Char Development and Settlement Project Phase IV
Bangladesh

Technical Report No. 14

Rapid survey of cyclone shelters
and disaster response at the household level

Government of Bangladesh / IFAD / Government of the Netherlands

Implementing Government Agencies:

- Bangladesh Water Development Board (BWDB)
- Ministry of Land (MoL)
- Local Government Engineering Department (LGED)
- Department of Public Health Engineering (DPHE)
- Department of Agriculture Extension (DAE)
- Forest Department (FD)
  and NGOs

Technical Assistance:

- BETS
- Euroconsult Mott MacDonald
- Socioconsult

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Currency

Bangladesh Taka (BDT): Tk.82.5 = USD 1 Tk.97.7 = EUR 1

1. Introduction

CDSP IV aims to improve the livelihoods of poor people living on newly accreted chars in the coastal area of south-eastern Bangladesh. Living on unprotected mudflats only a few centimetres above sea level, these households are extremely vulnerable to tidal flooding and, in particular, to cyclones and other storms – high winds destroy houses and trees, and the storm surges wash away crops and fish ponds, and can drown people and domestic animals. CDSP IV is working to reduce this vulnerability by constructing embankments and planting shelter belts of trees to protect the project areas, and also by building cyclone shelters as refuges for people, and killas (raised earth platforms) for livestock. This is backed up by a cyclone warning system and training in disaster preparedness.

CDSP IV originally planned to build 60 cyclone shelters as part of component 2 of the project - Climate-resilient infrastructure and water supply and sanitation. These shelters, constructed by LGED (Local Government Engineering Department), would have provided refuge for more or less the entire population of 140,000 in the project area. At the start of the project it became apparent that shelters would cost more to construct than had been anticipated, and the number was reduced to 42 (including 5 on non-CDSP IV chars). More recently, three further shelters have been dropped due to lack of suitable locations. The project also plans to build 17 killas, of which 12 have been completed.

Some information on how the project has helped reduce household vulnerability has been collected in Annual Outcome Surveys (AOS) and by the mid-term impact assessment carried out by BRAC (one of the CDSP IV partner NGOs). The 2016 AOS recorded that only 2% of the sample CDSP IV households reported being displaced due to flood, cyclone or tornado, and only 3% reported loss of crops due to flood and drought in the previous 12 months. This is considerably less than the 42% reporting displacement and 47% crop loss in the 2011 baseline survey – although this was over a five year, rather than a one year, period. The BRAC mid-term assessment, carried out in 2016, recorded that 87% of sample CDSP IV households reported that they had a cyclone shelter near their house, compared with only 9% in the 2012 baseline survey. However, no households reported getting any assistance after a cyclone, although all said they were now aware of warning signals (up from 69% at baseline) and 99% said that they were now able to manage disasters, compared to 64% at baseline.

Cyclone Mora, which hit the CDSP IV project area in May 2017, presented an opportunity to assess how cyclone shelters were being utilised and the response to disasters at the household level. With this in mind, a rapid survey has been carried out to gather the following information:

- The extent to which people took shelter in cyclone shelters and any problems in their use as shelters
- Other uses of shelters – they have been designed to be used as schools
- Issues of shelter management and maintenance

- Household coping strategies in disaster situations – shelter and resilience for people, livestock and property

The study covered 31 cyclone shelters, with key informants being interviewed at each shelter regarding its utilisation and management. In addition, between two and four households (a total of 104) were interviewed in the catchment area of each shelter. Data was collected by the field staff of CDSP IV and partner NGOs in June 2017 using a schedule of questions (Annex 1). These questions were largely open ended in order to capture a wide range of possible responses. A list of the cyclone shelters is in Annex 2 and a list of households is in Annex 3.

2. Shelter design and specification

The shelters on the CDSP IV chars are of two standard designs and are planned to be used as schools as well as shelters. Shelters located within the embankment area (i.e. not on Caring or Urir chars) have two floors, each of 260 m^2 internal area. The lower floor, has five classrooms and the upper floor, four classrooms, a teachers' room and separate male and female toilets. For use as a school, there is also an external toilet block. On Caring and Urir char, where there is no protective embankment and the risk of large storm surges is greater, the ground floor is left open with the upper floor supported by pillars. The upper floor and flat roof (protected by a parapet) are designed to accommodate 2,500 persons (500 households) at the time of a cyclone, with facilities for water supply (a deep tube well) and sanitation. Shelters built during the earlier phases of CDSP all had an open ground level, but the rooms on the lower floor maximise the functionality of the shelter as a school and for other community uses.

A cyclone shelter with enclosed ground floor

During the implementation of CDSP IV some changes have been made to shelter specification. Approach roads are being built to each shelter to make access easy during bad weather. Land around the shelter is being raised for use during school assemblies and other events. Entry stairs are now made of reinforced concrete rather than masonry – this prevents stairs cracking as they settle and under heavy loads –

so saving on later repair costs. Lightening conductors are to be installed at all shelters.

