila. She is a housewife. She attended a NSS courtyard farmers meeting. There she had learned how to grow vegetables in sacks. Then, she started to practice and after two or three months she became able to grow vegetables in sacks. Now she does not have to worry about soil salinity in her backyard garden.

Source: Mrs. Selina, age- 40 years, village- Bagir Hat, occupation- housewife, village- Chhota Bagi, union- Chhota Bagi, upazila- Taltali, district: Barguna

under Charbhadrasan upazila regularly monitors the flood forecasting bulletins issued by the FFWC during the monsoon. When they see the warnings about the rise of the water level in the local rivers, the Union Parishad Chairman instructs the members to share this information in the communities. Accordingly, they contextualize the warning and broadcast it through the local mosque's public announcement system.

Responding to announcements, villagers quickly finish cooking, eating and household chores and move their household items to safe places. In particular, several families in the village rent large boats and get on board with their family members and moveable assets such as furniture, beds, kitchen utensils, equipment and valuable documents.

Disseminate flood warning in advance to allow people time to act.

In particular, during the monsoon, Gazirtek Union Parishad under Charbhadrasan upazila regularly collects flood forecasting bulletins issued by the FFWC. When they get warnings about the rise of the water level in the local rivers, the Union Parishad Chairman, through the members, disseminate this information in the communities.

During the last week of July, 2016, the water level in the local river began to rise, and in the morning on the last day of the month, Union Parishad received a forecast that the river was running above the danger level. Immediately, the Union Parishad members started to communicate the flood warning to the people through

Evidence

Mr. Ranjit Mondal (55 years) lives in Char Hajiganj village of Gazirtek union under Charbhadrasan upazila. He is a fisherman. At around midday on the day the village was flooded in 2016, he heard the announcement about water rise in the local river. He immediately went to the river ghat and arranged for a rented boat. Then, he loaded the boat with all movable household items, including furniture, beds, kitchen utensil, equipment and valuable documents. When flood water began to enter in the village, he along with the family members boarded the boat. He lived in the boat for about six weeks; and when flood water receded fully he returned to his house.

Source: Mr. Ranjit Mondal, age- 55, occupation: fisherman, village- Char Hajiganj, union- Gazirtek, upazila- Charbhadrasan, district: Faridpur.

loud speakers. The flood warning informed the people that river water may overflow the banks and enter the village, therefore, people should move to safer places as quickly as possible.

River water overflowed the banks and entered the village that evening, but the announcement at mid- day enabled villagers to act quickly, completing household tasks and safely storing their possessions and to move to higher ground before the flood could hit the village. The advance warning even allowed some families enough time to find boats to hire

Community radio has become popular in the coastal areas. Community radio Bangladesh Meteorological Department monitors a cyclone's trajectory and broadcasts special weather bulletins. CPP offices forward this information to upazila and zonal levels through HF wireless. They are then forwarded to union levels through VHF wireless. Based on this information, CPP unit team leaders broadcast cyclone warnings in the communities through the public announcement system and hoisting flags at prominent places declaring the danger signal. The flags are very useful, because people in the locality can see

Evidence

Mr. Fardin (12 years) lives in Char Hajiganj village of Gazirtek union under Charbhadrasan upazila. He is a student of class six. He heard the announcement about water rise in the local river. He immediately informed his mother and father about the possibilities of flooding. Responding to the information, his mother quickly completed cooking and household chore and feed her children. Fardin's father in the meantime arrange to shift all moveable household assets to safer place. Thus, well before the evening when flood hit the village, they were able to establish a makeshift arrangement for dwelling on roadside move there to during the flood.

Source: Mr. Fardin, age- 12, occupation: student, village- Char Hajiganj, union- Gazirtek, upazila- Charbhadrasan, district: Faridpur.

for the purpose of staying in them during the disaster.

made landfall, CPP volunteers of Chhota Bagi hoisted two flags on the embankment at Thakurpara village. The flags were displayed in a prominent place so most of the people in the village could see them. Accordingly, people started to take the vulnerable including pregnant women, women, children, the elderly and people with disabilities to the nearest shelters.

Broadcast cyclone warnings through community radio to reach people who are travelling or in open water.

them and take precautionary measures in response. On the day before cyclone Mahasen programs usually broadcast weather bulletins issued by Bangladesh Meteorological Department.

