
TROPICAL STORM ROANU

HCTT PHASE I JOINT NEEDS ASSESSMENT IN CHITTAGONG, COX'S BAZAR, BHOLA, BARGUNA, LAKSHMIPUR AND PATUAKHALI DISTRICTS



1 PHOTO: OXFAM

Bangladesh May 2016

CONTENTS

Acronyms	3
Key findings - summary	4
Recommendations	5
Further Information Needs	6
1. Overview of the situation and the disaster	7
1.1 Map of the assessment area	9
1.2 Key findings	9
1.2 Maps	10
2. Aggravating Factors	12
2.1 Information gaps and limitations	14
2.1 Lessons learned from previous disasters	15
3. Assessment Methodology	15
4. Sectoral breakdown	17
4.1 Markets	17
4.2 WASH	17
4.2 Food Security, Livelihoods	19
4.3 Shelter	24
4.5 Education	27
4.6 Child Protection	28
5. Road and Embankment Damage	34
Annexes	36

ACRONYMS

DDM	Department for Disaster Management
DLS	Department of Livestock Services
DoF	Department of Fisheries
FSC	Food Security Cluster
GAM	Global Acute Malnutrition
GOB	Government of Bangladesh
GR	Gratuitous Relief
JNA	Joint Needs Assessment
JRP	Joint Response Plan
NAWG	Needs Assessment Working Group
PIO	Project Implementation Officer
SAM	Severe Acute Malnutrition
HH	Household
UNO	Upazila Nirbahi Officer

KEY FINDINGS - SUMMARY

The JNA Field Teams conducted assessments in the 37 most affected Upazilas on the coastal belt. The JNA Phase 1 methodology is based on a questionnaire which JNA team members use to interview local government officials at the Upazila level. This data is then collated with available secondary data to produce key findings and recommendations.

OVERALL

- The geographic scope of the storm was greater than in previous years (Aila, Mahasen and Komen) with 15 Districts affected¹. The JNA focused on the most affected seven districts.
- Cox's Bazar, Chittagong and Barguna have the highest number of affected people
- Banshkhali and Moheshkhali, Cox's Bazar, have the highest number of affected people (over 150,000 per upazila)
- Pekua, Kutubdia, Cox's Bazar also have over 50,000 people affected per upazila.
- The cyclone left 27² (15 men and 12 women) people dead and according to this JNA 1.3 million affected and over 200,000 displaced.
- Markets are functioning in most of the affected areas except in 3 upazilas.
- Where embankments have been breached there is the possibility for prolonged waterlogging
- The situation is not expected to deteriorate in the coming weeks

Overview of JNA Findings - 25 May 2016

District	Total assessed population	Affected population	Affected households	% of assessed population affected	Displaced	Number of affected Unions
Barguna	963,631	124,400	30,030	13	23,820	30
Bhola	1,900,702	94,600	19,857	5	3,800	36
Chittagong	2,154,135	335,755	67,307	16	33,900	54
Cox's Bazar	1,927,941	531,282	97,373	28	154,940	37
Lakshmipur	1,570,540	48,000	10,131	3	11	20
Noakhali	1,062,183	115,000	22,648	11	300	24
Patuakhali	1,206,087	47,973	10,920	4	-	43
	10,785,220	1,297,010	258,266	12	216,771	244

The overall priorities identified by government officials interviewed were:

Overall Priority by Sector	
Sectors	Priority
Shelter	1st Priority
Sanitation	2nd Priority
Livelihood	3rd Priority

¹ DDM Sitrep.

² MODMR

In previous JNA's for similar disaster events, food has always been in the top three priorities. Secondary data received has placed food in the top three priorities. The need for food assistance should be further analysed, particularly in relation to underlying vulnerabilities in the region.

SECTOR FINDINGS

- The 3 districts with the highest % of need in need of **immediate shelter** are Cox's Bazar, Noakhali and Bhola.
- Additional **shelter** support is requested in all assessed districts and approximately 40 % of the Upazilas.
- Almost all districts (except Potuakhali) raised **safety** concerns for women and men accessing **latrines**.
- Government officials reported that over 50% of women may have problems related to inadequate access to **hygiene materials**
- The impact on **water and sanitation** is reported to be the most severe in Cox's Bazar and Noakhali.
- Across the 7 districts, based on the assessment on immediate and longer term **impact on food**, is considered likely in 5 districts but not in all upazilas.
- The most impacted **livelihood groups** are daily laborers (agricultural and non-agricultural) and small & marginal farmers
- Priority sectors expressed by Upazila point towards the needs for **livelihood recovery**, which should in turn improve food access.
- The main districts impacted on **crops damage** are Chittagong, Cox's Bazaar and Barguna
- **Aquaculture** is the main livelihoods impacted in the overall area

RECOMMENDATIONS

OVERALL

- Multipurpose cash grant should be provided, especially for the most vulnerable and affected population as it provides choices for the affected household. Cash can be spent on food, shelter, livelihood, health, etc as well as restoring dignity.
- It is critical to consider "invisible groups" such as women and girls and minorities when designing the response plan.
- Further assessments are required to build on the findings of the Phase 1 assessment.

SHELTER

- Provide emergency shelter support and NFIs to vulnerable families with fully and partially damaged houses in line with shelter cluster package
- For longer term recovery it is recommended to support households to build back better in line with the Bangladesh National Building Code and shelter cluster guidelines and standards.

WASH

- Immediate action to respond to protection concerns related to access to WASH facilities
- Immediate action to repair and rehabilitate latrines and water points
- Hygiene promotion and material distribution is needed to ensure personal and environmental hygiene, with a specific focus on adolescent girls and women

FOOD SECURITY AND LIVELIHOODS

- Due to the impact on agriculture and livelihood, cash distribution among the most vulnerable (landless), marginal and small farming families should be provided

- Cash and food for work programmes are required to restore household food security during the lean period until the next cropping season.
- Livelihood support, based on further needs assessments is recommended

EDUCATION

- Assessment of schools in the affected area to identify needs for repairing and rehabilitation based both on damages as a direct result of the TS as well as from the use of schools as collective shelters for displaced people.
- Distribution of teaching and learning materials for students, where necessary

NUTRITION

- Targeted cash transfer for PLW and SAM cases: To cover for additional food requirements for PLW and referral and upkeep support for SAM cases.
- Mass MUAC screening and/or SMART survey in one – two months to assess the nutritional situation.
- Food distribution should include a diverse package to cover the needs of especially vulnerable (under five and pregnant and lactating women).

CHILD PROTECTION

- Work together with education partners to ensuring safe school environment for children to reduce and maintain school attendance/reduce drop out.

FURTHER INFORMATION NEEDS

- The situation regarding displacement is not clear. The numbers collected through the JNA were very high in some areas. This data needs to be re-checked.
- The need for food did was not in the top three priority needs when data was aggregated. This is not in line with priorities after past, similar, disasters. The food need requires further investigation.
- The Phase 1 methodology does not give voice to affected people. Therefore further assessment, which include community participation are required to fully understand needs.
- Collated D-Form information should be analysed when completed

1. OVERVIEW OF THE SITUATION AND THE DISASTER

Tropical storm Roanu made landfall in the southern coastal region of Bangladesh on the 21st May at midday. The storm brought heavy rain, winds of over 100km/h, and storm surges peaking at 2.7 metres³. At least seven coastal districts were affected; Chittagong, Cox's Bazar, Bhola, Barguna, Lakshmipur, Noakhali and Patuakhali. Early warning systems were well activated and 500,000⁴ people were evacuated to cyclone shelters prior to the storm making landfall. The storm destroyed houses, uprooted trees, breached embankments causing floods, swept away fisheries and interrupted power supply, however within 24 hours most of the evacuated households had returned to their homes. The cyclone left 27⁵ (15 men and 12 women) people and according to this JNA 1.3 million affected.

Overview of JNA Findings - 25 May 2016						
District	Total assessed population	Affected population	Affected households	% of assessed population affected	Displaced	Number of affected Unions
Barguna	963,631	124,400	30,030	13	23,820	30
Bhola	1,900,702	94,600	19,857	5	3,800	36
Chittagong	2,154,135	335,755	67,307	16	33,900	54
Cox's Bazar	1,927,941	531,282	97,373	28	154,940	37
Lakshmipur	1,570,540	48,000	10,131	3	11	20
Noakhali	1,062,183	115,000	22,648	11	300	24
Patuakhali	1,206,087	47,973	10,920	4	-	43
	10,785,220	1,297,010	258,266	12	216,771	244

Information related to the impact of the storm was made available through the DDM's SOS data. This information was available at District level. D-Form data has begun to be submitted to the central government but the official timeframe for this information to be received is three weeks after a disaster so is thus unavailable at the time of producing this JNA report.

Current weather forecasts are for some squally weather including thunder showers in Patuakhali, Noakhali and Chittagong over the coming days. The monsoon normally runs until October so extensive further rains in affected areas over the coming months can be expected.⁶

RESPONSE TO DATE BY GOVERNMENT AND OTHER HUMANITARIAN ACTORS

The Department of Disaster Management (DDM) has already been proactive in responding to the needs of affected communities. A total of 513,363 people took shelter in 3,494 cyclone shelters where the government provided dry food rations. The government has also allocated rice – 3,522 MT and cash – BDT 10,052,000 (US\$ 128,800) to assist those impacted. A district wise breakdown is provided below:

³ BRAC Sitrep

⁴ DDM Sitrep

⁵ MODMR

⁶ [\(Bangladesh Meteorological Department, 09/07/2015\).](#)

25-May-16⁷

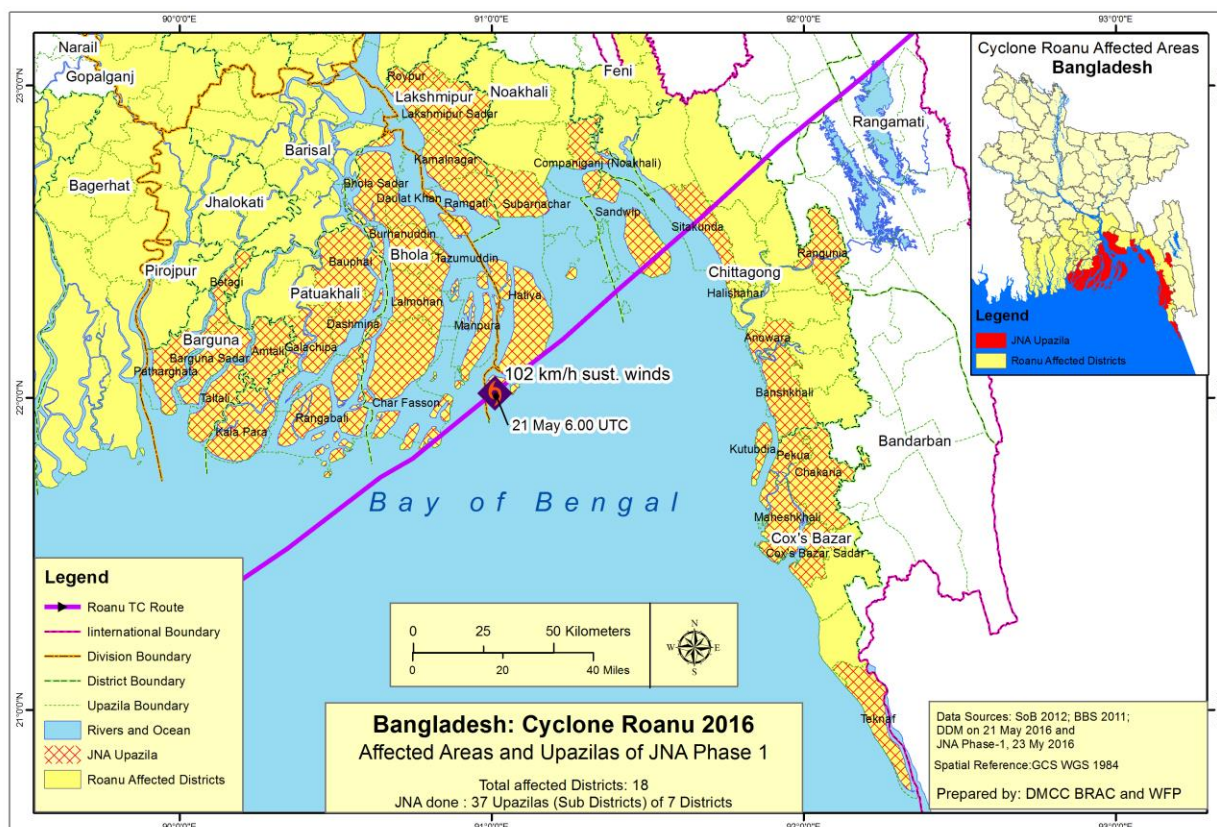
Districts	Rice Relief (GoB) - MT		Cash relief (GoB) - BDT	
	Allocation	Distribution	Allocation	Distribution
Chittagong	875	660	3,400,000	2,878,000
Cox's Bazar	925	710	2,900,000	2,235,000
Chandpur	250	33	900,000	237,000
Noakhali	750	505	2,600,000	2,053,000
Feni	450	205	1,150,000	607,500
Lakshmipur	250	30	1,150,000	603,000
Bagerhat	275	127	750,000	421,000
Khulna	575	389	1,750,000	1,351,000
Satkhira	400	188	1,150,000	297,000
Barishal	375	200	950,000	490,000
Patuakhali	250	38	550,000	170,000
Pirojpur	200	12	850,000	406,000
Bhola	750	535	6,800,000	6,099,000
Barguna	250	40	950,000	520,000
Jhalokathi	300	108	600,000	140,000
Gopalganj	300	189	350,000	250,000
Sariyetpur	250	47	425,000	333,000
Madaripur	150	32	600,000	440,000
	7,575	4,048	27,825,000	19,530,500

A 4W matrix of on-going response by development partners will be collected for the joint response planning (JRP).