A cyclone shelter with open ground floor

Lessons emerging from construction of CDSP IV shelters include:

a) In future it may be a good idea to install a small ramp for access to the first floor for people in wheel chairs – but this should not be used to allow people to bring livestock into the shelter.
b) There is a need to revise the sanitation arrangements as there are problems in the maintenance of the toilets installed at first floor level (see Table 4 below). Despite having an external toilet block for the school, the internal toilets tend not to be reserved for use only at time of cyclones, and the hand pumped water supply is insufficient to keep them in good order.
c) At locations where there is a large population within the 1.5 km radius catchment area of the shelter, it could be a good idea to add another story to accommodate more people.
d) Shelters with two stories have 10 rooms (5 on the ground floor and 5 on the first floor), but a primary school normally needs only 7 or 8 rooms, so there is scope to allocate some of the space for other uses – such as a permanent clinic.

3. Utilisation and management of cyclone shelters

The study collected data from all 29 shelters in the CDSP IV chars that had become operational at the time that field data was collected in June 2017 (Table 1).

Of the 31 shelters covered in the study, 27 were completed between January 2014 and June 2017. Of the remaining four shelters, the three on Caring char were not 100% complete at the time of the study but nonetheless were used as shelters during cyclone Mora in May 2017, and the shelter on char Ziauddin was not completed until August 2017 and had not been used at all at the time of the survey.

Table 1: Number of shelters on each char

Name of char	Number of cyclone shelters	
	Planned	Operational
Nangulia	16	16
Noler Char	9	8
Caring Char	6	3
Urir Char	4	2
Zia Char	2	2
Total	37	31

Since the survey data was collected, one shelter on Caring Char at Gour Nitai Mondir has been lost as the land where it was built has been eroded and one on Noler char (CS-19 at Killa bazaar) and one at Caring Char (CS-5 at Bhatkhali bazaar) are likely to be lost in the same way within the next few months.

Thirty out of the 31 shelters have been used as refuges at times of cyclones, being used on between one and four occasions, and with an average of 2.0 times (Table 2). The frequency of use relates to the period over which the shelters have been operational. Specific information has been collected on utilisation during the two most recent cyclones (Mora in May 2017 and Roanu in May 2016). The eight shelters which were not utilised during Roanu were not complete at that time. Three shelters were not used during Mora – two of these had been used during Roanu, but one only sheltered 12 persons and the other 95, suggesting that there was not great demand for shelters at these locations on Nangulia and Noler chars. The third shelter that was not used during Mora is the shelter on Ziauddin that was not completed at the time of this cyclone.

People going to a shelter – note the cyclone warning flag

Table 2:Frequency of shelter use

Number of times used	Number of shelters
1	10
2	11
3	8
4	1
Total	30

The number of people in each shelter varied between 12 and 1,500 during Roanu and 25 to 1000 during Mora. The average number of people in each shelter during Roanu was 284, with significantly more (500) taking refuge in the shelters on unprotected Urir char. During Mora the average number per shelter was 241 with more (450) in the shelters on the unprotected Caring char (Table 3). The average number of members of each household taking refuge was only 3.6 during cyclone Roanu and 3.6 during Mora – so some family members were absent – being either away from the char or taking care of livestock and other property.

Table 3: Use of shelters during two recent cyclones

Name of char	Cyclone Roanu – May 2016			Cyclone Mora - May 2017		
	No. of shelters used	Average persons	Average households	No. of shelters used	Average persons	Average households
Ziauddin	0	0	0	1	250.0	161.0
Nangulia	14	343.1	97.3	15	251.1	69.1
Noler Char	7	105.0	25.7	7	115.7	27.9
Caring Char	0			3	450.0	102.7
Urir Char	2	500.0	145.0	2	285.0	88.0
Average		284.3	79.7		241.0	61.3
Total	23	6538	1832	28	6747	1876

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Table 4: Problems in use of cyclone shelters

	Number of shelters	Percentage of shelters
Water supply	14	50%
Sanitation	7	25%
Space in the shelter	2	7%
Undefined problems	2	7%
Erosion of land	1	4%
Any of the above problems	19	68%
No problem	9	32%
Total responses (n)	28	100%

Information on problems on use of shelters was obtained from 28 of the 30 shelters. Of these 28, 70% reported problems of some sort, and 30% said there were no problems (Table 4). The major problem, reported by over half of all shelters was that of water supply, with sanitation being a problem in over a quarter of shelters.

A few shelters reported other problems, such as lack of space and land erosion – but lack of space was not reported in the two shelters that had accommodated the largest numbers of people (1000 during Mora and 1500 during Roanu) – these two shelters reported that they had no problems at all, although it should be remembered that this information came from key informants rather than individual shelter users – who may have a different story.

All but two of the 31 shelters are being used as schools with a total of 7,746 pupils. One of the two shelters that are not being used is recently constructed – being shown as not yet completed. Of the 29 schools, 27 are primary, one is a high school and the status of the remaining school is not known. Data on pupil numbers from 26 schools show they range from 70 to 1083 pupils with an average of 298, 51% boys and 49% girls. On average, each school only has 4.4 teachers. Although one school (the high school) is recorded as being a government school, it and all other schools (which are shown as being private schools) are funded by the community and local people.