On the 29th May 2017, when the warning for cyclonic storm Mora was issued, seven community radio stations in coastal regions continuously aired a total of 176 hours of radio programs to inform people about the progress of cyclonic storm Mora. The programs aired weather bulletins at fifteen minute intervals. People who were out of their homes or fishing in the open water

Evidence

Mr. Umong Talukder (45 years) lives in Thakurpara village of ChhotaBagi union under Taltali upazila. He is a small trader and deals with domestic animals. On the day before cyclone Mahasen made landfall, the weather in Taltali was peaceful, but he was frequently checking the number of flags CPP volunteers had hoisted on the embankment. At around midday, he noticed that two flags were hoisted. He immediately informed his neighbors and family members about it. Then he organized to send his wife, 13 year old daughter, elderly parents as well as women, children and elderly people from his neighborhood to the cyclone shelter. It is to be noted that there was no cyclone shelter in his village. The nearest cyclone shelter was in Taltali, built by CARITAS which was about 3 k.m. from Thakurpara village. However, because, they could see the flags well in advance, it allowed enough time for them to reach the shelter in time.

Source: Mr. Umong Talukder, age- 45 years, village- Thakurpara, union- Chhota Bagi, upazila- Taltali, district: Barguna

heard the bulletins and came back to their homes.

Share information using social media to reach young people

Young people are well-informed with current world situations through using social networking sites. For example, many people, young people in particular, use Facebook to communicate with their friends and share ideas and information. Facebook users, amongst other things, share cyclone warnings issued by Bangladesh Meteorological Department. When cyclonic storm Mora was formed at the end of May 2017, Bangladesh Meteorological Department started to monitor its progress and issue special weather bulletins, and many Facebook users shared these warning messages through their walls.

It is generally believed that younger people usually take hazard warnings announced through the local public announcement service lightly, but when it appears in their Facebook timeline, they take it seriously.

Evidence

Mr. Arifur Rahman (23 years) lives in Moupara village of Chhota Bagi union under Taltali upazila. He is a young fisherman. On the day before the cyclone MORA made landfall, he was out of his home. Although the weather was peaceful he was listening to radio program through his mobile phone. At around mid-day, he noted that weather bulletin announced danger signal number 6. He immediately returned to his home and informed his neighbors, friends and family members about it. Then he arranged to take his pregnant wife, old aged parents as well as some other women, children and old aged persons to a safe place near the embankment.

Source: Mr. Arifur Rahman, age- 23 years, occupation- fisherman, village- Moupara, union- Chhota Bagi, upazila- Taltali, district: Barguna

When young people in Taltali saw the cyclonic storm Mora warning on their timelines, they responded appropriately. They informed their family members and took action.

Evidence

Ms. Tanjila Akter Munira (14 years), lives in Bagir Hat village of Chhota Bagi union under Taltali upazila. She is a student of class nine. One day, she saw a post about cyclone Mora on Facebook and informed her mother about the warning. Responding to the information, her mother informed other family members about the warning.

*Source: Tanjila Akter Munira, age- 14,
occupation- student, village- Bagir Hat, union- Chhota Bagi, upazila- Taltali, district- Barguna*

4. Challenges in Communication with Disaster Affected Communities

The country has an elaborate system for broadcasting cyclone warnings. It uses a variety of channels to reach communities living in cyclone prone areas. To help people better understand disaster risks and improve their coping capacities, humanitarian actors disseminate a range of disaster management related messages in the communities. They often only concentrate on certain types of messages while missing out other information that communities need to know. Sometimes, the messages are ambiguous and people find them difficult to comprehend. Also, there can be mismatches between the message channel and the target audience and the information does not reach the intended people. In many cases, due to a lack of resources and other constraints, communities are not able to apply what they have learned from these messages.

4.1. Necessary Information

Although people in coastal regions receive reliable warning messages for cyclones in good time, their counterparts in the river basin never get any reasonable forecast of floods. Similarly, people are informed how to have flood proof homesteads (e.g. raising their dwelling area) or how to protect their houses against windstorm (e.g. tie roof frames and reinforce pillars) or reduce damage to homes from earthquakes (e.g. retrofitting), but they do not get any information about how to make their houses cyclone proof. Also, people get messages about the need for regular repair and maintenance of embankments but they do not get any information about how to make embankments safe against flooding and tidal surges.