A JRP will be developed based on the this JNA. Coordination of the response will be through the HCTT.

⁷ NDRCC report on Cyclone Roanu

1.1 MAP OF THE ASSESSMENT AREA



Key characteristics of the district are contained in Annex 1

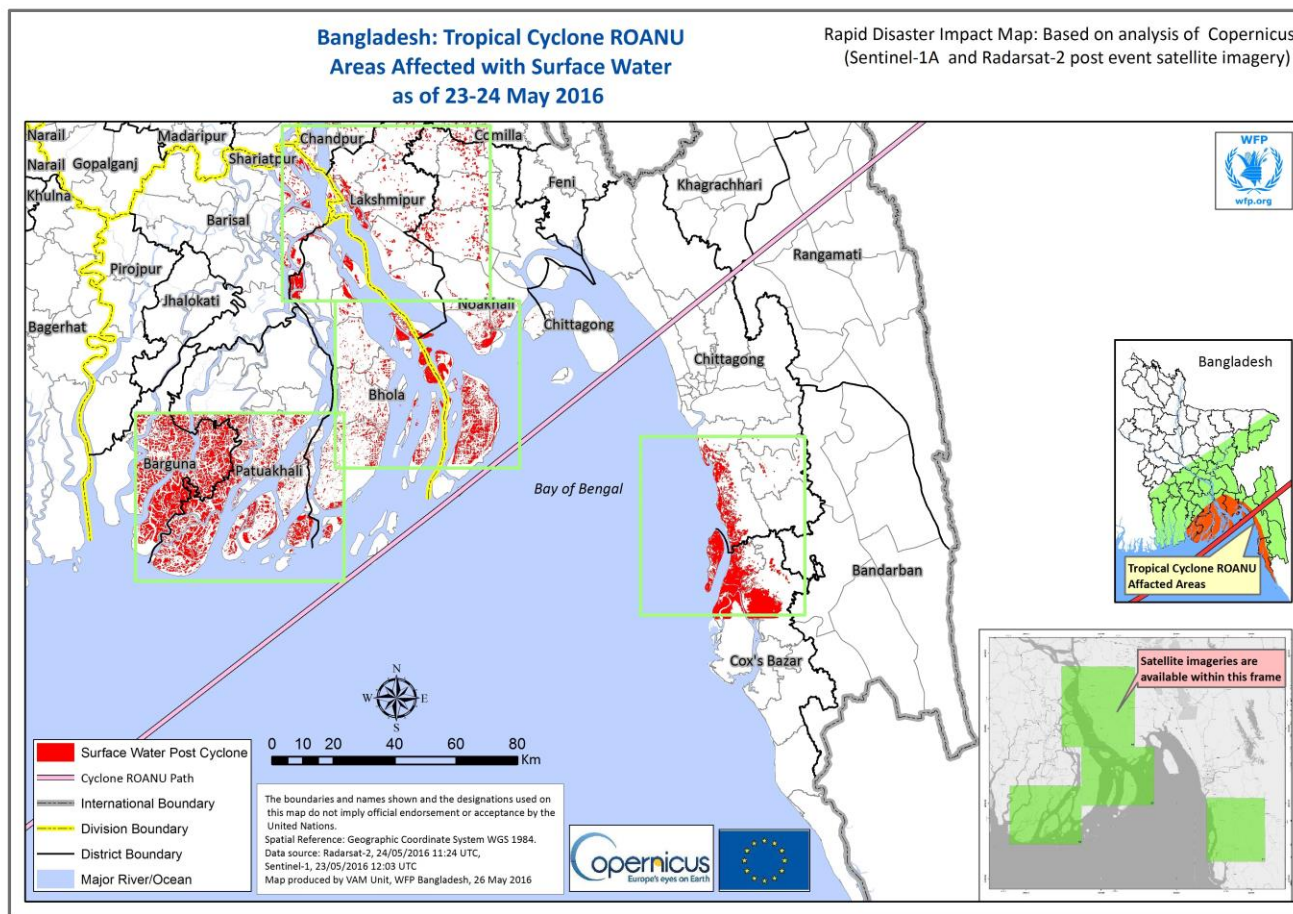
1.2 KEY FINDINGS

PRIORITIES

Upazila authorities were asked to rank the 3 highest priority sectors for assistance in their Upazila (what is the first most important required intervention, the second most important, the third most important). A weighted index score method was used to work out the priorities. Shelter, sanitation and livelihoods were reported as the main priority sectors.

Priority per District							
	Barguna	Bhola	Chittagong	Cox's Bazar	Lakshmipur	Noakhali	Patuakhali
Priority 1	Water Sanitation	Sanitation	Shelter	Livelihood Shelter	Livelihood Sanitation	Livelihood	Food
Priority 2	Livelihood	Shelter	Food	Sanitation	Health	Sanitation	Shelter
Priority 3	Shelter	Food & Livelihood	Sanitation	Food	Shelter Bedding	Clothing Food	Health Sanitation

1.2 MAPS



This is a surface water map of the affected area, created using satellite imagery. The areas which are “normally” inundated have been removed, so the map is specific to water which has collected as a result of the storm. Chittagong District and the southern part of Cox’s Bazar District did not have available imagery to use for this map. However, there is data from the field regarding damaged embankments in Chittagong and neighbouring Districts being damaged. It would therefore be possible to extrapolate that the Districts nearer the line of the storm, where there are broken embankments have significant displacement. This would specially be the case for; Sandwip and Banshkali – in addition to the upazilas highlighted on the map.

Upazilas with over 50,000 reported affected in JNA Phase 1			
District	Upazila	Total Population	Population Affected
Chittagong	Banshkali	461,408	250,000
Cox's Bazar	Maheshkhali	343,828	227,810
Cox's Bazar	Pekua	183,524	100,000
Barguna	Barguna Sadar	279,193	78,400
Cox's Bazar	Cox's Bazar Sadar	475,936	68,862
Cox's Bazar	Teknaf	282,842	67,980
Cox's Bazar	Kutubdia	134,097	59,500
Noakhali	Hatiya	484,282	50,000

EMBANKMENT BREACHES

Where embankments have been breached there is the possibility for prolonged waterlogging. This was experienced after Cyclone Aila and Komen. Significant parts of embankments in Kutubdia, Pekua, Moheskhali, Ramu and Chakoria were affected during last year's flooding. Repair of these embankments has not yet been fully completed. As a result, the areas with unfinished embankments may face water logging as a consequence of the tidal surges that accompanied cyclone Roanu. Waterlogging can be expected during the whole rainy season unless embankments are repaired as a priority.

District	Upazila	Embankment Damage Description ⁸
Chittagong	Sandwip	2km of 6 embankments were broken and about 40km were damaged local people are trying to repair. Concerned officials of Water Development Board are inspecting the embankments for necessary repair. Two unions were inundated, some mud houses were damaged, many trees uprooted, ponds and fish enclosures washed away.
Chittagong	Banshkhali	2km of 3 embankments were broken in different places and about 30 km were damaged due to tidal surge. Salt fields were inundated, mud houses were damaged, trees uprooted, ponds and fish enclosures washed away. Concerned officials of Water Development Board are inspecting the embankments for necessary repair.
Noakhali	Hatiya	'Nona Bandh' (embankment) has breached at 10/12 points due to tidal surge. 'Nona Bandh' is a newly constructed embankment.
Patuakhali	Dashmina	2 embankments breached, inundation occurred.
Patuakhali	Golachipa	2 embankments breached, inundation occurred.
Patuakhali	Kolapara	4 embankments breached, inundation occurred.
Patuakhali	Rangabali	1 embankment breached, inundation occurred.

POST-DISASTER SCENARIO

33 out of 37 Upazilas reported that they believed the situation would improve in the coming weeks. The situation in Banshkhali, Haliashahar, Tazumuddin and Taltali will have to continue to be monitored.

2. AGGRAVATING FACTORS

DISASTER PRONE REGION

These seven districts affected by TS Roanu have been impacted by a series of disasters since 2012. These have progressively reduced the coping capacity of the population in these areas and prevented the affected population to recover fully. Cox's Bazaar, Chittagong and Bandarban were affected by the 2012 flash floods and landslides and in 2015 flash floods and cyclone Komen⁹ again impacted the area. Chittagong, Cox's Bazar, Bhola, Barguna, Noakhali, Patuakhali and Lakshmipur were all affected by cyclone Mahasen in 2013¹⁰. These recurrent disasters also mean that damage to physical infrastructure which has occurred during Cyclone Komen in 2015 has not yet been repaired and embankments have been further damaged by Roanu¹¹.

POVERTY

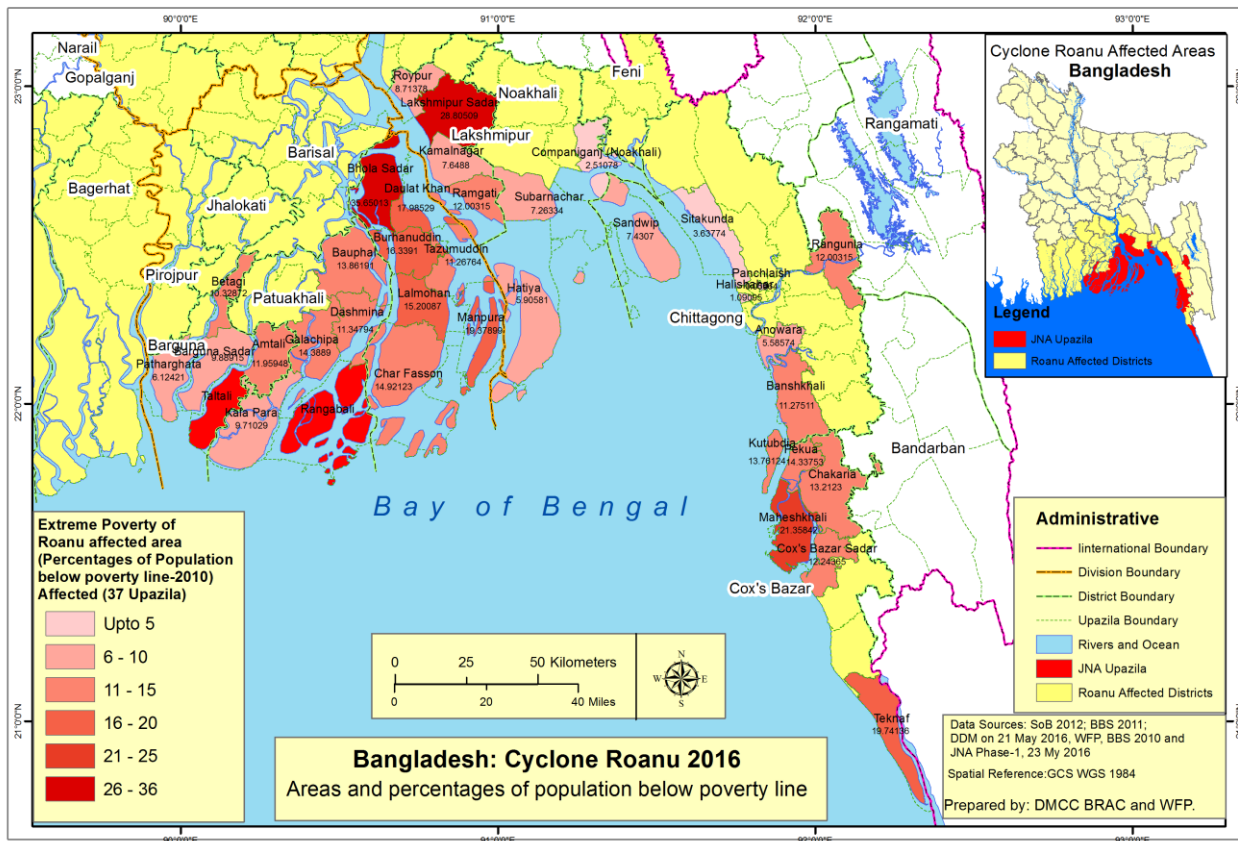
⁸ Data collected logistics cluster, 22.05.16

⁹ JNA SE 2012 and JNA 2015

¹⁰ Phase 3 NA, 2013

¹¹ Logistics Cluster

At least 45 million people in Bangladesh, almost one third of the population, live below the poverty line. Of these, 26 million people (18% of the population) live in extreme poverty (i.e. below the lower poverty line). These proportions are even higher in some upazilas and overall district averages can mask pockets of intense poverty (see poverty map p8)¹².