Classroom in a cyclone shelter (CDSP IV provided the furniture)

At 23 shelter locations there were already schools before the shelters were built. Information from 17 of these locations show that these accommodated an average of 228 pupils. Overall the shelter schools are accommodating about 65% more pupils than the schools did prior to the shelters being constructed.

The study found that the use of shelters as schools was relatively trouble-free. Out of 29 shelter-schools, 23 said they had no problems, four had water issues and two had maintenance problems.

Apart from being used as schools, 40% of shelters have additional uses. Data on 30 shelters shows 8 are being used as clinics and health centres – either by NGOs or

government programmes. Two are used to hold CDSP training courses and holds days of observation – such as World Women's Day. Another is used for other meetings and one is used by a Farmers' Forum. Two shelters hold camps for the police and the navy. All of these additional uses are in shelters that are also used as schools. There are no other uses for the two shelters that do not have schools – these two shelters were (at the time of the survey) only being used as cyclone refuges.

Table 5: Other uses of shelters

	Number of shelters	Percentage of shelters
Clinics / health centre	8	27%
Training and observation days	2	7%
Meetings and Farmers Forum	2	7%
Police and navy camps	2	7%
All other uses	12	40%
No other use apart from school	16	53%
Not used at all except as a shelter	2	7%
Total number of responses	30	100%

After construction, the ownership of all shelters passes to the Upazila Disaster Management Committee – an official body operating under the authority of the UNO (head of government at the sub-district level). Informants for all except one of the 31 shelters were able to say who was locally responsible for maintenance (Table 6). Fourteen of the shelters (45%) are looked after by School Management Committees – with 11 of these being supported by Water Management Groups. At 11 shelters, responsible individuals were named, sometimes the school head teacher. Of the two shelters that are only used as cyclone refuges (and have no other uses), one is looked after by the UNO and one (a shelter that was not yet completed) has no designated responsible person or agency.

Table 6: Responsibility for shelter maintenance

	Number of shelters	Percentage of shelters
School Management Committee	14	45%
Individuals	11	35%
Disaster Management Committee	3	10%
Cyclone Shelter Committee	1	3%
UNO	1	3%
Nobody	1	3%
Total shelters	31	100%

Union Disaster Management committee with warning flags

4. Household response to disaster

Information on the response of individual households to cyclones was collected from 104 households. Of these, 11 live outside of the embankment (Table 7).

Table 7: Location of households covered by the study

Name of char	Number of households	Households outside embankment
Ziauddin	4	
Nangulia	64	4
Noler	29	
Caring	3	3
Urir	4	4
Total	104	11

On average households are 0.70 km from the nearest cyclone shelter and it takes 15 minutes to reach the shelter (Table 8). Households in the more sparsely populated Urir char are up to 4 km from a shelter so on average it takes them 30 minutes to reach the shelter. This is considerably more than the distance of 1.5 km specified for vulnerable communities in the government's policy on cyclone shelters[1].

Table 8: Distance from cyclone shelters

Name of char	Average distance (km)	Average time to reach (minutes)
Ziauddin	0.71	11
Nangulia	0.72	16
Noler	0.54	13
Caring	0.32	12
Urir	1.88	30
Average	0.70	15
Responses (n)	100	100

Over half of sample households took refuge in cyclone shelters during cyclones Roanu and Mora (Table 9). These included all 11 households living outside of an embankment. Households going to shelters said that they did this in order to protect their lives and, in some cases, livestock and property. However, a significant proportion (40%) stayed at home saying that these cyclones were not that strong and took place during daylight hours. Three households took refuge on higher land despite being not far (under 0.5 km) from a shelter. These households also took their

[1]Cyclone Shelter Construction, Maintenance and Management Policy, 2011, Ministry of Disaster Management and Relief

livestock to high ground and this may have been a factor in deciding where their families go for refuge.

Table 9: Action taken during recent cyclones

	Number of households	Percentage of households
Go to shelter	54	56%
Stay at home	38	40%
Go to market	1	1%
Go to higher land	3	3%
Responses (n)	96	100%

Information on protection of livestock at the time of cyclones was collected from 90 households – some households did not keep any animals. Almost half of households (44%) said they took their animals to a shelter – although, as designed, there is no facility to protect animals at cyclone shelters (Table 10). Just over one quarter of households took their animals to high land such as embankments, roads and killas – although only five households specifically mentioned killas – these were all households from Urir and Caring char where there are no embankments. Twenty-eight households (31%) said they kept their animals at home or did nothing – some saying that these have not been severe cyclones.