4.1.1. Range of Messages Needed

Communities in disaster prone areas need a wide range of humanitarian information but the range of messages they have access to is limited. This study recommends information and communication on the following elements which are currently missing from the system:

- Information on design and structure of houses which communities follow to make their community infrastructures cyclone proof,
- Locality specific crop cycle to minimize crop loss by cyclones or floods,
- Entitlement of the affected household

to humanitarian assistance, in terms of shelter, food, water, sanitation medical care, children's education and protection,

- Information on how communities can organise emergency cattle feed during a flood or cyclone,
- Seasonal rearing of domestic animals and birds to reduce disaster loss,
- Feasibility for changing to grow high value crops to become financially disaster resilient,
- Skill development for income diversification or alternative employment.

4.1.2. Meaningful Messages

Information provided to communities should be presented in an easy to understand language and format. For example, 'great danger' signal numbers (8, 9 and 10) for cyclone warnings refer to the cyclone's trajectory in relation to the port, however, people in the communities interpret the signal numbers in terms of the degree of the cyclone's intensity or magnitude (i.e. 8 lower intensity, 10 higher intensity). During the recent incident of cyclonic storm Mora, the Payra port was advised to hoist 'great danger' signal 8 on the 29th May 2017. It confused people in Taltali upazila because the weather in Barguna on the day was sunny and peaceful, moreover, people remembered that, they had 'danger' signal 7 during Mahasen which caused significant damage and destruction. Obviously, this confusion in cyclone warning signal dissemination could be resolved because humanitarian agencies have the capacity to use CwC and

consult people to explore ambiguity in the messages and to intervene to update the humanitarian messages.

Also, currently, disaster related messages communicated through cell phones are in Bengali vernacular but written with English Alphabets. As a result, many people find them difficult to comprehend (BCAS, 2016). However, technology is already available to write cell phone messages using Bengali alphabets.

4.2. Suitable Channels

Television channels and radio broadcasting systems are extensively used to communicate cyclone warnings. The mobile phone network is also used for this purpose. Men have easy access to television; they can watch the news and announcements while they are in market places or tea stalls. Women, generally, have less access to television as well as to mobile phones. In contrast, the men's participation in courtyard sessions is less. As a result, compared to women, the men's awareness about disaster risks and risk mitigation measures is poor. Therefore, an information and communication needs assessment is vital to identify the best channel to communicate with different members in the community.

4.2.1. Cover Diverse Audience Groups

Only a very few rural households have a television set, and due to problems with power supply they cannot use it as and when needed. In addition, IGDs with women in Taltali suggested that, when their situation permits, women usually only watch some popular serials on certain channels. Therefore, for rural women, it

is difficult to get timely disaster related information through television. As a result, the males of the group receive any information first while the female and the elderly, and physically challenged people receive the information much later (BCAS, 2016).

4.2.2. Courtyard Sessions with Men

NGOs disseminate hazard specific messages to raise communities' risk awareness through courtyard sessions. These mainly target women. As a result, these messages reach very few men in the community. Findings from IGDs with men and women in Taltali and Charbhadrasan suggest that, generally, women are more well-informed about disaster risks and preparedness compared to their male counterparts in the community.

4.3. Practical Advice

Many households in both Taltali and Charbhadrasan have lost their land due to riverbank erosion, so do not own any land. Therefore, they are forced to live in the low-lying areas on rented land. They cannot move to better places because of their financial constraints. They are aware that by raising their rented homestead they could minimize damage caused by flooding during every monsoon, but they cannot do that because of fears that they would be evicted if the property is developed in such manner.

4.3.1. Context Specific Advice

In Taltali people are aware that farmers in the neighboring districts get at least two crops from the same field each year but they remain satisfied with only a single crop. It is mainly because salinity in the soil during certain parts of the year remains very high, and they also suffer from scarcity of fresh water for irrigation during that time. To improve the situation and introduce a multi-crop agriculture cycle they need to invest heavily in channel excavation and embankment building, which is beyond the capacity of the local community. Thus, the study has noted that despite being aware of the risks, people living in the low-lying areas cannot move to higher ground or raise their homestead due to financial and social constraints.