MINORITIES

There are estimated to be up to 500,000 undocumented Myanmar nationals (UMN) living in South East Bangladesh. In general UNMs can and do access jobs and most – independent of refugee status – are engaged in economic activities. Because registered refugees and unregistered UNMs are not legally authorized to work they are not covered by any Bangladeshi labour protection laws. Hence, they are vulnerable to very low wages and unethical employment practices (LesIMO evaluation).

WOMEN AND GIRLS

The target areas affected by Roanu are considered to be more conservative than the rest of the country¹³. Women in these areas struggle more against socio-cultural and economic disparities compared to men, this exacerbates women's vulnerability to hazards. The existing gender inequality ingrained in the system and deeply rooted in the collective social psyche render women disempowered, with limited or no access to resources, devoid of any decision making power, and often with limited or no mobility. All these factors make women the more vulnerable half of the society to disaster impacts. The cyclone Roanu is expected to aggravate the inequity between men and women with less recovery resources directed towards women and girls unless specific interventions address this. Responding

¹² (Poverty Maps of Bangladesh, WB, WFP, BBS, 2010)

¹³ UN Women

organizations also need to keep in mind that gender insensitive relief recovery support can perpetuate the disparity and may even worsen it if it is not handled carefully.

Some of the worst hit districts already exhibit poor reproductive health indicators including maternal and newborn health. Districts like Cox's Bazar, Chittagong, Patuakhali lag behind the national average in terms of maternal and neonatal mortality, access to skilled birth attendance at delivery, rate of contraceptive prevalence, unmet need for family planning, and other key indicators. Lessons Learnt from the 2015 floods was that the demand from woman for separate, safe latrines during the period of displacement

2.1 INFORMATION GAPS AND LIMITATIONS

Understanding the affected area is not clear cut as the term “affected” is not clearly defined and is open to interpretation. The Government collected figures from 18 coastal districts and provided immediate relief to 15 coastal districts in the country. At the NAWG held on the 22nd May, which was chaired by DDM, a list of “most” affected Upazilas was drawn from the original Districts. This provided a total of 37 Upazilas to assess.

The JNA Phase 1 approach prioritizes information collected at the Union level, because this information is not usually available through central government sources and because having an understanding of the impact of a disaster at the union level can significantly assist response planning. However, in the case of this JNA the NAWG prioritized the need for immediate information over the need for Union level information, therefore information was collected at the upazila level.

It was hoped that data collection could be carried out using direct data capture onto tablets. Data can then be transferred almost immediately from the field to a central data processing hub thereby decreasing the time needed for primary data collection. This was not possible as all the tablets are stored in Dhaka and the remoteness of many of the upazilas made transporting them within the timeframe would not have been possible. The learning from this is that more investment in assessment preparedness is required to further streamline the process.

It is also important to note the phase 1 JNA assessment is focused on collecting information from local officials (in this case at the upazila level as mentioned above). Information is collected from all of the upazilas, there is not a focus on talking to affected people or on the assessment teams making their own observations and assessment of the sites they visit. Within the time frame for this assessment and with the focus on providing information within days, this is not possible. The JNA questionnaire (see Annex 3) is built around the kind of information local officials are able to provide and so does not deal in depth with issues related to gender and protection. The primary data presented here needs to be seen in this light. Wherever possible it has been combined with available information on the impact of Roanu from other sources and with lessons learned from past similar events.

The data collection day, 23rd May, was a public holiday in Bangladesh (Shab-e-Barat). Government offices in affected areas mainly stayed open because of the storm. However, in one upazila, Kotoali, Chittagong District, which had originally been on the list to assess there were no staff present, therefore this upazila has not been assessed.

DISPLACEMENT

Upazilas Haliashar (Chittagong), Maheshkhali, Pekua (Cox's Bazar) and Taltali (Barguna) reported the highest levels of displacement, with numbers displaced in these Upazilas ranging between approximately 13,000 and 94,000. In Maheshkhali over 94,000 people are reported to be displaced, representing almost one third of the total population. Learning from the Shelter Cluster after TS Mahasen was that actual numbers of displaced reduced dramatically in the weeks after the storm. Further there are reports of misunderstanding during the data collection

and figures were provided for how many people had been evacuated to cyclone shelters, rather than number displaced. It is recommended that follow-up is made in the coming days to gain a better picture of those displaced by Roanu.

In Bangladesh it is common that after any water-related disaster where homes are inundated, people will stay on the nearest high ground or in a collective center such as a school or cyclone shelter until the water receded sufficiently for them to move back to their home and begin repairing it. Monitoring both the water level and the number of people living on roadsides and embankments over the coming days will give a clearer picture in regard to displacement.

FOOD

Only two districts (Cox's Bazar and Patuakhali) reported that the food was one of the top three priorities. This is not consistent with previous JNA's undertaken for similar disaster events in the past. Given the underlying nutrition status of the population and the IPC analysis for the region this finding should be treated with caution and not be used as a reason not undertake food assistance. Further monitoring of the situation is recommended.

2.1 LESSONS LEARNED FROM PREVIOUS DISASTERS

Cyclone Aila in 2009 made landfall in South West Bangladesh. With relatively low mortality and natural protection provided by the Sundarban mangrove forest the initial assessments understood the impact to be low. However, broken embankments led to chronic waterlogging and displacement for some families lasted a number of years. This was compounded by the health risks associated with the remaining stagnant water around the areas where people stayed which was used for bathing. The impact of broken embankments after cyclone Roanu must continue to be monitored in the coming weeks and months.

3 ASSESSMENT METHODOLOGY

The goal of this joint assessment was to provide a rapidly available shared understanding of the impact of tropical storm Roanu in southern coastal districts of Bangladesh which includes recommendations for support to the affected population.

This methodology is a multi-sectoral and multi-stakeholder approach based on the use of:

- secondary data,
- primary data (collected using the pre-defined the JNA Phase 1 format from local officials),
- joint analysis of findings

Four groups were established during this initial meeting:

- 1) Central Coordination Team
- 2) Field Coordination Team
- 3) Data and Reporting Team
- 4) Secondary Data Team

All of these teams were assigned a team coordinator and provided with explicit guidance in order to complete the JNA. This included:

- Coordinate with the field
- Compile secondary information and baselines
- Process and analyze data
- Generate draft findings
- Jointly agree on an interpretation of these findings

- Produce a finalized report

SITE SELECTION

The selection of Upazilas to be assessed based on triangulating key information on the impact of the storm; this was: those identified by DDM as affected, those affected by wind speeds of over 102km/hour and those mentioned in media reports. Using these criteria for selection 37 Upazilas were considered to be most affected and then selected (see Map 1.1).

The following agencies took responsibility to act as district focal agencies. More than 30 agencies have supported the delivery of the JNA.

District	Upazila	District focal Agency
Chittagong	Sandwip, Anwara, Sitakunda, Panchlish, Kotoali, Rangolia, Halisahar, Bashkhali	Oxfam
Cox's Bazar	Chakaria, Pekua, Teknaf, Kutubdia, Moheskhali, Cox Bazar Sadar	IOM
Bhola	Bhola Sadar, Burhanuddin, Char Fasson, Daulatkhan, Lalmohan, Manpura, Tazumuddin	Muslim Aid
Lakshmipur	Lakshmipur Sadar, Ramgoti, Kamalnagar, Raipur	GRC
Barguna	Amtoli, Taltoli, Barguna Sadar, Patharghata, Betagi	Plan International
Noakhali	Subarnachar, Hatiya, Companiganj	Save the Children
Patuakhali	Dashmina, Rangabali, Galachipa, Kala Para, Baufal	BRAC

Field teams comprised of 2 to 5 members have visited selected upazilas in the affected districts and collected the information using the standard JNA phase-1 Upazilla level format (please see Annex 3). The informants are Union level officials, almost 50% being UNOs and PIOs. A full breakdown of respondents is provided in Annex 4. The completed formats were entered into the pre-defined excel spreadsheet by the teams in the field and consolidated at district level by district focal agencies and then sent to the coordination team in Dhaka for data processing and analysis. All human resources and logistics including vehicles arranged and provided by the participating agencies on a voluntary basis.

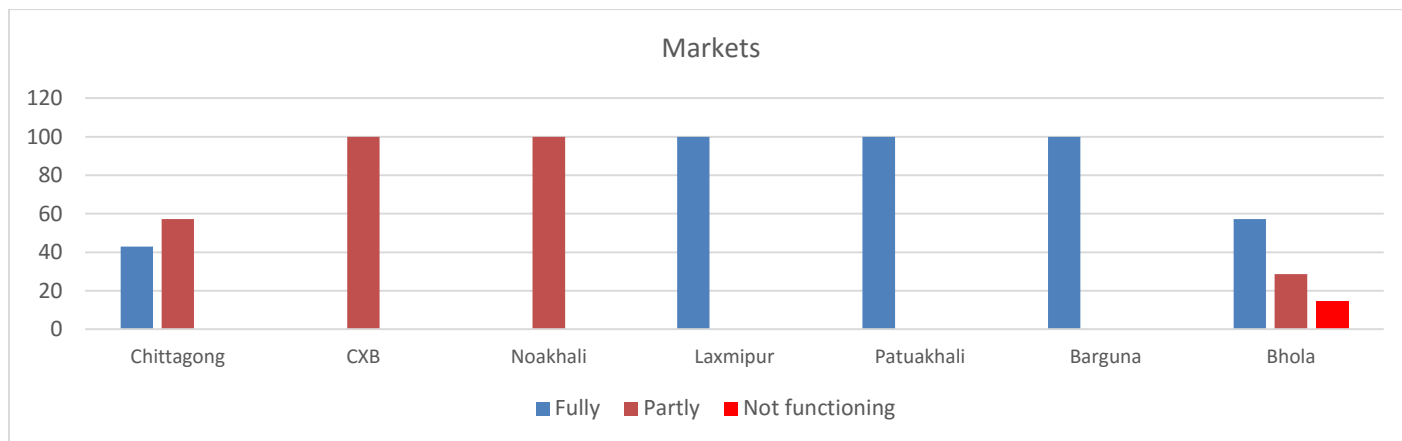
In line with the phase 1 ToRs, a joint analysis of findings is desirable to ensure joint agreement and ownership of the information. Joint analysis meetings were held on the 25th and 26th May. Cluster leads were invited to send key information prior to the assessment findings as well as to comment on the preliminary findings of the assessment.

ASSESSMENT CHRONOLOGY

- 18 May 2016 Bangladesh Meteorology Department started issuing warning bulletin
- 21 May 2016 Preparatory informal meeting of the Need Assessment Working Group held
- 21 May 2016 HCTT meeting held and JNA phase 1 triggered
- 22 May 2016 JNA Planning meeting held (chaired by DDM), Core Group formed, area wise responsibility distributed
- 23 May 2016 Field Assessment/primary data collection by field teams and Data entry (using excel sheet)
- 24 May 2016 Data cleaning and processing done, analysis started, report writing started
- 25 May 2016 Data analysis completed, report writing continued, Analysis meeting held
- 26 May 2016 report writing completed, presentation prepared and

4 SECTORAL BREAKDOWN

4.1 MARKETS



- Only 2 markets in Maheshkhali and Kutubdia in Cox's Bazaar district do not have food stock and/or are not accessible
- One market in Tazumuddin under Bhola is not functioning.
- A cash-based response is therefore possible.

4.2 WASH

KEY FINDINGS

- Cox's Bazar and Chittagong is the mostly WASH affected districts
- The impact on water and sanitation is reported to be the most severe in Cox's Bazar and Noakhali.
- Government officials reported that over 50% of women would be facing difficulties through inadequate access to hygiene materials
- Almost districts (except Potuakhali) raised safety concerns for women and men accessing latrines.

