



Shelter Programming at Flood Prone Areas

A process-based case study

of Flood 2019 Recovery Operation by Bangladesh Red Crescent Society (BDRCS)

“I never thought I would be able to build such a beautiful house in my life. I and my family are very happy to get such a house with the support of Red Crescent. I feel very happy thinking that, my house will not be flooded during floods now.”

– Ms. Mina. One of the community members of Tangail District.

“Earlier the flood water used to rise over the plinth due to plinth was very low. Now that it is high, there is no fear of rising water. Everyone in the family is now able to live very well in such a large house.”

– Ms. Rezia. One of the community members of Sirajganj District.

Situation of disasters:

Flood is a regular unfortunate event in Bangladesh as it causes serious social and economic losses and damages in the different parts of the country in every year. Moreover, at least one third of the country is vulnerable to flooding. The 4035 major floods during 1900-2012 killed 6.9 million people, affected another 3.6 billion people and caused economic losses totalling \$550 billion.

In Bangladesh 20-30 percent of the land is inundated annually during the monsoon, even in a year of normal.

In 2019 Bangladesh experienced sever flood in two times. More than 7.6 million people were affected in 28 districts, over 300,000 people were displaced, approximately 600,000 houses were damaged and 114 people dead. In addition, about 532,000 hectares of crops were destroyed and embankments damaged.

About the programme:

Bangladesh Red Crescent Society (BDRCS) was implementing flood 2019 recovery programme at 7 villages of char areas of Tangail and Sirajganj Districts. After accomplishing the emergency support in flood affected areas BDRCS was started the flood 2019 recovery programme. Through the programme a total of 612 HHs were provided with Shelter (317HHs), WASH (500 HHs), Livelihood (500 HHs) support. In addition, Disaster

Geographic condition of intervention area:

All villages of intervention areas are most flood affected due to the factors like geographical position and river structure. The areas are exposed to natural hazards, such as; floods, flash floods, river erosion, droughts, cold waves etc. Main crops are paddy, potato, onion, corn etc. The people are mainly worked as day laborer in the agriculture field. They are migrating in the off-agriculture season. The areas are highly vulnerable to increase the flood frequency due to its geographical position. Due to flood and riverbank erosion, chiefly livelihoods are more vulnerable for

Risk Reduction (DRR) activities were implemented to create disaster resilient at community level through cash for work interventions. As well as, throughout the programme different kinds of awareness sessions were taken to betterment of community people.

The programme was implementing through community led approach, where community people were in front to take decisions of the implementation of activities at community level.

this area. Similarly economic activities, crops, vegetation, fish, water source, livestock etc. are vulnerable. As well as mental health of the community are also vulnerable. Shelter and sanitation system are also affected by flood and riverbank erosion. Heavy rainfall and sand disposition hamper the agriculture process and massive damage of crops. Moreover, flood affects in all sectors of human life. The areas have low economic activities which are mainly based on agriculture. In flood situation low agriculture lands are the firstly affected. The women, children, aged persons and disable members of the family are the most vulnerable groups in the area.



Base line findings:

A comprehensive base line assessment was conducted to identify the damages by flood in 2019 at community level as well as to identify the appropriate HHs for recovery support. A total of 629 HHs were assessed by programme team, and it was a blanket coverage of all intended villages.

- Total 515 HHs were partially and 52 HHs were fully damages.
- Most of HHs plinth were constructed by mud and 541 HHs plinths were smashed by flood water.

- Total 627 HHs were found that katcha/Tin house ¹and jhupri.²
- It was found that 498 HHs plinths level were below consideration of recent floods water level.

- 548 HHs said they have no technical knowledge to build the flood resilient shelters.
- 525 HHs said they have no financial capacity to build flood resilient shelters.



One of the community members marked the flood last flood level, as well as we can see the shelter conditions after the flood.

Key methodologies adapted:

Focus Group Discussion (FGD): Based on the HHs assessment it was identified that, the community people had less ability to cope with flood, every year they are admitting floods and facing shortfalls; this permanence has been going on for a long time. However, they know what their houses should be for flood, but they do not have the necessary capability to build flood resilient houses. The programme team conducted FGDs with community people to get impact at houses during floods, to identify a design on flood resilient houses by using locally available materials and traditional construction including techniques for ensuring sustainability, inclusion of person with disabilities in the design of the house. Through the FGDs, community people recommended following key consideration to build flood resilient houses at community level:

- Most of the houses in the community did not have high plinth, that is the only reason for submerging the plinth by floodwater. All participants said that they will have to raise the plinth of their house above the 1 feet of water level in past floods. They will make the plinth three feet extend from the fence level around the house and established sandbags adjacently with the plinth as protection. Cement and concrete coating will be applied on top of the mud for durability of plinth and floor.
- To strengthen the foundation of the house, standard quality concrete pillar will be used instead of bamboo, wood or low-cost pillars.
- At present people are used very thin corrugated iron (CGI) sheet or jute stick for fence, which is easily corroded. Instead of those pillars they will be used quality CGI for

¹ **Katcha/Tin house:** It is a structure of normal height and has roof and walls made of bamboo/jute sticks/goalpata/straw etc. The floor is made of mud/soil. (Source: Census of slum areas and floating population 2014)¹

² **Jhupri:** Jhupri has a ceiling which is less than 4 feet and is made of very cheap construction materials like straw, bamboo, chhan (grass), goalpata (leaves), polythene sheets, gunny bags etc. (Source: Census of slum areas and floating population 2014)

fencing and apply at least one feet tar coating at the bottom of the fence, so that the CGI does not rag.