4.3.2. Advice on Alternative Solutions

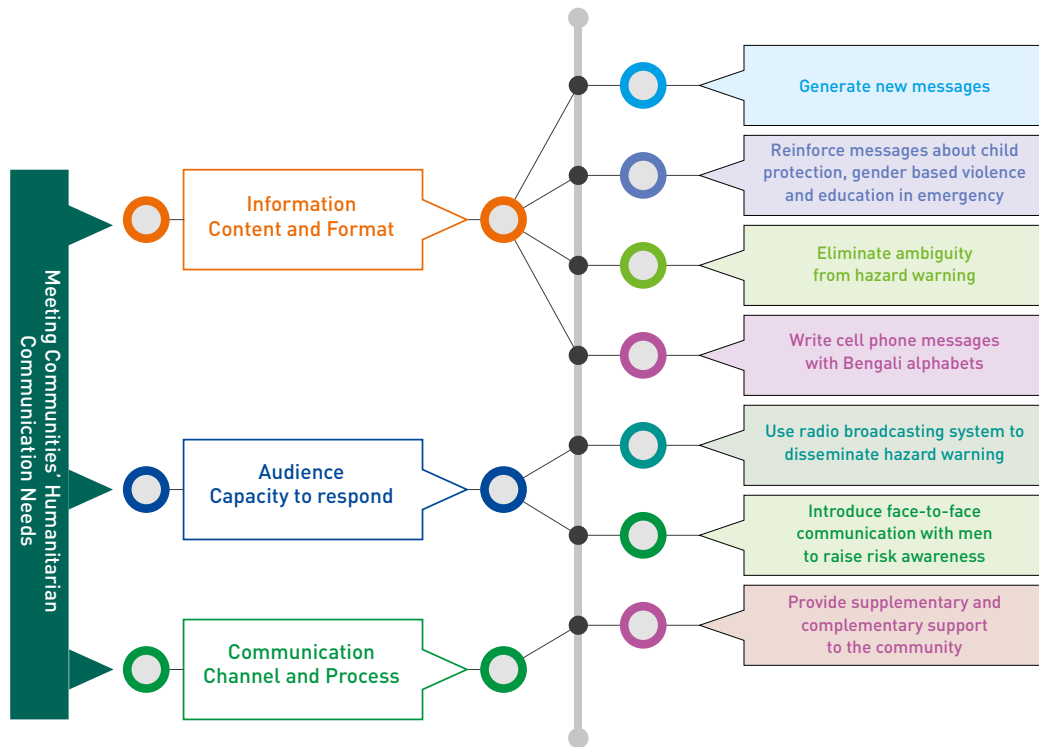
Many people do not go to the cyclone shelter because the shelters do not have enough capacity to accommodate everyone who needs to go there, they have concerns about dignity and some people feel that they should keep at least one member of their household at home guarding their household assets.

5. Meeting Communities' Humanitarian Communication Needs

In addition to material goods and services, disaster affected communities need humanitarian information. It helps save lives, protect assets, manage the environment, sustain their income and access services during disasters as well as give them away to communicate about entitlement and humanitarian assistance. Humanitarian responders in Bangladesh have recognized the need for humanitarian communication and the application of Communicating with Community. They are involved in generating and disseminating disaster risk reduction messages through various channels to help people mitigate risks and better prepare for disasters. Recently, they have harmonized the idiosyncratic messages into one common set of hazard specific risk awareness messages. The country has also developed effective systems for monitoring hazards such as cyclones and floods and sharing warnings and forecasts. NGOs routinely inform communities about humanitarian assistance and seek feedback on these support services.

Despite the improvements, however, humanitarian responders' efforts currently meet communities' humanitarian communication needs only partially. Disaster prone communities need a wider range of humanitarian information than that which the humanitarian agencies currently provide. Also, large parts of information generation and communication remain as one way delivery and people

face difficulties decoding the messages. In some cases people can not respond to the messages due to financial or other constraints. Therefore, to make humanitarian communication more effective and useful, the study recommends further improvement on: i) information content and format, ii) communication channels and processes, and iii) audience response capacity.