Table 10: Action taken to protect livestock

	Number of households	Percentage of households
Take to high ground, embankment, killa etc.	24	27%
Keep at home	22	24%
Take to shelter	40	44%
Did nothing	4	4%
Total responses (n)	90	100%

Information on action taken to protect houses and other property was collected from 72 households. Of these, 56 (78%) took one or more actions to protect their house and property (Table 11). The major action (29% of households) was raising the plinth and maybe taking other action to strengthen their house. Planting trees to shelter the house or tying the house to trees was reported by 17% of households. Significant numbers protected property inside the house, burying or hiding valuables, placing items on a raised platform, and locking the door. Overall 22% said they did nothing, some saying their location was safe and the house was strong, but one said that he had no goods worth protecting. However, 81% of 88 households living inside the embankment agreed that the embankment gave adequate protection, with another 5% saying their houses were strong enough.

Table 11: Action taken to protect house and other property

	Number of households	Percentage of households
Raise plinth / strengthen house	21	29%
Plant trees, tie house to trees	12	17%
Bury or hide valuables	12	17%
Platform inside house	15	21%
Lock door	13	18%
Take property to high ground	4	6%
Take property to cyclone shelter	2	3%
Took at least one of the above actions	56	78%
Did nothing	16	22%
Total responses (n)	72	100%

Information on losses in cyclones was provided by 101 households (Table 12). Of these, 83 (82%) reported some type of losses, while the remaining 18% said that they had not suffered any loss. The most widespread type of loss (57% of all households) were of crops and vegetables. As cyclones have occurred in May, this is outside the main (aman) season for paddy – the major crop in the area, and crops losses have tended to be in rabi season crops such as chilli, potato and water melon. Over a third of households reported loss of trees and just under one third loss of livestock, especially poultry but also goats and cattle. One quarter reported damage to houses and 15% lost fish from fish ponds. Two households report deaths of family members, while another reported human injury – but these were in earlier (pre CDSP IV) cyclones.

After recent cyclones, only 19% of households got relief in the form of food and other materials (Table 13). This mostly came from one of the CDSP IV NGOs. The limited distribution of relief reflected the limited damage done by these cyclones in the project area. Nevertheless, most households suffered losses and have to recover from such events using their own resources

Table 12: Losses reported in cyclones

	Number of households	Percentage of households
Crops and vegetable	58	57%
Trees	37	37%
Livestock & poultry	31	31%
House damage	24	24%
Fish (from ponds)	15	15%
Human life / injury	3	3%
Fishing nets	2	2%
Rice	1	1%
Any type of loss	83	82%
No loss	18	18%
Total responses (n)	101	100%

Table 13: Relief provided after the cyclone

	Number of households	Percentage of households
From NGO (SUSS)	12	12%
From Union Parishad	6	6%
From others	1	1%
From LGED	1	1%
any type of relief	19	19%
No relief	81	81%
Total responses (n)	96	100%

All households in the survey said they got warning of the recent cyclones and received this warning in adequate time. Some households got warning from multiple sources, and by far the major source of cyclone warning were loudspeaker announcements (miking) in the villages (Table 14). These reached 79% of households and came from Mosques and, to a lesser extent, from one of the CDSP IV NGOs (DUS). One respondent on Ziauddin char said volunteers provided this warning. Significant numbers of households got warning via the TV news (much more important than radio), warning flags and via their mobile phones. The mobile phone warnings were mainly via an SMS warning service, but one household got their warning from Face-book and another got a call from the UP Chairman.

Table 14: Sources of cyclone warning

	Number of households	Percentage of households
Miking (loudspeaker)	82	79%
TV news	25	24%
Warning flags	20	19%
Mobile phone	20	19%
Radio	6	6%
Whistle	4	4%
Staff of NGO/CSDP	2	2%
Total responses (n)	104	100%

Training on disaster preparedness and management had been provided to 39% of households by CDSP IV via its partner NGOs (Table 15). Many respondents mentioned that they valued this awareness raising and one said that, due to training, we were able to prepare ourselves and get safely to shelters quite ahead of the attack of cyclones.

Table 15: Training on disaster management

	Number of households	Percentage of households
Training received	39	39%
No training	61	61%
Total responses (n)	100	100%

Before CDSP IV there were very few cyclone shelters in the project area (only two on Urir char). Many people (42% - see Table 16) would try and leave the char as a cyclone approached (but were hampered by lack of roads and bridges), while 24% sought refuge on higher land. A quarter of respondents said they felt helpless and many just stayed at home.

Table 16: Action taken in cyclones prior to CDSP IV

	Number of households	Percentage of households
Leave char	33	42%
Go to higher land	19	24%
Feel helpless	20	25%
Stay at home	14	18%
Got no warning	6	8%
Release animals	4	5%
total responses (n)	79	100%

Study respondents reported that CDSP IV had brought about huge changes in terms of development of protective infrastructure (shelters and embankments) and improved communications. Opportunities for income generation have been created, micro-credit is available and skills have been developed. Land settlement has given people security and life is now much safer. However, 83% of households say that they still face risks (Table 17). The major risk, reported by 70% of households, is that of erosion damaging embankments. Households living outside of the embankment say they still face considerable risks, including death.