RECOMMENDATION

- Have to take immediate action to ensure safety issues related WASH facilities access
- Sanitation facilities have to be restore immediately
- Bacteriological contamination of drinking water have to take care
- Hygiene promotion and material distribution is needed to ensure personal and environmental hygiene

WATER AND SANITATION FACILITIES

- In Cox's Bazar there was a reduction to access to safe drinking by up to 50%.
- Chittagong, Noakhali, Bhola, Barguna and Lakshmipur reported that there is a low impact on access to safe drinking water.
- Cox's Bazar and Noakhali districts sanitation facilities highly affected (more than 50% household)
- Potuakhali and Lakshmipur districts sanitation facilities didn't affect by cyclone
- Chittagong, Bhola and Barguna have few concern (around 0-25% of population) about sanitation facilities

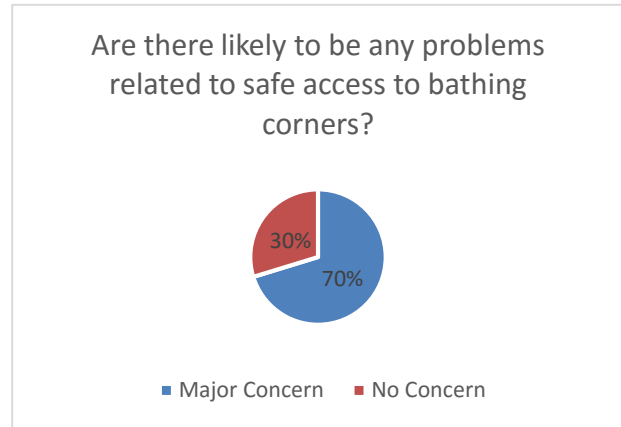
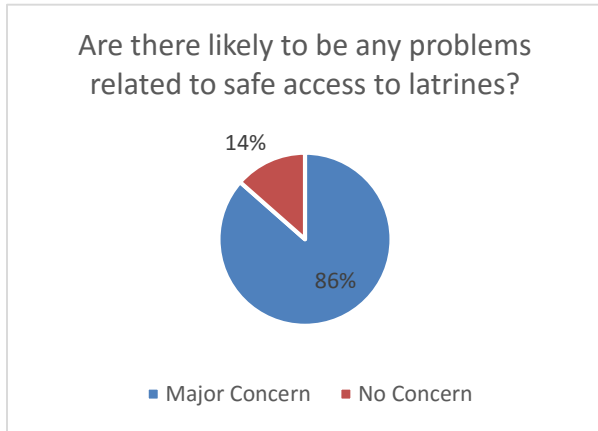
HYGIENE SITUATION

- Lakshmipur is in the highest risk in terms of hygiene practice and lack of hygiene materials

- Barguna, Noakhali, Chittagong and Cox’s Bazar is in moderate risk to ensure sufficient hygiene materials for woman

SAFETY ISSUES TO ACCESS WASH FACILITIES:

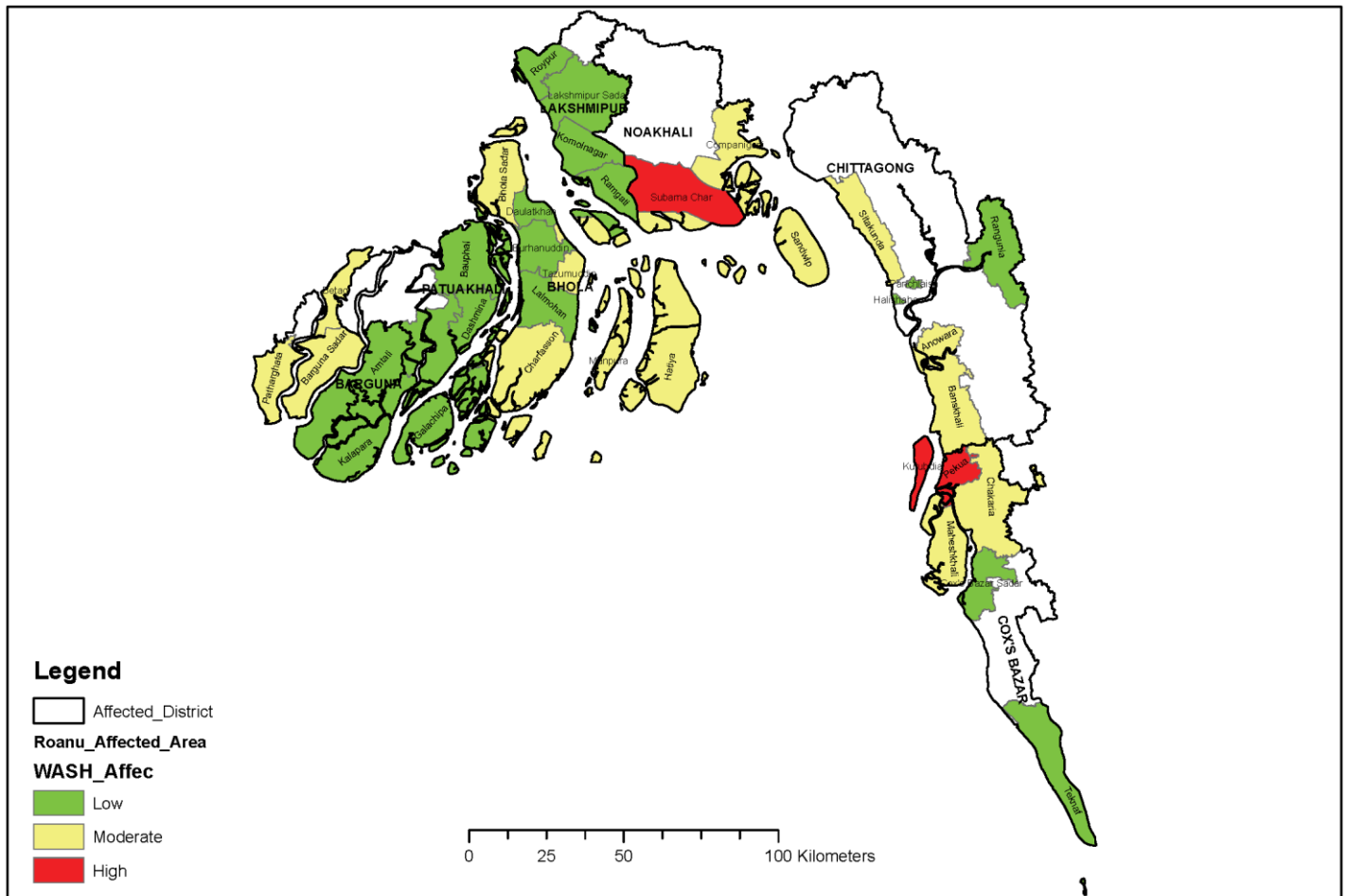
- Almost districts (except Potuakhali) raised safety concerns for women and men accessing latrines. This is an interesting finding and deserves further investigation.
- In all districts (except Potuakhali) raise their safety concern regarding bathing place accessibility for women



WASH PRIORITY AREAS¹⁴:

- Cox’s Bazar and Chittagong is the most WASH affected districts
- Pekua is the most affected upazila followed by subarnachar, kutubdia, companiganj, Maheshkhali, Chakaria, Sitakundu, Banskhali, Anowara, Bhola Sadar, Patharghata, Barguna Sadar, Amtali.
- Water supply is mostly affected (around 50% of population) at Kutubdia, Pekua, Subarnachar, Shitakundu and Bhola Sadar upazilas
- Bhola, Barguna and Noakhali are the moderate WASH affected districts
- Lakshimpur and Potuakhali is the low WASH affected districts
- Sanitation facilities are mostly affected (around 50% of population) at Kutubdia, Maheshkhali, Pekua, Subarnachar, Companiganj, Sandip and Bhola Sadar upazilas

¹⁴ WASH Priority Areas calculated based on compound indicator scoring : Affected water supply, Affected sanitation facilities, hygiene practice, safe issues to access WASH facilities



The above map provides upazila level information regarding the most affected WASH indicators. The seven coastal districts affected by Roanu have poor pre-crisis sanitation indicators. Access to safe drinking water coverage is 98%**Error! Bookmark not defined.** in the affected seven districts. Lakshmipur (19.4%) and Chittagong (7.2%) have high levels of arsenic. Faecal contamination¹⁵ (at source and household drinking water) is also very high in these area due to unimproved sanitation and unsafe child feces management.

4.2 FOOD SECURITY, LIVELIHOODS

KEY FINDINGS

- Immediate food security does not appear as the main priority on the overall affected area
- Across the 7 districts, based on the assessment on immediate and longer term impact on food, is considered likely in 5 districts but not in all upazilas.
- All districts except for Laxmipur and Patuakhali food security will be impacted on the long term as the results of impact on agriculture and loss/damage to crops caused by the storm
- Priority sectors expressed by Upazila clearly point towards the needs for livelihood recovery, which should in turn improve food access.
- While some households' food stocks were evidently damaged by the storm, immediate food was not the top priority sector needed urgently.

¹⁵ UNICEF MTR Report 2014

- Food was not reported as the 1st priority in any of the districts. For 13 Upazilas in 6 districts, food is among the three first priorities.
- **However, for the following upazila: Tazumuddin in Bhola, Banshkhali in Chittagong, Cox's Bazar Sadar in Cox's Bazaar, food is considered as the 1st priority.**
- Being able to cook food and boil water has been reported as an issue only for Cox's Bazaar for 4 upazilas out of 6.
- Markets are functioning in most of the affected areas except in 3 upazilas.
- The most vulnerable and impacted groups were listed as daily laborers (agricultural and non-agricultural) and small & marginal farmers
- The main districts impacted on crops damage are Chittagong, Cox's Bazaar and Barguna
- Aquaculture is the main livelihoods impacted in the overall area
- Long term food security appears more problematic than short term food security due to the impact on agriculture and aquaculture/fishery
- Agricultural land is still under water and no clear indication is available now in the time needed to the water to recede.
- The capacity of the affected people to restart their livelihood will be critical to avoid serious concerns about food security in the coming week and months and this will depend in part on the time it takes for the water to recede as well as timely agricultural inputs.

RECOMMENDATIONS

- Multipurpose cash grant should be provided, especially for the most vulnerable and affected population as it provides choices for the affected household. Cash can be spent on food, shelter, livelihood, health, etc as well as restoring dignity;
- Due to the impact on agriculture and livelihood, cash distribution among the most vulnerable (landless), marginal and small farming families can be provided
- Cash and food for work programmes proved to be the most appropriate intervention in restoring household food security during the lean period until the next cropping season.
- In depth assessment of the impact on agriculture, livestock and fisheries to have a better estimate of the damage/loss
- Support to livelihood activities should be determined based on this in-depth assessment
- Cash and food assistance should prioritize most vulnerable groups among the women, for example: pregnant women; lactating mothers; female-headed households; disabled women and survivors of GBV.
- Women and girls' security should be increased and measures should be taken by law & enforcement or any community group to prevent GBV/harassment against women and girls in distribution sites. Women volunteers could be used in food distribution

Food security is an underlying concern in all affected districts. Chronic IPC analysis of the area undertaken in 2013 and 2015 indicated that all the districts have been classified as IPC Level 3 (i.e. Moderate Chronic Food Insecurity). Within this overall analysis for the area, 10% - 12% of the population were classified as Level 4 (Severe Chronic Food Insecurity). Food access, utilization, sanitation, caring practices and poverty have been found to be the major limiting factors in the districts with high levels of Chronic Food Insecurity. For nearly 70% children and over 60% of women, dietary diversity and food consumption of households is very poor. 36% of children are underweight and around 40% stunted (chronic undernutrition). Food availability is not a major limiting factor but access to food is a major challenge.

Factors contributing to the severe and moderate chronic food insecurity situation are low value livelihood strategies (providing inadequate and often unpredictable income), high poverty rate (lower poverty line: 14% with 23% of

people being poor), high dependency on a single livelihood at the HH level, low literacy rate and lack of improved sanitation and infrastructural facilities like electricity, road, growth centers (government approved market places).

Lessons learnt from previous disasters in the areas have indicated that there is; reduced food supply, reduced income and employment and reduced availability of agricultural inputs¹⁶. People are known to resort to negative coping strategies such as reducing the size of meals or lowering the quality of food intake¹⁷. Past experience shows that most of the markets remained functional or recovered quickly but food prices immediately rose in most locations. Higher prices aggravate food security because they make it even more challenging for HH to afford sufficient quality food. This prolongs households' dependency on external support, and deepen levels of debt¹⁸.

There are differences in socio-economic and livelihood characteristics among the affected districts. The economy of the coastal districts is predominantly based on agriculture and fishing with a majority of small famers that produce varieties of crops, whereas the Chittagong's economy is dominated by non-agricultural activities¹⁹. Average monthly household income of the affected area varies between districts but is lower than the national income which is BDT 7,203²⁰. 65% of households in the southern region are functionally landless²¹.

The coastal region has 2 agricultural lean periods: September to October and March to April. This period is characterized by reduction in number of meals, out-migration of male labour and increased prevalence of undernutrition.

JNA FOOD SECURITY DATA ANALYSIS

- Across the 7 districts, based on the assessment on immediate and longer term impact on food, is considered likely in 6 districts. 22 Upazila authorities over 37 expressed concerns about immediate impact on food security.
- Among these 6 districts, in 4 districts, 6 upazilas authorities from Bhola (2 Upazila), Chittagong (3 Upazila), Laxmipur (1 Upazila) and Cox's Bazaar (1 Upazila) have expressed no concerns about immediate and short term impact on food security. One Upazila authority in Barguna district did not know.
- In 5 districts, the Upazila authorities express concerns about long term impact on food security as a result of loss of livelihoods.
- In Laxmipur, food security will not be impacted because of loss of crops
- In Bhola and Patuakhali, food security will be impacted moderately by the loss of crops



- The graph on long-term impact on food demonstrates that in all districts except for Laxmipur and Patuakhali food security will be impacted on the long term but not all Upazilas
- Upazila affected for immediate and short term impact are not always the same ones

¹⁶ JNA SE 2015

¹⁷ Clusters/Government, 08/2012, 2013, 2015

¹⁸ Clusters/Government, 08/2012

¹⁹ JNA 2015

²⁰ JNA 2013

²¹ BBS 2010 Southern Delta Plan 2013

- Bhola has 5 Upazila, Chittagong 4 Upazila and CXB 5 Upazila which will be affected for long term.
- This links to the impacts on agriculture and loss of/damage to crops and also other livelihood source caused by the storm
- Some of these districts are already in moderate Chronic Food Insecurity (level 3) as determined by IPC in 2013. These additional stresses may further reduce household food security
- Priority sectors expressed by Upazila clearly point towards the needs for livelihood recovery, which should in turn improve food access.