5.1. Information – Content and Format

As noted earlier, there are missing elements in humanitarian information and certain messages are ambiguous. There is also a need to emphasize certain messages (e.g. messages on child protection or women's dignity). Therefore, it is important to look at the content and format of all the messages to generate new messages, reinforce some messages and eliminate any ambiguity from certain other messages. It is also important to write all messages in Bangali using Bangla alphabets.

5.1.1. Generate New Messages

Updating current messages and generating new information is crucial. It requires research and investigation focusing on information that is still missing. There are

various agencies under the government system that have the mandate as well as the capacity to take up research and investigation. For example- the Housing and Building Research Institute (HBRI) can advise the coastal communities on housing with flexible design and structure which could cope better with cyclones. Bangladesh Agriculture Research Institute (BARI) and Department of Agriculture Extension (DAE) are already involved in identifying and promoting saline tolerant and flood resistant crops; they can focus on locality specific crops and help generate information relating to that. The Department of Livestock Services (DLS) and Department of Fisheries (DoF) should actively engage communities to identify and discuss ways to undertake seasonal farming that enables people to minimize disaster loss.

Bangladesh Water Development Board (BWDB) could work with communities to find ways to make the embankments more robust and flood resistant.

Therefore, to generate new messages that the communities need, specific recommendations for GoB and non-GoB actors working in the humanitarian context are as follows:

- Engage with and consult communities in developing the design and structure of houses:
 - o That could survive during cyclones and floods;
 - o That the community could dismantle and move, to save them from river bank erosion.
- BARI and DAE to find and promote locality specific:
 - o Cyclone, flood and salinity tolerant crop varieties;
 - o High value seasonal crop cultivation and marketing.
- BWDB to develop repairing techniques:
 - o To make embankments more robust and flood resistant.
- DLS and DoF to develop seasonal farming techniques that are agreed with the local community:
 - o To prevent loss of livestock during cyclones and floods;
 - o To prevent loss of fish crop during cyclones and floods.

5.1.2. Reinforce Messages

During disasters such as cyclones and floods, children become more exposed to neglect, abuse, violence and exploitation, and women's risk of gender based violence increases. The affected communities also

struggle to continue children's educational activities.

The Ministry of Women and Children Affairs (MoWCA) is concerned about children's and women's protection. Amongst other things, it generates and shares protection related messages through the departments under its jurisdiction and local NGOs. Similarly, the Ministry of Education (MoE) is concerned about educational loss due to advice given to educational institutions about minimizing their loss. Also, many NGOs share messages promoting the continuity of educational activities during a disaster. The communities in Taltali and Charbhadrashan, through IGDs, said that messages on child protection, gender based violence and education in emergencies need to be more purposeful and strong.

Therefore, specific recommendations for GoB and non-GoB actors working on humanitarian context include

- Consulting and engaging with communities to develop messages, eg. MoWCA to:
 - o Advise communities on preventing neglect, abuse and violence against children during disasters;
 - o Advise communities on promoting diversity and inclusion during disasters;
 - o Encourage communities to find solutions to address GBV and protection issues;
 - o Create links with local authorities so that communities have the information to seek necessary support;
 - o Inform communities of local level help and support and how they can access those services.

- Engage with MoE to update messages to:
 - o Advise communities on continuing children’s educational activities during a disaster with special attention on protection.

5.1.3. Eliminate Ambiguity

Cyclone warnings generally inform people about the cyclone’s trajectory in reference to the ports but people want to know specifically how their localities will be affected by the cyclone. Humanitarian agencies in Bangladesh have sound capacity to minimize this discrepancy. They could engage with the communities to systematically explore any ambiguity in disaster management messages. They can use the two-way process of CwC to support the community to speak out.

To eliminate ambiguity from hazard warnings, specific recommendations for GoB and non-GoB actors working in the humanitarian context are recommended to:

- Work closely with the Bangladesh Meteorological Department as well as engage with the communities to rephrase cyclone warnings to make them more meaningful for the communities;
- Consult with communities and work with FFWC to develop flood forecasts that the community can use.

5.1.4. Use Bengali Alphabet

Disaster management related messages are communicated through mobile phone networks. Sometimes these messages are written in Bengali but using English alphabets meaning it is difficult for people to understand the messages. To ensure

that all cell phone messages are written with the Bengali alphabet should not be a problem, because technology is already available and in most cases, messages are written in Bengali alphabets.