Table 16: Risks that households continue to face

	Number of households	Percentage of households
Erosion/embankment damage	72	70%
High tides	17	17%
Saline water	15	15%
Risk of death	5	5%
Land settlement problems	3	3%
Still outside embankment	3	3%
Climate change	2	2%
Education management	2	2%
Disaster mitigation materials	1	1%
Households reporting any risk	86	83%
No risks	17	17%
total responses (n)	103	100%

5. Conclusions

All except one of the 31 shelters covered in the survey had been used as cyclone refuges at least once since they have been built – and the one that was not used was incomplete at the time of the most recent cyclone. However, the average number of people taking shelter in each shelter during recent cyclones was under 300 – far less than the capacity of the shelter. Households who did not take shelter said that the recent cyclones were not that strong and happened during daylight hours. Although 56% of respondent households said that they used shelters, assuming that the catchment areas of these 30 shelters covers even 50% of the population of CDSP IV chars, the total of 6,747 people who took shelter during Mora is less than 10% of the population of the catchment area.

The region where CDSP is located has been fortunate in not being badly effected by any major cyclones since 1991. The height of the storm surge for Roanu was about 2 metres and Mora 1.4 metres. The cyclone of April 1991 had a surge height of 5 to 8 metres and killed around 150,000 people in Bangladesh, including many in the

CDSP IV area. Since then, the worst cyclone in Bangladesh has been Sidr in November 2007, resulting in about 3,500 deaths with a surge height of 5 metres. However, this cyclone did most of its damage in southwest Bangladesh. A smaller cyclone, Aila, in May 2009, with a surge height of 2 to 3 metres, did more damage in the project area, destroying houses and killing around half a dozen people (one child was drowned crossing a river while fleeing the area).

If the CDSP IV area were to be hit by a really bad cyclonic storm surge, and if all the planned 40 shelters were to accommodate 2,500 people, a total of 100,000 people would be given refuge, around two-thirds of the population in the CDSP IV chars[2]. It may not be realistic to provide shelters for 100% of the population as improved road communications and better warning provide the option of leaving vulnerable areas as cyclones approach. Nevertheless, additional shelters would be desirable, especially on Urir char, which is not protected by an embankment and where many households are more than 1.5 km distant from a shelter.

A number of improvements could be made in the design of future shelters, including access for disabled people, better water supply and sanitation arrangements, and additional space in densely populated locations.

All except two of the 31 shelters are being used as schools; however, only one is a government school and the number of pupils varies from 70 to over 1000 – so some are better utilised than others (so there is scope for uses other than as schools). In planning future shelters it may be worthwhile to take into account the need for new school buildings – maybe building schools-cum-cyclone shelters rather than cyclone shelters-cum schools. The number of pupils per teacher is 77, compared with a national average of 40 (2011 data from World Bank). The inadequate number of teachers may be linked to the fact that all schools are community funded and so may have very limited resources.

Almost half of the cyclone shelter schools are also utilised for other purposes – mainly clinics. There seems scope to see if more use can be made of those shelters which do not have uses other than as cyclone shelters and schools.

There were identified responsibilities for maintenance at all except one shelter (which was not yet completed). However, at over one third of shelters these were individuals. The shelters are too new to yet need significant maintenance, so it is not possible to know if maintenance arrangements will be adequate – this may be apparent for the shelters built by the earlier phases of CDSP.

At the time of cyclones many people also take their livestock to shelters rather than the killas which are specifically built as livestock refuges. Greater use of killas seems to be made in chars that are not protected by embankments. Land levels are now being raised around cyclone shelters which will provide a safe place for livestock, and these may be more useful than killas.

[2] This compares with about shelter space for about 15% of the population from the vulnerable areas of Noakhali district as a whole - The state of multi-purpose cyclone shelters in Bangladesh, Md N Mahmood, S P Dhakal and R Keast, Facilities Vol. 32 No. 9/10, 2014.

The protection of crops, trees, fish in ponds, poultry, other assets and property have little, if anything, to do with cyclone shelters. Even the recent, moderate, cyclones have caused losses for most households, especially of crops and to a lesser extent, trees, poultry, livestock and houses. Over 40% of households have strengthened their houses or have planted trees to provide shelter. A small number of the poorest households have had support from CDSP IV in strengthening their houses, and this seems to be an area where CDSP could do more work in future.

Cyclone warning systems seem to work well, with all households saying they received timely warning. However, warning flags, promoted by the project as a means of warning, do not seem to be anything like as effective as loudspeaker announcements or even the television news.

Although life for most respondents is now much safer, 83% of households say that they still face risks, primarily the risk of erosion damaging embankments.

Cyclone shelter on Noler char

Annex 1: Check lists for data collection

Check list for cyclone shelter data gathering

Visit all CDSP cyclone shelters to collect the following information:

Location of shelter ……

Names and positions of informants ……..…….. (with mobile numbers)

Date completed: ……

Number of times used as a cyclone shelter since completion ……

Number of people and families sheltered for cyclone Roanu (2016) and Mora (2017)

Roanu ……people …… families Mora ……people …… families

Issues and problems with use as a shelter ……..
(is there enough space, water supply, sanitation etc.)