FOOD STOCK DAMAGE

- Food stock damage to food stock were not severe (low to moderate) but present in all districts except Patuakhali
- Food stock are the worst damaged in Cox's Bazaar and Noakhali; then Bhola, Barguna and Chittagong
- Also, almost all Upazilas in these 5 districts reported moderate to severe damage to food stock
- In Cox's Bazaar, all Upazila reported damages to food stock
- In Chittagong, 2 Upazila out of 8 reported damages to food stock
- In Noakhali, all Upazila (3 out of 3)
- In Barguna, 4 out of 5 Upazila
- In Bhola, 6 out of 7

- ⇒ **While some households' food stocks were evidently damaged by the storm, immediate food was not the top priority sector needed urgently.**
- ⇒ **Food was not reported as the 1st priority in any of the districts. For 13 Upazilas in 6 districts, food is among the three first priorities.**
- ⇒ **However, for the following upazila: Tazumuddin in Bhola, Banshkhali in Chittagong, Cox's Bazar Sadar in Cox's Bazaar, food is considered as the 1st priority.**
- ⇒ **The HCTT validation meeting where initial findings of this assessment were shared agreed that this was not in line with previous assessments, where food had always been one of the top three priorities. This finding therefore is being treated with caution.**

Being able to cook food and boil water was not reported as a major problem in Laxmipur and Patuakhali districts. For the other districts, it was reported in a few upazilas. However, for Cox's Bazaar, 4 upazilas out of 6 reported it is a problem.

LIVELIHOODS

In all the seven affected districts, agriculture, fishing ponds and sea fishing represent the main livelihood activities²²(IPC 2013 and 2014). Considering the context of the post cyclone scenario, accessibility in many areas will be difficult for response and recovery interventions. Though government is supporting with food and cash, due to damages of roads and culverts the operations would be difficult in some hard to reach areas. Given that Bangladesh does not have an insurance system, small-scale farmers, businessmen and entrepreneurs will not be able to offset their loss and may opt for distress selling. The demand for capital will increase and is most likely to be met by informal sources and micro finance institutions with high interest rates, unless government provides special financial packages to support these actors.

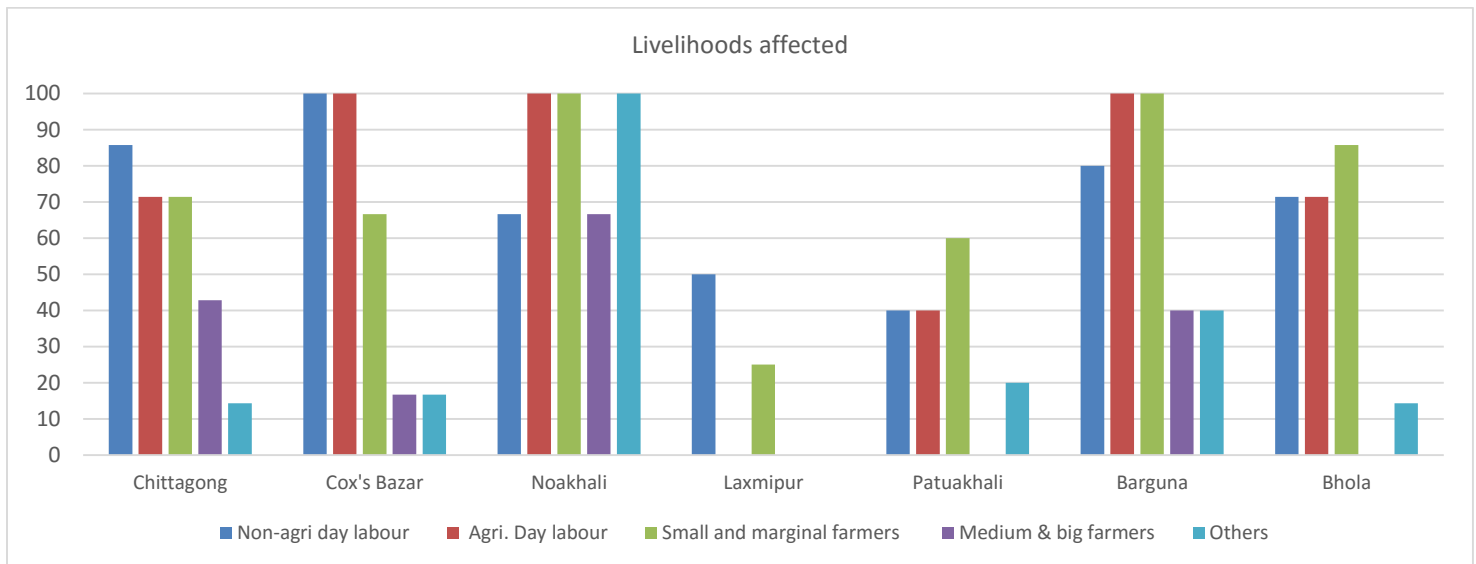
From previous cyclones, we have learned²³ that large scale employment programs such as Cash for Work are required during the recovery phases to rehabilitate micro-infrastructures that engages local communities is required to create alternative income-generating opportunities for affected communities

²² IPC 2014 and IPC 2015

²³ CARE Sidr Evaluation

LIVELIHOOD JNA RESULTS ANALYSIS

- Livelihoods were one of the most frequently mentioned priority sector across all upazilas, especially in Noakhali, Laxmipur and Cox's Bazaar.
- The most vulnerable and impacted groups were listed as daily laborers (agricultural and non-agricultural) and small & marginal farmers



AGRICULTURE

Department of Agriculture Extension is conducting its own assessment. At the time of the report, the information was not yet final. It is estimated that about 53,000 ha has been inundated (Aus rice and vegetables). As many embankments have been damaged and breached, it will take time for the water to recede.

Proposed response: in the area under water or with extensive stay of saline water, the farmers will have to wait until the next planting season for winter vegetable in October 2016. Several of the other crops, including Boro, spices and pulses would need to wait until the next Rabi season (October to March).

LIVESTOCK

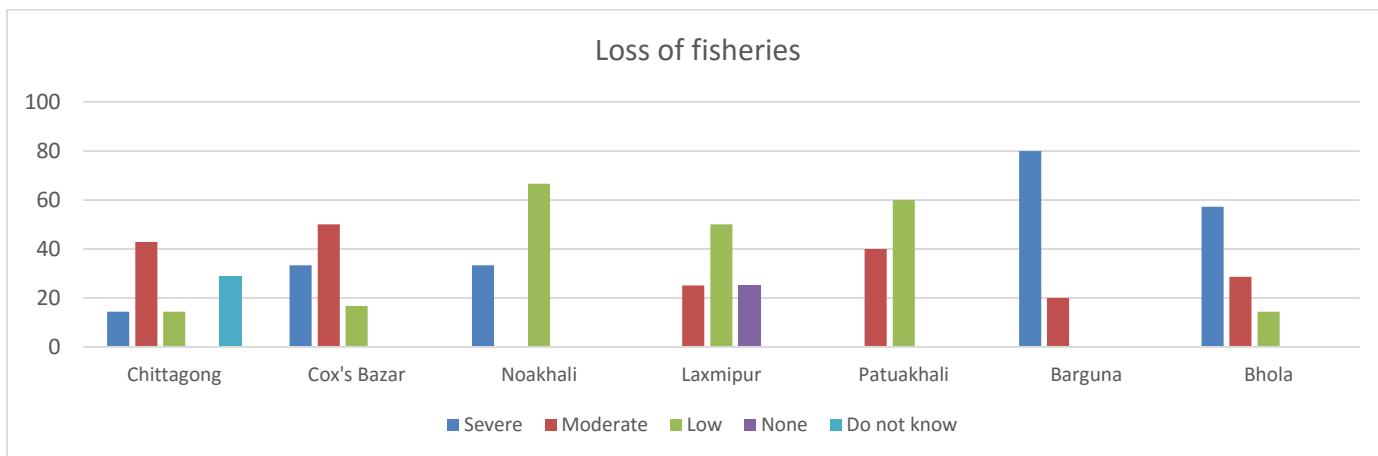
The loss of livestock and poultry has been the most severe in Bhola, Barguna, Cox's Bazaar and Chittagong. In only one upazila, Bhola Sadar, the impact of the cyclone has been severe on livestock.

The total value loss of livestock is estimated at 40,123,448 BDT by the DLS.

AQUACULTURE

In all districts, the fish and shrimps ponds have been impacted. The damages are high in Barguna and Bhola. In areas where fish ponds were filled with fallen trees, branches and leaves hinder operation of the pond and cause de-oxygenation and possible loss of the crop. Deoxygenation makes ponds unusable until the water quality has been restored. The estimated harvesting of crops before the cyclone is not yet known.

In addition, capture (net) fishing is an important livelihood in the coastal areas. Those involved in fishing lost approximately a weeks' income due to the rough seas when fishing could not take place. Although some damages have been reported they are do not seem to be significant, as the Government of Bangladesh raised a level three signal a few days before the cyclone/storm to ensure that fishermen were safe and their boats off the water. Media reports mentioned that in some areas, fishermen have lost their nets. This will require further investigation.



The total value loss of aquaculture is estimated at 16005.92 BDT by DoF

Recommendations:

1. Multipurpose cash grant should be provided, especially for the most vulnerable and affected population as it provides choices for the affected household. Cash can be spent on food, shelter, livelihood, health, etc as well as restoring dignity;
2. Cash and food for work programmes proved to be the most appropriate intervention in restoring household food security during the lean period until the next cropping season.
3. In depth assessment of the impact on agriculture, livestock and fisheries to have a better estimate of the damage/loss

4.3 SHELTER

KEY FINDINGS

- The 3 districts with the highest % of need in need of immediate shelter are Cox's Bazar, Noakhali and Bhola.
- Additional shelter support is requested in all assessed districts and approximately 40% of the Upazilas. Cox's Bazar, Bhola and Noakhali have reported shelter as their first priority.

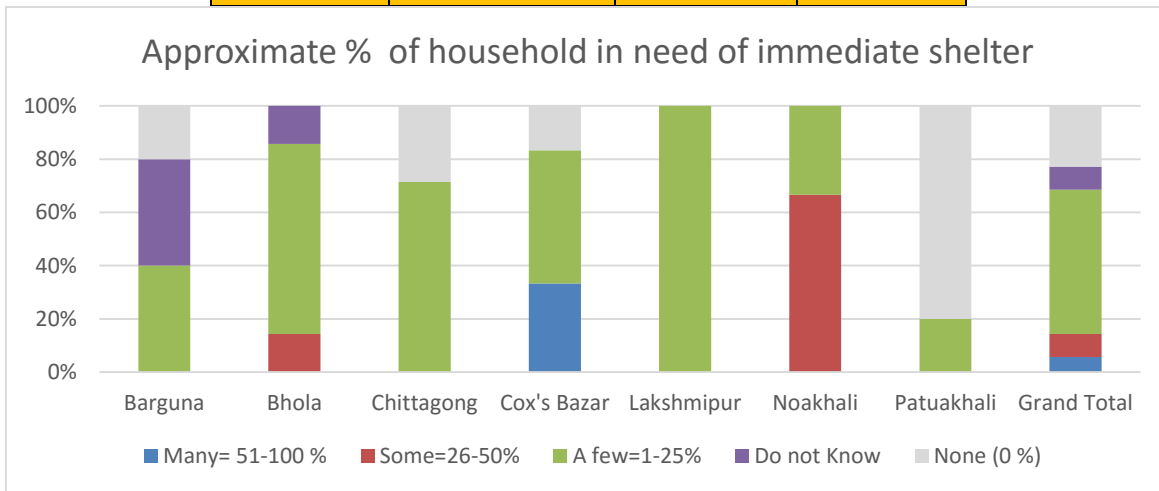
RECOMMENDATIONS

1. Provide emergency shelter support to vulnerable families with fully and partially damaged houses, with priority to families with fully damaged houses. Recommended to provide cash in combination with training on disaster resilient building techniques as well as NFIs (package or cash) to households in line with shelter cluster guidelines and standards. For the three places where markets are reported as non-functioning in-kind support of materials would be preferred.
2. In shelter interventions (supporting reconstruction etc) take place it is critical to consider "invisible groups" such as female headed households, elderly and disabled who will require labour support as well as cash/shelter materials.
3. Provide labour support, or extra cash for hiring labour support, to female headed households, elderly and disabled in combination with shelter support.
4. For longer term recovery it is recommended to support households to build back better in line with the Bangladesh National Building Code and shelter cluster guidelines and standards.

