



Empowering communities to prepare for cyclones

Cox's Bazar District is in the Bay of Bengal, at the south-eastern corner of Bangladesh, bordering Myanmar. It is particularly vulnerable to the tropical cyclones that frequently hit the region, causing deadly storm surges and wind damage. The worst cyclone in recent years took place in 1991, resulting in 150,000 deaths – more than 90 per cent of whom were women and children. Smaller-scale disasters are common due to tropical storms, and many more lives have been lost over the years.

This briefing sets out the impact of the Community Based Disaster Preparedness Programme – a pioneering initiative to enable communities in the region to better prepare for cyclones and minimize their impact on their lives and livelihoods. It assesses the legacy of the programme some eight years after its closure, highlighting key achievements and learning points.

What was the programme?

The Community Based Disaster Preparedness Programme used a pioneering approach of community-based disaster risk reduction, by mobilizing communities to become involved, equipping cyclone shelters and building people's capacity to respond to a cyclone.

During the 1991 cyclone there were a high number of casualties among women and children. Studies found that this was partly because women were not informed about the threat of a cyclone, and because in this conservative region it is not customary for women to leave the house without the husband's permission, so during emergencies many women were waiting at home for permission to seek shelter. For this reason the programme had a particular focus on gender to reduce the vulnerability of these groups.





The programme was run between 1996 and 2002 by the Bangladesh Red Crescent Society (BDRCS), with the technical and financial support of the German Red Cross. It focused on communities living within a 1.5km radius around 30 cyclone shelters (which had been built following the 1991 cyclone) in five subdistricts of Cox's Bazar: Sadar, Moiscal, Kutubdia, Teknaf and Chakaria. The project benefited 90,000 people directly, and a further 120,000 indirectly.

The key activities included:

- working with communities as a whole, through developing village disaster preparedness committees and disaster preparedness squads responsible for early warning, evacuation to the cyclone shelters, providing first aid, and search and rescue
- working with individual households by establishing micro groups to discuss and share knowledge on household-level disaster risk reduction, such as storing food and water and constructing platforms to protect cattle
- supporting the use of cyclone shelters as refuge during a cyclone by all community members – especially women and children
- building the capacity of the local Red Crescent branch/unit, and enabling it to ensure a smooth handover process at the end of the programme.

Because of the pioneering nature of the work, the team developed a wide range of materials and strategies over the seven-year life of the programme. Many of these are used today, to inform similar projects around the world.

BDRCS has used an integrated approach to reducing disaster risk since the 1980s, combining disaster relief with disaster mitigation, early warning and development. It has a special focus on disaster risk reduction, and runs the Cyclone Preparedness Programme commissioned by the Government of Bangladesh, which disseminates warning signals to coastal communities in areas prone to cyclones.

The overall aim of the programme was for cyclone-related disaster risk reduction to become an integral part of people's way of life.

How was the programme evaluated?

The impact evaluation was carried out between 1 and 18 October 2009 by the German Red Cross, together with BDRCS, to assess the extent to which communities maintained disaster risk reduction activities some years on. The eight-member evaluation team visited ten of the 30 cyclone shelters and communities originally involved and carried out through interviews, group discussions and physical observations.

Since the programme end no cyclones had hit the region, but there had been a number of cyclone warnings – the most recent being cyclone Aila, which hit southwestern Bangladesh in May 2009. This meant that while the behaviour of the communities during a cyclone could not be assessed, the team could carry out individual and group discussions about how people had responded to cyclone warnings, as well as making physical observations about cyclone-resistant housing and infrastructure.

What did the programme achieve?

The evaluation found that the main purpose of the programme had been achieved: disaster risk reduction has become an integral part of people's way of life. Most of the communities remembered the programme and its main activities well. In most places, although programme activities had not been continued in an organized way for more than a year or two after the programme ended, the programme nevertheless had the desired long-term impact. There was clear evidence that people took disaster risk-reduction steps whenever necessary.



Awareness of the programme

The key aim of the programme was to ensure that the participating communities understood the benefit of disaster risk reduction, and practised related activities continuously.