Is shelter used as a school or madrassa ? … if yes:

Type of school …….. Date opened ……..…… month/ year

Was there a school near here before the shelter opened?
If so, what was it, and how many children did it educate ……. ……..

Apart from the shelter, does the school have other buildings? If yes,

what are these? …….. when were they built …… how funded …….

Number of children …….. boys …… girls Age range from ……to ….

Number of classes …….. Class range from ……to …..

Number of teachers ……..

Official status and funding of school ……

Has the shelter any other uses? If so, what are these ?.....

What problems and issues are there in use of shelter as a school or other functions?

……..

Who is maintaining the shelter?.....

Interviews with char dwellers

Name, location, mobile number ……

Date settled in the char ……
Now living inside or outside embankment protection ……..
Distance from a cyclone shelter …….. km Time taken to reach shelter …… minutes

What do you do when in a cyclone (specifically for Roanu and Mora)

Stay at home / leave char / go to shelter / go to higher ground (embankment etc.) / other

Why did you do this? ……

Do you have livestock? If yes, what did you do with these at time of cyclone?

What did you do to protect your house and other property? ……

If you live inside an embankment, to what extent do you think this gives adequate protection?

……..

What losses have you suffered in Roanu / Mora / earlier cyclones?
(human injury, loss of livestock & poultry, loss of crops, house damage, loss of assets etc.)

……

Did you get any compensation or relief after the cyclone? If so, what was this, and who provided it?

……

Did you receive warning of the cyclone? If yes, how did you get this warning? ……
Did you get it in time to take action yes / no

Have you or your household had any training or workshops in disaster management? Yes / no

If yes: what was this, who provided it, and how useful was it?

……..…….

What did you do before CDSP IV (such as for cyclone Aila) – in terms of taking shelter, protecting livestock and property, and getting warning?

……..

How have things changed since CDSP IV? ……

What risks do you still face? …….

Data was collected in the field by:

CDSP Chars	Data collected by	Designation/Organization
Char Nangulia	1. Md. MijanurRahaman, 2. Ms. Fatema Begum 3. Md. Muklesur Rahman 4. Md. SabrinMomtaz	Program Area Coordinator (PAC), CDSP IV Gender Facilitating Coordinator (GFC), CDSP IV Poultry and Livestock Coordinator, DUS Senior Branch Manager, BRAC
Noler Char	1. Md. B. A. Siddiqui 2. Md. Abdur Rahim 3. Md. AbulHashim	Program Area Coordinator (PAC), CDSP IV Agriculture Coordinator, DUS Assistant Branch Manager, DUS
Caring Char	1. Md. B. A. Siddiqui	Program Area Coordinator (PAC), CDSP IV
Char Ziauddin	1. Md. Alaudding	Program Area Coordinator (PAC), CDSP IV
Urir Char	1. Mr. Atutl Krishna Majumder	NGO Coordinator, SDI

Annex 2: List of cyclone shelters

CSID	Location of Shelter	CDSP Chars
CS-1	Ria Saikat Para	Urir Char
CS-2	Miar Bazaar	Urir Char
CS-3	Shahebani	Caring Char
CS-4	Rahamatpur	Noler Char
CS-5	Bathankhali Bazaar	Caring Char
CS-6	Dhanshiri	Caring Char
CS-7	Al-Amin Bazaar	Noler Char
CS-8	Zia Bazaar	Noler Char
CS-9	Madrasha Bazaar	Noler Char
CS-10	Thanarhat	Noler Char
CS-11	Haji idris bazaar	Nangulia
CS-12	Char Khandokar	Nangulia
CS-13	South-East Char Laksmi	Nangulia
CS-14	Hemahetpur	Nangulia
CS-15	Adarshgram	Nangulia
CS-16	Bhumihin Bazaar	Nangulia
CS-17	Karim bazaar	Nangulia
CS-18	Janata bazaar	Nangulia
CS-19	Killa Bazaar	Noler Char
CS-20	Bhumihin Bazaar	Noler Char
CS-21	Chanandi Bazaar	Noler Char
CS-22	Banglabazaar	Noler Char
CS-23	Salim Bazaar	Nangulia
CS-24	Soleman Bazaar	Nangulia
CS-25	Baker Bazaar	Nangulia
CS-26	Akram Chowdhury Bazaar	Nangulia
CS-27	Kaladur Bazaar	Nangulia
CS-28	Faridpur Bazaar	Nangulia
CS-29	Dorbesh Bazaar	Nangulia
CS-30	Raihan Member somaj	Ziauddin
CS-31	Mohammedia Somaj	Ziauddin