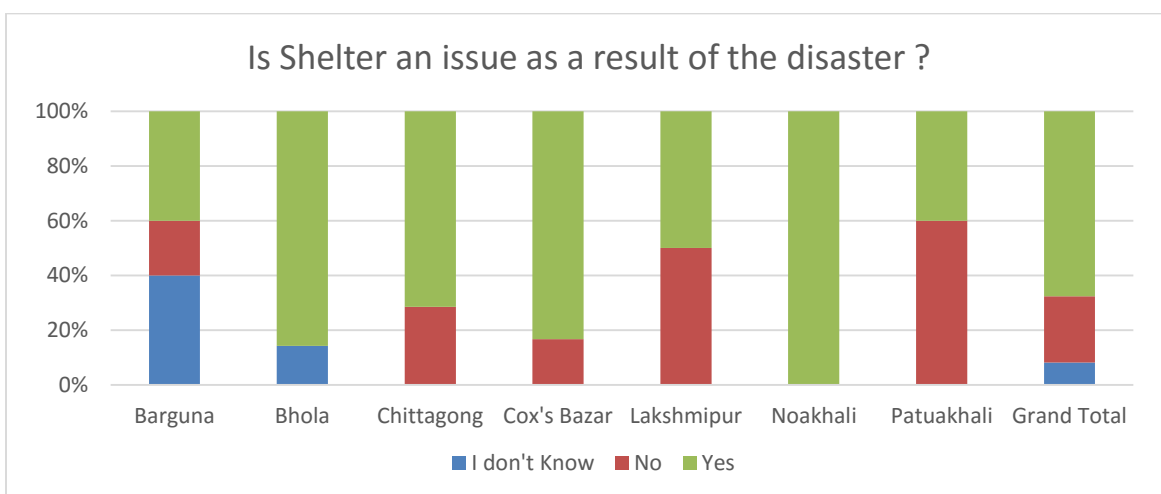
INFORMATION ON SHELTER DAMAGE

The information from the government DDM SOS data (22.05.16) regarding fully and partially damaged houses indicate the most fully and partially damaged houses in Chittagong district.

Distrikts	Affected Houses (Approx.)		
	Partially	Fully	Total
Chittagong	19 401	19 912	39313
Coxs Bazar	7022	1228	8250
Noakhali	3270	1300	4570
Lakshmipur	17 000	0	17000
Patuakhali	400		400
Bhola	2500	1500	4000
Barguna	2000		2000
	51,593	23,940	75,533

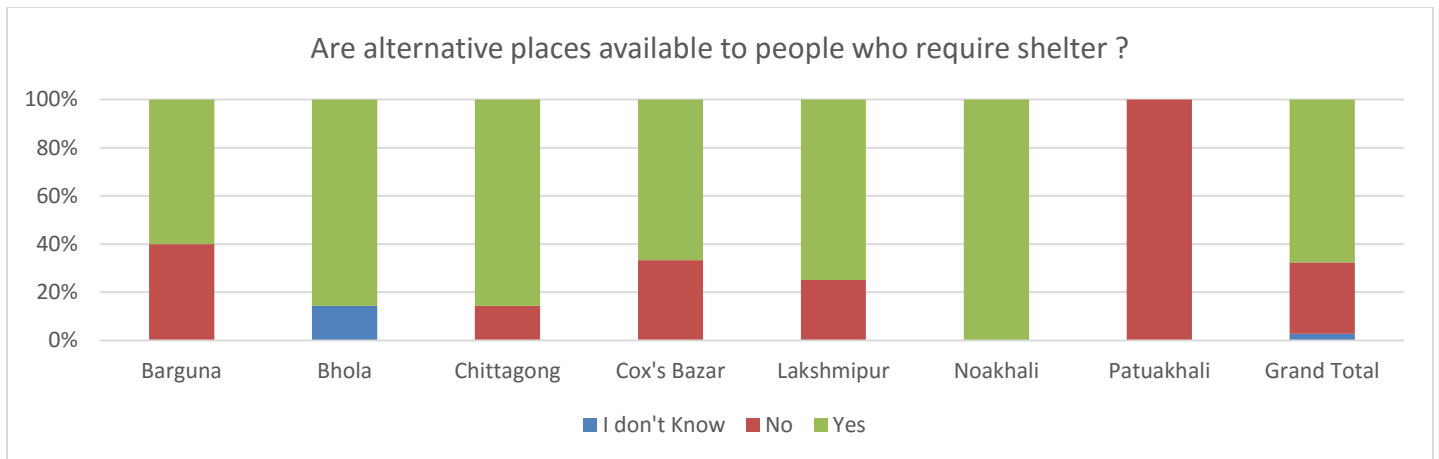


The two Upazilas that reported highest need for immediate shelter as many (51 to 100 %) are Pekhua and Maheshkhali, Cox's Bazar district. "Some" shelter needs (26 to 50 %) was reported in Bhola Sadar, Bhola district and Hatiya and Subarnachar Upazila, Noakhali district. In the case of Barguna, a high % have responded that they do not know indicating a need for further assessments to understand possible families in need of shelter support.

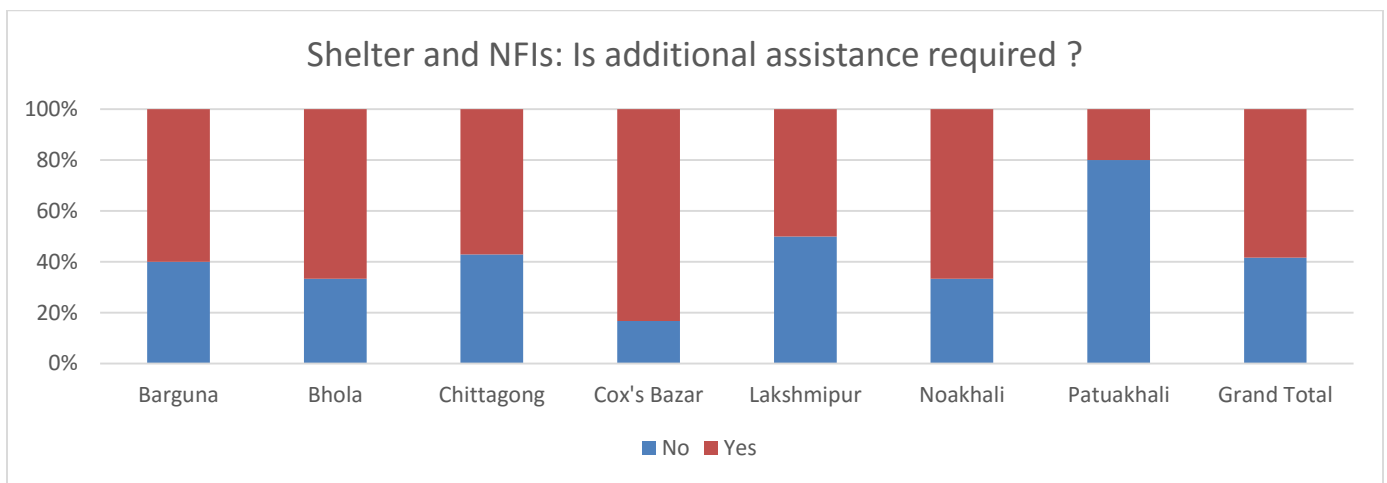


Shelter is reported as an issue as a result of the disaster in a number of Upazilas. It was identified as an issue in Noakhali and Bhola. In Barguna 40 % respondents said that they, indicating the need for further assessment. In total

25 Upazilas have reported shelter as an issue. Further the highest need for sufficient bedding/blankets have been reported in Bhola, Chittagong, and Cox’s bazar.



Data suggests that there are adequate alternative places for people to stay who have partially for fully damaged houses. For Patuakhali however no alternative places have been reported. Figures on displacement however have been reported as quite high so additional analysis of the nature of displacement and where affected population have been displaced to.



Need for additional assistance of shelter and NFIs have been reported in all districts but are the highest in Cox’s Bazar, Bhola and Noakhali. The districts which have reported the lowest need for additional assistance are Patuakhali and Lakshmipur.

In areas assessed after Tropical Storm Mahasen 2013, 94% of the housing was *kutcha*, with corrugated iron roofing and corrugated iron or timber planks for walls, timber or bamboo frames, earth floors and clay plinth foundations²⁴. One constraint to assessing shelter damage after tropical storm Mahasen was distinguishing between houses damaged by the storm and the chronic problem of sub-standard housing²⁵. While self-recovery is an important sign of resilience, one concern expressed with the large number of self-built emergency shelters is that they will not

²⁴ Shelter Cluster 2013

²⁵ Shelter Cluster 2013

withstand the monsoon. This is particularly the cases in areas affected by a series of disasters since 2012. Self-recovery must not be undermined, but rather monitoring and support of repair should be provided²⁶.

Emergency shelter support is essential for fully damaged and severely partially damaged houses. It is found that affected families initially need cash support to repair their houses with their salvage material. This is considered as emergency or makeshift shelter. The greatest need of those with damaged houses after Cyclone Mahasen 2013 was identified as cash to help them repair or rebuild their homes. The second priority was corrugated iron and timber.

Transitional shelter responses are unable to include landless families, therefore leaving out the most vulnerable members of the community. This has been noted in lessons learned after Sidr, Aila, and Mahasen. The chronic complexity of land reform and landlessness should not be underestimated and a quick-fix of these issues following a disaster is unlikely²⁷.

4.5 EDUCATION

KEY FINDINGS

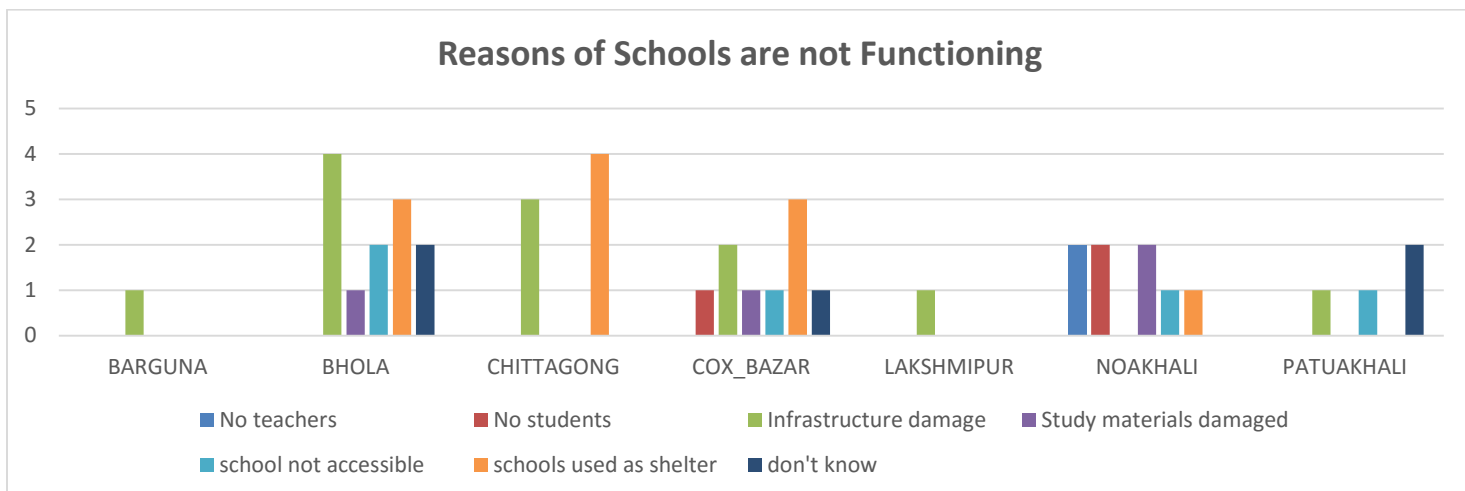
- Affected schools of assessed districts are in need of repair and rehabilitation as soon as possible so classes can continue/resume
- Study materials also needed in the most affected areas
- The situation at schools seems confused as schools were not open during the storm or the assessment day, due to school holiday.

RECOMMENDATIONS

- Assessment of schools in the affected area to identify needs for repairing and rehabilitation based both on damages as a direct result of the TS as well as from the use of schools as collective shelters for displaced people.
- Based on this assessment rehabilitation of schools should take place as soon as possible so that children can resume classes quickly and avoid extended time away from school.
- School rehabilitation should take into consideration the monsoon season is only beginning and that school structures need to be ready to withstand this.
- Provision of teaching and learning materials for students
- Linking to DPE it access EIE funds for the affected schools

²⁶ KI, Shelter TWG, 2014

²⁷ KI Shelter Cluster TWG 2014



At the time Roanu impacted the area, primary and secondary schools were closed due to examination of H.S.C and summer vacation. Primary and secondary schools are scheduled to re-open from 27th May 2016. Non- formal schools were open. Higher Secondary examination is on-going on (starting from April 02 and June 09, 2016). It is possible that some students may miss the exam because of disruption caused by the cyclone.

Every year in Bangladesh schools experience damage to a range of disaster events. In addition to the damage caused directly by the disasters, schools are used as temporary collective shelters for people who have been displaced from their homes making it not possible to use the building for education and causing damage to the building that needs to be repaired before classes can adequately resume. Experience in Bangladesh has shown that access to education after a disaster is considerably reduced because of the direct impact of the cyclone or because the schools are used as collective centres.²⁸ It is not yet clear how schools have been affected during TS Roanu, but issues around repairing and cleaning school buildings have been problems in the past. In addition damaged road networks reduce access to schools. Educational materials (in children’s homes as well as in the schools) are damaged/destroyed.