Therefore, the specific recommendation for GoB and non-GoB actors working in the humanitarian context is to

- Engage with cell phone service providers and Bangladesh Telecommunication Regulatory Commission (BTRC) to ensure all cell phone messages about hazard warnings are written in Bengali with Bengali alphabets.

5.2. Communication – Channel and Process

Multiple channels of communication are necessary to cover the diverse audience groups in the communities. Nevertheless, it is crucial to use appropriate channels for each social group. In particular, improving risk awareness in communities requires face to face communication with the targeted audience.

5.2.1. Use Radio Broadcasting System

Hazard warnings shared through radio broadcast reach people who are travelling or in the open water. Rural women, generally, do not have easy access to television, but they can listen to the radio while doing their household work. In some parts of the country humanitarian agencies are using radio to reach out to communities. For example, to build awareness of disaster preparedness among people in Kurigram and Barguna districts, Bangladesh Red Crescent has been using community radio stations as a means of communication since July 2015 (ICRC & IFRC 2016).

To reach women, people travelling or in the open water with hazard warnings, Shongjog could undertake a systematic intervention to introduce radio in the communities. In particular, Shongjog should:

- Engage with Bangladesh Betar to promote broadcasting hazard warnings through national radio broadcasting systems;
- Support community radio stations to broadcast hazard warnings;
- Campaign in the communities to encourage people to listen to radio broadcasts;
- Support marginalized communities to access radio sets.

5.2.2. Promote Inclusive Communication

Courtyard sessions are very useful to help raise awareness on disaster risks and risk mitigation activities. The study noted that humanitarian agencies have targeted women as the audience of their courtyard sessions and, compared to their male counterparts, women, generally, have a better understanding about disaster risks and mitigations. Clearly, men also should be targeted for disaster risk awareness message dissemination. NGOs could reach men using a modified version of the courtyard meeting. In the 1970s and 80s, evening learning sessions for adult literacy was common practice in rural Bangladesh. Many NGOs participated in this program and gained the capacity to conduct learning sessions with men. NGOs can use such experiences to disseminate disaster risk awareness messages for improving men's understanding about disaster risks. Therefore, it is suggested

that humanitarian agencies should conduct courtyard session type meetings with men in the communities to help them improve their understanding about disaster risk.

In this regard, Shongjog should:

- Promote inclusive communication through two-way communication channels addressing the needs of community members, irrespective of their gender, age, race, disability, economical and social status to raise awareness on disaster risks and risk mitigation activities.

5.3. Audience – Capacity to respond

Sometimes, people are unable to interpret the probability factor in hazard warnings correctly so when events do not occur as predicted, people begin to question the reliability of the warnings. Then, when the warning is announced later, they place less importance on it. Also, the community sometimes cannot use humanitarian information in practice due to financial and material constraints. To help the community in this regard, humanitarian agencies can use CwC to understand the whole spectrum of the needs of the affected community. They can also apply a cluster approach and plan and implement humanitarian intervention in a coordinated way to provide supplementary and complementary support.

5.3.1. Provide Supplementary and Complementary Support

Understanding a message is not enough for the communities to apply it in practice. People, additionally, may need access to financial or material resources to translate their knowledge into action. Therefore, humanitarian messages need

to be contextualized to enable people to identify opportunities to mobilize necessary resources. In this regard, Shongjog should:

- Promote courtyard type meetings with communities through humanitarian agencies to:
 - o Explain the probability factor in hazard warnings and help people interpret warnings effectively;
 - o Understand people's interpretation of hazard messages and rearticulate messages to make them useful.
- Support local humanitarian responders to contextualize humanitarian information to:
 - o Communicate locality specific supplementary messages, for

example, how people can find safe shelter during a cyclone;

- o Inform communities, prior to the cyclone season, how people can make their houses cyclone resilient.
- Advocate for humanitarian agencies to:
 - o Have an updated and flexible intervention plan so that they can provide supplementary and complementary support to the communities as and when necessary.
 - o Make arrangements to get feedback from communities so that they can improve the quality, quantity and delivery process of goods and services.

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