Annex 3: List of households interviewed

Resp-ID	Name & location	Date settled in Char
CS-1/1	Ms. Hosneara Begum, Bangla bazar somaj& mobile:	1992
CS-1/2	Ms. Selina Begum, Islam member somaj (Mobile-01863020806)	2015
CS-2/1	Md. Jshim, Jia Saikot Para somaj,	1982
CS-2/2	Md. Monir, Jia Saikat Para somaj, Mobile-0185936172	1985
CS-3/1	Nakul Ch. Das, Shahebanisomaj, mobile-01812422918	2006
CS-4/1	Md. Matin Miah, Saddam Bazar, Noler Char, mobile-01825565743	2002
CS-5/1	Md. Arif, Bathankhali, Caring Char, Mobile-01839093994	2005
CS-6/1	Mr. Mamu, Dhanshiri, Caring Char, Mobile-01833516028	2008
CS-7/1	Rafiqul Islam, Al-Aminsomaj, Noler Char, Mobile-0179461135	2003
CS-7/2	Md. Selimuddin, Al-Amin Somaj, Noler Char, mobile-01834123197	2000
CS-7/3	Ms. Panna Begum, Ai-Amin somaj, Noler Char, mobile-01825909553	1998
CS-7/4	Ms. Jahanara Begum, Al-Amin Somaj, Noler Char	2004
CS-8/1	Md. Khabir Uddin, Aladisomaj, mobile-01864513237	1999
CS-8/2	Ms. Hasna Begum, Aladisomaj, mobile-01827715689	2003
CS-8/3	Ripola Begum, Aladisomaj, mobile-0186413237	2003
CS-8/4	Md. Didar Islam, Aladisomaj, mobile-01827719689	2002
CS-9/1	Md. Shajahan, East Azimpursomaj, mobile-01861117277	1999
CS-9/2	Farjana Begum, East Azimpur, mobile-01863016571	2005
CS-9/3	Md. Basirullah, East Azimpur, Mobile-0186196105	2000
CS-9/4	Ms. Taslima Begum, North Azimpursomaj, mobile-01835902685	2005
CS-10/1	Ms. Nurjahan Begum, Thanarhatsomaj, Mobile-01857242181	2001
CS-10/2	Nazma Begum, East Adarshagram, mobile-01854367031	2001
CS-10/3	Zahanara Begum, East Adarshagramsomaj, mobile-01879767485	2001
CS-10/4	Jamal Udding, North Azimpur, mobile-01837945098	2001
CS-11/1	Md. Ibrahim khalil, mobile-01811828178	2003
CS-11/2	Mohimuddin, mobile-0192754352	2005
CS-12/1	Shakayat Ripon, Purbomojlishpur, mobile-01719878453	2001
CS-12/2	Saiful Islam, purbuMojlishpur, mobile-01834889150	2001
CS-12/3	Md. Kamal, PurboMojlishpur, mobile-01884184534	2001
CS-12/4	Md. Zahidulislam, PurboMojlishpur, mobile-01883294222	2001
CS-12/1	Abdul Haque ,Nangulia	2004
CS-12/2	AbulBashar , Mobile-01864729801	2002
CS-13/1	Md. Nur Nabi , Mobile -01829080561	2003
CS-13/2	FazlulHaque , Mobile -01849236070	2003
CS -13/3	Md.Jasimuddin , Mobile -01635576913	2004
CS -13/4	Ab.Kaium , Mobile -01876956500	2003
CS-14/1	Ab.Maleque , Hemayetpursomaj , Mobile-018261023777	2001
CS-14/2	Md.Sabuy ,Hamayetpur, Mobile-01865213391	2001
CS-14/3	Anower Hossain, Mobile-01834721503	2001
CS-14/4	Md.Sohrab, Hemayetpur, Mobile-01829829228	2001
CS-15/1	Nazrul Islam, Adarsha gram somaj, Mobile-01818487587	2000