School WASH facilities are usually identified as a main neglected focus of recovery efforts. In addition, children of vulnerable families are at risk of missing school due to the need to support their family. Where cash for work programmes did not consider conditions for families with school age children (e.g. a requirement of a certain number of days of attendance by school age children), programmes were not successful in promoting continuity of education. Teachers too can be affected and can miss school due to the need to re-construct/repair their own houses. A key feature in restoring schools functionality and participation is the role of School Management Committees (SMCs).

Further education baseline data is included in Annex 5.

4.6 CHILD PROTECTION

KEY FINDINGS

The JNA Phase 1 methodology does not collect specific information regarding child protection because the format is based on the collection of information from government officials by generalist personal without child protection experience. Secondary data needs to be used to make some initial recommendations.

RECOMMENDATIONS

Immediate:

²⁸ Source: Cyclone shelter information for management of Tsunami and Cyclone Preparedness 2009 by CDMP

- Work together with education partners to ensuring safe school environment for children to reduce and maintain school attendance/reduce drop out.
- Promoting child participation and leadership in advocating for issues affecting them in the aftermath of the tropical storm and in post-disaster recovery work.

Longer-term:

- Strengthening community-based child protection mechanisms against child marriage, trafficking and gender based violence.
- Advocate for strengthened child protection systems by government (local and national) with particular attention to unsafe migration and diversion of children into child labour.

Child protection is a fundamental issue in all districts affected by TS Roanu. The national child protection system is weak – not able to monitor domestic violence, sexual harassment/abuse, and increased trafficking risks. Some of the key child protection risks which can be exacerbated by disasters in Bangladesh are:

CHILD MARRIAGE

The combination of the impact of regular natural disasters in Bangladesh with the lack of adequate government safety nets for families affected by them, compound poverty which can drive incentives for child marriage²⁹.

“After cyclones, families think their condition is worse and send their daughters to get married. Almost 50% of girls drop out of education because of early marriage. In very remote villages, it is probably more 70 to 75%³⁰.”

CHILD LABOUR

After emergencies, children are much more likely to have to work to support themselves and their family³¹.

CHILD TRAFFICKING

In Bangladesh, trafficking, sexual abuse and exploitation are threats for children, with over 13,000 children trafficked out of the country over 2004–2009 and as many as 20,000 children exploited in street prostitution. Media reports have highlighted that the Cox’s Bazar district is a prominent location for people trafficking in Bangladesh³². High rates of unsafe migration experienced in the affected areas³³ for youth. In line with experiences that relate to disasters in general, the risks and opportunities for exposition and trafficking increase as a result of emergency and limited employment opportunities.

ENHANCED RISKS TO HOSE ALREADY VULNERABLE

Women, children, elderly and disabled people and the extreme poor are less able to migrate and thus more likely to be trapped in vulnerable loations³⁴.

As would be expected in the immediate aftermath of a disaster, there is currently no available sex- and age disaggregated data on people affected by cyclone Roanu. There is no available information on the most vulnerable groups including children with disabilities.

Bangladesh does have key lessons from past disaster events which indicate the importance of using a child protection lens in viewing all proposed interventions to ensure that risks of breaking down of traditional protection and family based care facilities, exposing children to the risk of separation from families, displacement or lack of adequate shelter and lack of basic services is avoided. The protection, safety and security of children and especially for adolescent girls should be a key priority as the risks in regard to internal migration, trafficking, child labour

²⁹ Source: Human rights Watch report June 2015, p41

³⁰ Source: Young girl from Barguna, Bangladesh cited in “Weathering the storm: adolescent girls and CC” report, Plan 2011

³¹ Source: Child labor in Bangladesh, UNICEF, Unit for children, p6

³² Source: JNA Child protection 2015

³³ Source: ASRHR baseline, Plan, 2011

³⁴ Source: Action Aid Report, Displacement and Migration from Climate Hot-spots in Bangladesh Causes and Consequences

(including engagement in domestic and hazardous work), child marriage, school drop-out, and gender-based violence have the potential to increase.

4.7 PROTECTION

The JNA phase 1 does not provide primary data on protection issues because the format is based on the collection of information from government officials by generalist personal without child protection experience. Secondary data needs to be used to make some initial recommendations.

Secondary data compiled by UNFPA on the impact of the cyclone indicates the importance of addressing an increased need of women and girls of reproductive age for safe childbirth, hygiene and dignity, and protection from gender based violence. The capacity of the cyclone shelters was found to be inadequate to accommodate to the affected population. Therefore, particularly women and girls do not feel safe and secure to come and stay at these centres. JNA data indicated that there is a huge need of adequate separate toilets for men and women, in many places (for example Baufal in Patuakhali) the capacity of shelter homes are limited and about 500 people are sharing one toilet

This data shows that women and girls are already at risk of GBV even in a normal setting. And when a disaster occurs, the vulnerability of women and girls to gender-based violence increases in manifold. Women and adolescent girls can particular be at risk of sexual violence, exploitation and abuse, and harmful traditional practices like child marriage, as mentioned in the previous section. Women's restricted decision-making power and mobility also puts them at increased risk in an emergency. Lack of information and data about the exact extent of the GBV incidents committed during or after a disaster may pose a challenge; however, "all humanitarian personnel have the responsibility to assume GBV is taking place, to treat it as a serious and life-threatening protection issue, and to take action described in to minimize GBV risk through their sectoral interventions, regardless of the presence or absence of concrete 'evidence'"³⁵.

Some information such as that on the availability of private latrines and spaces to breast feed can be seen as proxy indicators of protection issues that can arise if the situation continues. As recently as mid 2015 a phase 2 JNA found that female community group discussions notes that safe and private latrines was one of their highest priorities after flooding that occurred in a similar area to that affected by Roanu. A lack of places for women to bath has been reported by INGOs visiting the area.

Past disasters in Bangladesh have highlighted the following key lessons learned:

- If there is displacement to spontaneous settlements and collective centres it is important that safe and private /separate latrines are constructed and made available to women/girls.
- Women have been known to suffer from skin diseases and other infections because they are often bathing in stagnant water in order to seek privacy.
- In shelter interventions (supporting reconstruction etc) take place it is critical to consider "invisible groups" such as female headed households, elderly and disabled who will require labour support as well as cash/shelter materials.
- In shelter it is also important to keep the provision of separate space for women and girls to protect their privacy, confidentiality and security.
- Older persons and persons with disability are regularly left out of early recovery/livelihoods
- Ensuring access to information for all is critical as this is sometimes only passed on to men or controlled by men thus leaving other groups without sufficient information to make safe and appropriate decisions

RECOMMENDATIONS:

- Utilization of the hotline (10921) number of MoWCA to prevent and response the GBV

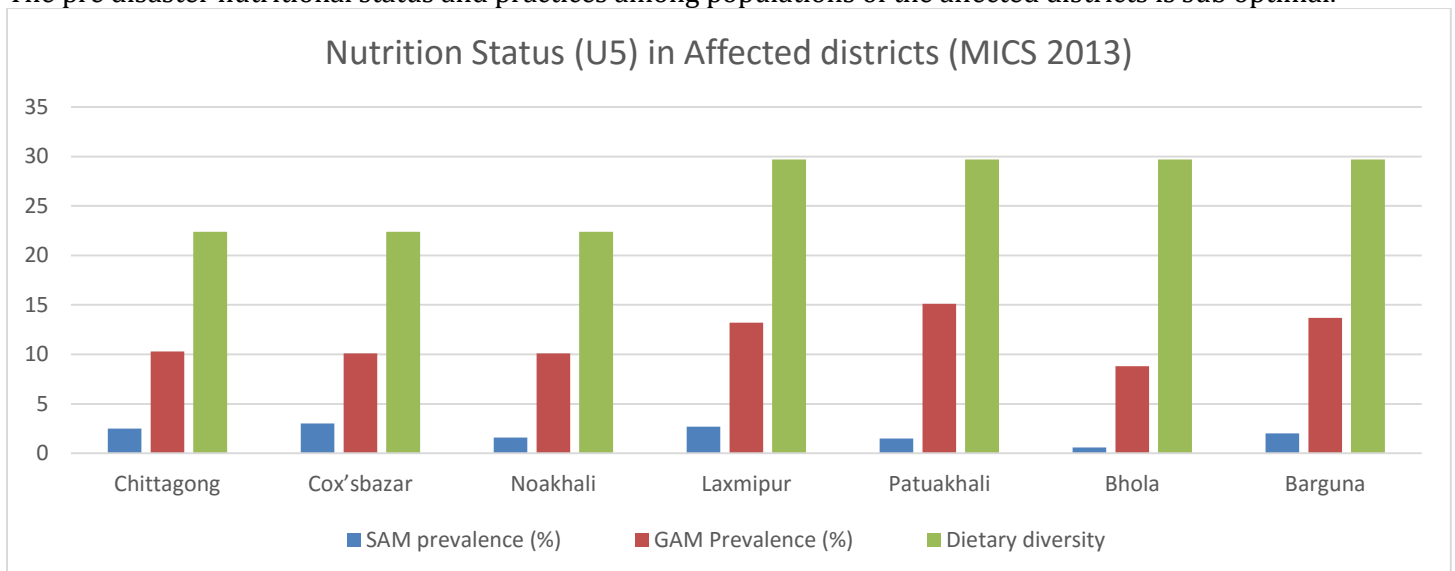
³⁵ *Guidelines for Integrating Gender-based Violence Interventions in Humanitarian Action: Reducing Risk, Promoting Resilience, and Aiding Recovery*, IASC, 2015. p.2

- Strengthen coordinated, appropriate and safe services for the cyclone affected women, girls and boys to protect them from violence, including enhanced and visible patrol by law enforcement agencies, and maintaining the existing GBV referral services and networks across the affected areas
- Quickly reassess local health care providers' capacities and adequate medical equipment (including Dignity Kits and PEP kits) as well as capacity building needs for GBV response and mitigation
- All sectors to ensure minimum standards to prevent or mitigate risk of violence and ensure their dignity, including at shelters, food/water distribution points, separate latrines, etc.
- Monitor and prevent the case of illegal child marriage
- Support women and girls' food and non-food needs through adequate and equitable distributions.
- Ensure group of women/community volunteers engaged in the food/NFI distribution
- Mobilize women vigilant groups (community volunteer) to ensure the security of women and girls in the shelter/temporary camps
- Ensure and publicize available health and psychosocial services for women's needs including essential information kit
- Consider the needs for women friendly spaces to report protection concerns, access available services, and for adolescent girls and child survivors to receive age-appropriate psychosocial support
- Well-lit surroundings
- 16. Keep provision of safe collection & storage of evidence & data on GBV cases

4.8 NUTRITION

KEY FINDINGS

The pre disaster nutritional status and practices among populations of the affected districts is sub optimal.



The graph above denotes:

- Poor nutritional status with Global Acute Malnutrition (GAM) at 11.6% which signifies alert levels according to WHO threshold
- Severe Acute Malnutrition (SAM) is at an average of 2%
- Poor dietary diversity of 26%
- Sub optimal exclusive breastfeeding rates

RECOMMENDATIONS:

- Community level screening, referral and follow up of malnourished children.
- Targeted supplementary feeding for vulnerable groups-PLW, under five children.
- Support and promote appropriate Infant and Young Child Feeding (IYCF) practices.
- Continue the management of Severe Acute Malnutrition for under five children in existing SAM management facilities (16 hospitals in affected districts have supplies and capacity to provide treatment.);
- Targeted cash transfer for PLW and SAM cases: To cover for additional food requirements for PLW and referral and upkeep support for SAM cases.
- Monitoring the violation of the Breast Milk Substitutes code.
- Mass MUAC screening and/or SMART survey in one – two months to assess the nutritional situation.
- Food distribution should include a diverse package to cover the needs of especially vulnerable (under five and pregnant and lactating women).

The southern districts affected by the cyclone Roanu are characterized by the following: Sub-optimal infant and young child feeding practices across the affected districts (children consuming minimum acceptable diet is about 23%; dietary diversity for children 6-23m is at 27% while exclusive breastfeeding is between 50 – 60%);

- o GAM rates are at alert level of 11.6% (average of all districts)
- o SAM rate of 2% in average
- o Highest prevalence rate of diarrhea (6.7%) among U5 children³⁶ for some of the areas in Chittagong division. The monsoon period is typically characterized by high morbidity that is a driver of malnutrition
- o Sub optimal maternal dietary diversity: 53% and 73% of women consume inadequate diversified diets in Chittagong and Cox Bazaar districts respectively³⁷
- o Household food consumption partners in Chittagong (15%) and Cox Bazaar (20%) districts exhibit poor and borderline food consumption patterns indicating a poor situation compared to the national average³⁸

Wasting among women of reproductive age is 15.7% (BMI<18.5)³⁹.

In addition, the communities in the affected areas are known to consume diets that are low in diversity as well as low in quantity.