- Wood will be used instead of bamboo for indoor infrastructure and standard iron materials will be used for the connection of fences, pillars and roofs.
- Participants recommended the four slopes roof. Parallel curved pot (motka is local terms) will be placed around the down part of roof slope. So that, the outside plinth will not be damaged by rainwater and a thick rubber pipe will be attached to the parallel curved pot to remove rainwater outside of the plinth.
- Most of the houses have only one door, but everyone mentions for two doors and one door will be dedicatedly

Community engagement: One of the significant parts of the programme was that engagement of community in all aspect of the decision making for the community level activities. BDRCS had established a feedback mechanism to get the community



Program established feedback and compliant mechanism at community level



CDC members organized regular meeting to assess the progress of programme

people feedback, compliant, comments on program activities by set up comments box and disseminated BDRCS hot line number to every community people. To ensure comprehensive participation of community people to the activities, community people had initiated to form a committee within themselves, where they were conducted many community consultations and selected representatives from each corner of the community with combination of gender. Based on the discussion with community

prepared for the person with disabilities (if there is any person of the family with disabilities, it could like a ramp or small stairs) and the house will have four windows for adequate lighting and ventilation.

- Particularly female participants recommend that, if there are two rooms inside the house then it will be easier to maintain their privacy.

After the recommendation of community people for sustainable flood resilient houses, programme team were organized community consultation on recommendation for the appropriateness of flood resilient houses.

people the name of the committee was selected 'Community Development Committee (CDC)'. Program team conducted regular meetings with this committee and the CDCs were involved to monitor the progress of activities at community level. As well as the committee was facilitated different vendors as request by the community people. To build the capacity of CDC members, program team was provided training to enhance the capacity, roles and responsibilities of CDC members. This committee has played an important role in community to achieve the program goal.

Market assessment: BDRCS was conducted intensive market assessment for flood 2019 response. The main purposes of the market assessment was to assess the practicability and appropriateness of the proposed cash interventions relating to interventions in flood affected districts and identify the

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information on market functionality, necessary supplies and

goods availability with prices and access to markets by the flood affected people in targeted districts.

Based on the market assessment it was found that, market actors had enough capacity to provided necessary items and materials. It was identified that price will remain unchanged due to short term increased of demand by the local people.

Capacity building of community people: During the FGD, community consultation and CDC meetings, people were requested to conduct the orientations with respective community people on flood resilient shelters. In this regard program team organized orientations for community people on safe shelter by following the Participatory Approach for Safe Shelter Awareness (PASSA) approach. Based on the findings from FGD on flood resilient shelter, program had developed an IEC material and

Adequate financial service providers such as post office, bank, mobile money transfer and vendors were available in assessed districts for providing their services among the affected people. Based on the findings of the market assessment, programme team consulted with community people to identify their cash transfer mechanism and community people were suggested to transfer the cash to their individual bank accounts.

facilitated to community people for betterment their houses. For more appropriateness and discussion with community people, initially programme constructed model shelters at the community level. The whole process of construction of model shelters were perceived by other community people and mastered the process. Later they used to build their own flood resilient house. Program team was also assisted to community people to prepare their proposals for flood resilient shelters



Based on the FGD and community consultation regarding flood resilient shelters, program developed an IEC material and this IEC material provided to all targeted community people as well conducted the orientation based on the IEC material

Capacity building of local mason and carpenters: The whole programme was implemented by community-led approach, and it was predictable that, the construction work of houses will be doing by local mason and carpenters. To ensure the basic of flood resilient houses, based on the discussion with CDC and community people, program was organized orientation among local mason and carpenters to build their capacity for constructing the flood resilient houses which was identified by community people. Through this orientation, the basics of flood resilient house was discussed by BDRCS expertise. As a result, local mason and carpenters gained the basics of flood resilient

house and were able to apply those things during their work at community.

Supports: To build the flood resilient shelters and based on the proposals of community people, program was provided 27 pcs of corrugated iron (CGI) sheet, 30 pieces of sandbags and BDT. 40,000 (equivalent to \$475) to each targeted community people. Based on the market assessment and community consultation, the cash was transferred to individual bank account of community people. A total of 317 community people assisted by the BDRDS in two districts.

Inclusion of special needed people included and process:

There were many special needed people included in targeted community people, for whom special arrangements were

required at houses. In this context families build low-cost ramps of their members as needed.



Community people ensured inclusion of special needed people in shelter design

Monitoring: Throughout the program, program team as well as CDC were involving monitoring the progress of shelter construction activities and provided necessary technical guidance as when needed. Based on the final monitoring of

shelter progress, it was found that each of the targeted community people build their shelter as per their proposal and they expressed their satisfaction on the program activities and strategies.

Prepared by
Zahirul Alam
Senior Program Officer
International Federation of Red Cross and Red Crescent Societies (IFRC)
Bangladesh Delegation.