Resp-ID	Name & location	Date settled in Char
CS-15/2	Md.Bablo, Adarsha gram , Mobile-01815539924	2000
CS-15/3	AnowaraBegum ,Adrsha gram, Mobile-01883848879	2002
CS-15/4	Md.Nur Uddin, Adarsha gram somaj, Mobile-01861976485	2002
CS-16/1	Md.Helal, Meajigramsomaj, Mobile-01720441179	2000
CS-16/2	Md.Meraj Uddin, Meajigramsomaj,Mobile-01833591035	2000
CS-16/3	Nurjahan Begum, Mobile-01785651734	2006
CS-16/4	Md.Nazim Uddin, Miajigramsomaj, Mobile-01737808835	2000
CS-17/1	Md.Bahar, Mohammadpur, Mobile-01728737710	2004
CS-17/2	Md.Jasimuddin ,South Mohammadpur somaj , Mobile -01860792586	2001
CS-17/3	Md.Jasim, South Mohammadpur somaj, Mobile-01822569414	2001
CS-17/4	Md.Sahabuddin, Uttar Mohammadpur somaj, Mobile-01728737710	2004
CS-18/1	Oly Uddin, SohagChowdhorysomaj, Mobile-01882149155	2001
CS-18/2	Md.Yousuf ,Adarsho gram somaj, Mobile-01881940804	2006
CS-18/3	Rina Akter,SohagChowdhorysomaj, Mobile-01835619294	2002
CS-18/4	Md.Khabinuddin, SohagChowdhorysomaj,Mobile-018172557715	2002
CS-19/1	Md.Nurulla, South Mojlishpursomaj, Mobile-01834937535	2001
CS-19/2	Md.Majno Mia, South Shantipursomaj,Mobile-01811813074	2001
CS-19/3	Md.Yousuf Mia, South Mojlishpursomaj,Mobile-01843217481	2000
CS-19/4	Md.IsmailHossin,SouthMojlishpur somaj,Mobile-01837214471	2001
CS-20/1	Md.ShajanHossin,UtterMojlishpur somaj,Mobile-01822931899	2001
CS-20/2	Mrs.Raka Begum, Adroshogramsomaj,Mobile-01871331958	2001
CS-20/3	Md.Khoan , Musapur,Mobile-01861989383	2001
CS-20/4	Md.OsmanGoni, Utter Mojlishpursomaj,Mobile-01831461927	2001
CS-21/1	Md.Siraj Uddin, Chanandi bazar somaj,Mobile-01829548150	2001
CS-21/2	Tajul Islam, Chanandi bazar somaj,Mobile-01830185876	2005
CS-21/3	Md.IsmailHossinChanandi bazar somaj,Mobile-	2003
CS-21/4	Md.JamalUddin,Chanandi bazar,Mobile-01831962928	2004
CS-22/1	Shakayat Ripon, PurboMojlishpursomaj,Monile-01719878453	2001
CS-22/2	Saiful Islam, purboMojlishpursomaj, Mobile-01834889250	2001
CS-22/3	Md.Kamal,PurboMojlishpur somaj,Mobile-01884184534	2001
CS-22/4	Md.ZahidulIslam,PurboMojlishpur somaj,Mobile-01883294222	2001
CS-23/1	Anwar Hossain, Selim Bazar, mobile-01751840803	2007
CS-23/2	Md. Anwar Hossain, Selim Bazar, mobile-01832671152	2007
CS-23/3	Anwar Hossain, Selim Bazar, mobile-01875926668	2003
CS-23/4	Md. Shah Alam, Selim Bazar, mobile-01834368610	2003
CS-24/1	Dr. Nur Islam, Soleman Bazar, mobile-01876115272	1999
CS-24/2	Md. KhabirUdding, Soleman Bazar, Al-Amin somaj, mobile-018202252152	2007
CS-24/3	Md. Nuruddin, Soleman Bazar, mobile-01864208023	2009
CS-24/4	Chandika Rani Das, Soleman Bazar, Mobil-01876112213	2006
CS-25/1	Prytus Das, mobile-01829219429	2011
CS-25/2	Md. Helal Uddin, Baker Bazar, mobile-01843834957	2011
CS-25/3	Md. KhorshedAlam, Baker Bazar, mobile-01867922868	2001
CS-25/3	Tajulislam, Baker Bazar, mobile-01818507299	2007

Resp-ID	Name & location	Date settled in Char
CS-26/1	Md. Mainuddin, Akram Choudhury Bazar, mobile-01824042319	2009
CS-26/2	Md. Delowar Hossain, Akran Choudhury Bazar somaj, mobile-01822112409	2004
CS-26/3	Md. Habibullah, Akramchoudhury Bazar somaj, mobile-01864610789	2006
CS-26/4	Md. AbdusSatter, Akram Choudhury Bazar somaj, mobile-01640232492	2007
CS-27/1	Md. Samshul Hoque, Kaladur Bazar, mobile-01776988196	2004
CS-27/2	Md. Shamim, Kaladur Bazar, mobile-0101812759221	2001
CS-27/3	Md. Jaber Hossain, Kaladur Bazar, mobile-01789670912	2001
CS-27/4	Md. Rasheduddin, Kaladur Bazar, mobile-01758027965	2001
CS-28/1	Hafez Nur uddin, Faridpur Masjid Market, mobile-01746886170	2008
CS-28/2	Md. Jamal Uddin, Faridpur masjid Market.	2003
CS-28/3	Md. Jaber Hossain, Faridpur Masjid market, mobile-01836167894	2003
CS-28/4	Md. Yusuf, Faridpur masjid market, mobile-01860797496	2001
CS-29/1	d. Nizamuddin (Kanchan0, Dorbesh Bazar, mobile-01735983469	2001
CS-29/2	Md. Moniruddin, President Dorbesh Bazar WMG, mobile-01731235562	1999
CS-29/3	Md. Habubul Bashar, Dorbesh Bazar, mobile-0188369174	2001
CS-29/4	Md. Mahabubur Rahman, Secretary, WMG Dorbesh Bazar	
CS-30/1	Md. Alauddin, RaihaSomajn Uddin, mobile- 01811329826	1998
CS-30/2	Md. Abdul Malek, AbdurRabSomaj, mobile- 01823301706	1997
CS-30/3	Md. Mustafa, Raihan Member somajm mobile-01816-910222	2012
CS-30/4	Md. Jaliludddin, West side of the shelter, mobile-01882264461	2001