Therefore, key concerns are the inadequate diet consumption in terms of quality and quantity especially for vulnerable groups such as under five children and pregnant and lactating women; Access to markets and food is limited during monsoon season due to flooding and challenges related to transport; Limited income generating opportunities during the monsoon season and during disaster events; Safety net programs are not equitably targeted/implemented in the affected areas of the districts; High level of poverty especially across the coastal belt Upazilas.

Statistics: Rates of under-nutrition, GAM, SAM, dietary diversity are indicated here below.

Districts	SAM prevalence (%)	GAM Prevalence (%)	Dietary diversity
Chittagong	2.5	10.3	22.4
Cox'sbazar	3.0	10.1	22.4
Noakhali	1.6	10.1	22.4
Laxmipur	2.7	13.2	29.7
Patuakhali	1.5	15.1	29.7
Bhola	0.6	8.8	29.7
Barguna	2.0	13.7	29.7

³⁶ Source : BDHS-2014

³⁷ Source: IPC/Integrated food security phase classification- 2013

³⁸ Source: IPC 2013

³⁹ Source: BDHS-2014

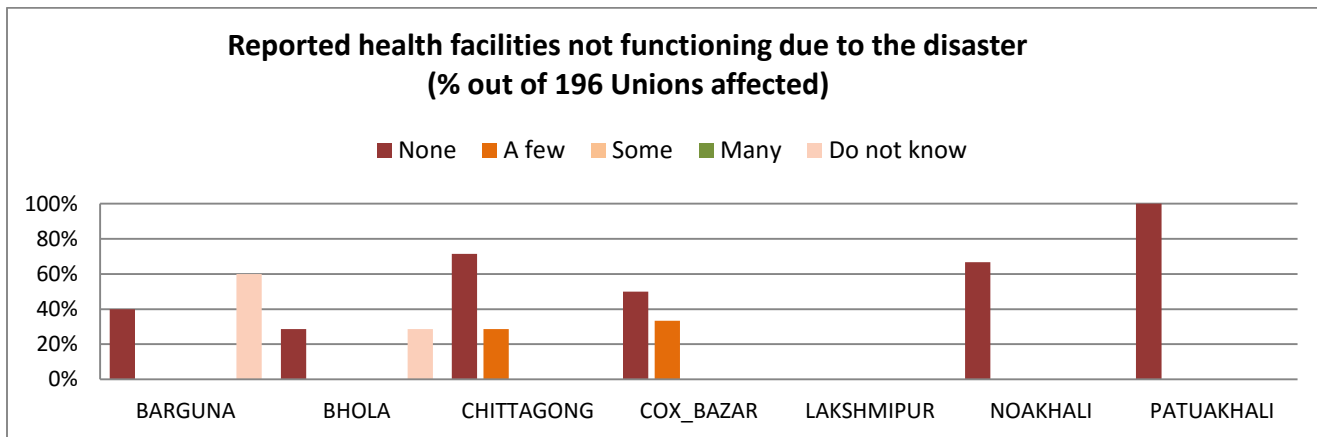
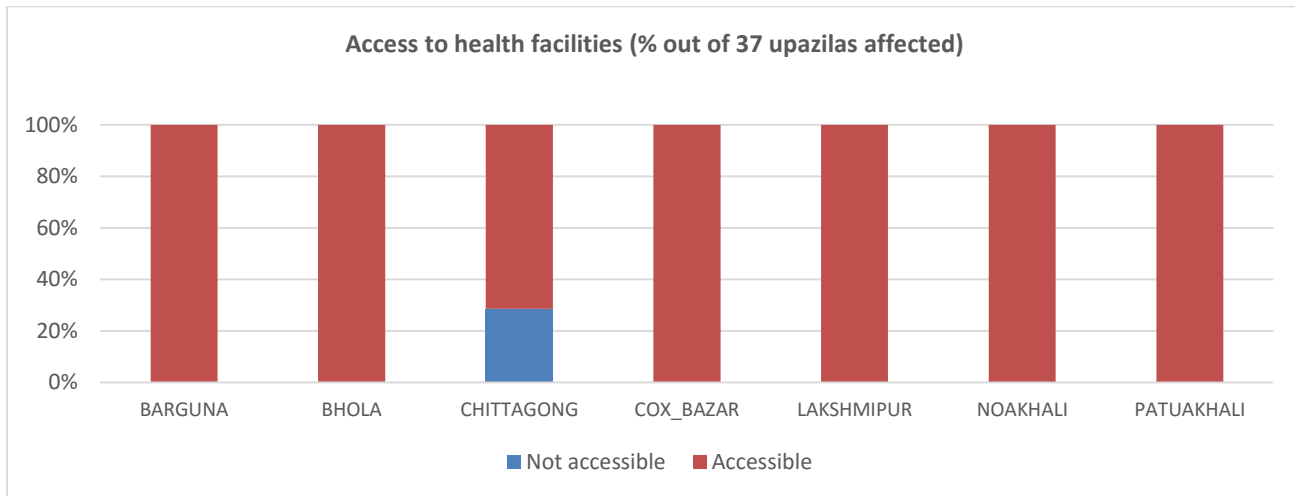
4.8 HEALTH

KEY FINDINGS

Most health facilities are accessible and functioning

RECOMMENDATIONS

Replenish of emergency buffer stock medicines and renovation of health facilities become essential for the cyclone affected health facilities. Please see [annex X](#) for a full list of health facilities in the affected area.



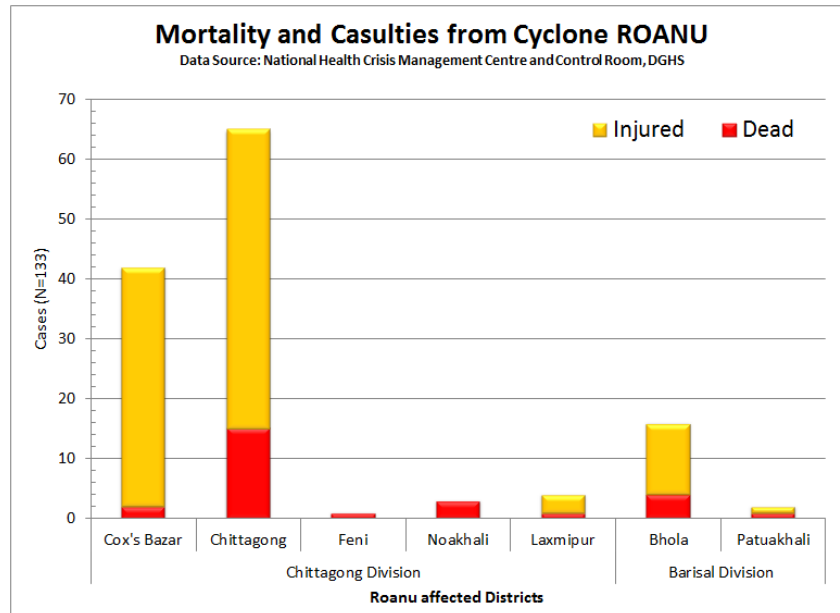
Communicable diseases as well as water and food borne disease usually trigger up following the storm surge due to acute shortage of drinking water and disrupted sanitary system in the cyclone affected areas.

Reporting of Diarrhoea cases all over the country remains at the high level during March through July (Source: National Health Crisis Management Centre & Control Room, DGHS, Bangladesh). Fatality increases due to drowning and snakebite.

The 'National Health Crisis Management Centre and Control Room' of Directorate General of Health Services reported 27 people have died and 107 people reported injury till 22 May 2016. Casualties are mainly from drowning, landslides, uprooted trees and destroyed houses caused by the cyclone Roanu.

Health problems are managed by using pre-positioned emergency drugs. There remains concern that disease outbreaks might occur once stagnant water will begin to recede. Managing the evolving health situation can be a great challenge; so replenishing emergency buffer stock becomes the utmost requirement.

Often, some inundated health facilities (e.g. Union Sub Centre, Community Clinic) required to be renovated.



RECOMMENDATIONS

- Identify the pregnant women in need of immediate support and ensure their access to health facilities.
- Ensure women and girls accessing the information and health services with privacy and confidentiality
- Ensure the health sector/cluster to implement the Minimum Initial Service Package (MISP) for reproductive health (RH) needs which is a set of priority activities designed to prevent excess maternal and newborn morbidity and mortality; reduce STI including HIV transmission; prevent and manage the consequences of sexual violence; and plan for comprehensive RH services.
- Women who are on family planning methods should get the FP commodities continually
- Strengthen the reproductive health working group to ensure comprehensive RH services during crisis situation
- Ensure provision/facility for immediate care for GBV survivors
- F/M staff trained in clinical management of rape (CMR) – with post-rape treatment kits

5 ROAD AND EMBANKMENT DAMAGE

Chittagong	<ul style="list-style-type: none"> ▪ Road transport network in four coastal upazilas (Anwara, Banshhali, Sitakunda and Mirsarai) is okay. For Sandwip UPAZILA, road and waterways communication up to the upazila HQ is accessible. Some earthen road at the interior villages were damaged due to tidal surge but accessible. Waterways communication to all five coastal upazilas is okay. People are moving uninterruptedly. ▪ Chittagong Central Storage Depot (CSD) and Upazila level Local Storage Depot (LSD) are okay. ▪ All 350 cyclone shelters in five coastal upazilas are in good condition.
-------------------	--

	<ul style="list-style-type: none"> Chittagong International Airport is operating and flights are moving according to schedule.
Cox's Bazar	<ul style="list-style-type: none"> Major areas can be covered by road transportation. Parts of Chokoria, Pekua, Moheskhali (Dhalghata, Matarbari etc) and Teknaf (Sabrang) requires waterway transportation during flooding as roads become inaccessible. The islands of Saint Martin and Kutubdia can be reached only by boat. Some roads (e.g. marine drive) is blocked due to landslide caused by excessive rainfall. When road network becomes inaccessible for trucks or other big vehicles, local transport (e.g. Nosimon/tom-tom, van, and rickshaw) are used from that point onwards. Head carrying is also required in some parts (for small distance). Bridges, airport and storage facilities were all functioning. During non-crisis period, cyclone shelters are mostly used as schools and those were also operating. Airport was closed down in the morning of 21 May. Cox's Bazar faces frequent power-cut during tourist season (November -March) and it continues normally throughout summer. The District Commissioner's office usually cuts-off power before any major cyclone/storm. On 21st May, the power was cut at 04:00 am and it returned after 18:00. Upazila level electricity availability is quite poor. For example, Kutubdia did not have any electricity for 6 months during 2014.
Noakhali	<ul style="list-style-type: none"> All transportation networks remain as before from the district headquarter to upazilas. Some earthen roads are partially damaged and fish ponds were washed away in Hatiya upazila which were in good condition before the tidal surge.
Laxmipur	<ul style="list-style-type: none"> As informed by DRRO, Laxmipur all communication network in the district is remain same as before the cyclone Roanu hit.
Patuakhali	<ul style="list-style-type: none"> Hundreds of trees fall over in roads in Dashmina, Baofol, Kolapara upazila which has created barrier for transportation especially in villages/union level. GoB is so far clearing it now. Though weather has become normal, rivers are still high with uncontrollable wave. In that situation communication between plain land and char-island has become difficult. Supply of electricity is inconsistent. Road communications are so far ok and ferries/launches are functional.
Bhola	<ul style="list-style-type: none"> 8 embankments (Monpura upazila: 2, Char Fasson upazila: 3, Tazumuddin upazila: 2, Lalmohon upazila: 1) have been damaged/breached so far. Due to this affected villages become inundated during the time of high tide, especially in full moon period. Villages adjacent to broken embankment become inundated during high tide and water goes down during low tide. Hundreds of trees fall over in roads in Tazumuddin, Lalmohon, Sadar, Char Fasson which has created barrier for transportation especially in villages/union level. GoB is so far clearing it now. Though weather has become normal, rivers are still high with uncontrollable wave. In that situation communication between plain land and char-island has become difficult. Electricity have become normal except in Tazumuddin upazila. It may take a day or two become normal. Road communications are so far ok and ferries/launches are functional.
Barguna	<ul style="list-style-type: none"> 06 embankments (In Sadar upazila: 2, Taltoli upazila: 2, Patharghata upazila: 2) have been damaged/breached so far. Due to this affected villages become inundated during the time of high tide, especially in full moon period.

	<ul style="list-style-type: none"> ▪ Hundreds of trees fall over in roads in Taltoli, Sadar, Patharghata upazila which has created barrier for transportation especially in villages/union level. GoB is so far clearing it now. ▪ Though weather has become normal, but rivers are still high with uncontrollable wave. In that situation communication between plain land and char-island has become difficult. ▪ There is inconsistent electric supply. ▪ Road communications are so far ok and ferries/launches are functional.
--	---

ANNEXES

- Annex 1: Key Characteristics of Affected Area
- Annex 2: JNA Maps
- Annex 3: JNA Phase 1, questionnaire
- Annex 4: Respondent graphs
- Annex 5: Education baseline
- Annex 6: JNA ToR
- Annex 7: Health Facilities
- Annex 8: Overview of JNA data
- Annex 9: List of worst affected unions
- Annex 10: Development partner response, to date
- Annex 11: NDRCC Damage report 22.05.16