The communities remembered the programme well, and were clear about its purpose: to ensure that cyclone-related disaster risk reduction became an integral part of their way of life.

Everyone interviewed felt that the programme had been useful – particularly in helping them interpret the different cyclone warning signal levels, understanding what steps to take at each level, knowing what to do during a cyclone, and finding ways to minimize the impact of a cyclone on their livelihoods. Nevertheless, the evaluation team felt that the community would have supported the programme more strongly if the programme team had communicated more clearly at the outset how the programme would operate – and, particularly, how it would be phased out.

The activities that people remembered most, and found most useful, included training sessions in areas such as disaster risk reduction, first aid, and search and rescue. Other popular elements included the micro group meetings, distribution of equipment and tree saplings, and the main awareness-raising activities such as evacuation drills, rallies, video shows, dramas and education materials on disaster risk reduction.

The evaluation team felt that a Disaster Preparedness Fund was a useful way of increasing interest in the programme and developing a sense of ownership. However, clear guidelines on collection, management and use should be put in place at an earlier stage to ensure transparency, and to give communities the opportunity to practise drawing on the fund before the programme end.



→ Learning point:

The Disaster Preparedness Fund

A Disaster Preparedness Fund was set up in each community, to gather contributions from households to pay for shelter maintenance and emergency relief after disasters.

Initially the communities were supportive of the idea, and regular funds were raised. However, eight of the ten communities evaluated had made no contributions since the end of the programme, and only two had drawn on the fund: one, to repair the shelter toilet, and the other to donate two-thirds of the total fund to a local Koran school. Some people said they had stopped contributing after the BDRCS left, as they did not trust the committee members.

Many male community members knew the balance of the fund, but most women did not, and some said they felt it would be disrespectful to ask about it. Some interviewees were angry about a perceived lack of transparency about what had happened to their money.

Since no disaster had occurred since the programme ended, the evaluators could not assess whether the fund would have been used for emergency relief. However, the communities still considered the fund important. Meanwhile, the process had an indirect benefit in that it was a key reason for holding micro group meetings, and may have contributed to the feeling of common responsibility for disaster risk reduction and community organizations.

“The training on first aid was most useful for me, as I can apply the learning also during normal times. For example, recently my nephew got seriously burned and I successfully treated him. Before the training we did not really know how to deal with burns.”

Community-level disaster risk reduction

Ensuring disaster risk reduction at the community level meant helping set up volunteer groups, protocols and plans of action, and providing information and training. The evaluation found that the key elements of the programme had been sustained over time, although the groups were no longer functioning outside of disaster situations.



At the community level, the main programme activities centred on forming groups, providing training (from first aid to leadership skills) and facilitating meetings at three levels:

- Village disaster preparedness committees – one group per shelter, comprising 21 individuals, responsible for all shelter-based activities, the management of the shelter and its equipment, the Disaster Preparedness Fund, co-ordinating with local government and other agencies, and selecting trainees and squad members
- Disaster preparedness squads – one group per shelter, comprising 32 members trained and responsible for dissemination of cyclone warnings to individual households, evacuation to the cyclone shelter, conducting first aid and search and rescue, with two members who were also trained in traditional birth attendance
- Micro groups – 21 single-sex groups per shelter, around 20 people in each, responsible for household-level awareness and disaster risk reduction, gender sensitivity, and contributions to the Disaster Preparedness Fund.

The village disaster preparedness committees played a key role in the success of the programme. Communities still knew who at least some of the members were, and were usually clear about their roles and responsibilities. During normal times the committees were mostly inactive, apart from occasional meetings between some group members. Despite not functioning anymore after the project ended, the groups retained responsibility for activities such as maintaining shelters, and played a vital role in managing evacuation to the shelters during cyclone warnings. Some regretted that they were not more active, and asked the evaluators for help with re-organizing.

Meanwhile, the disaster preparedness squads had less sense of cohesion. Some were not aware that they had been in a 'squad' at all – only that they had received training. Nevertheless, when villagers were asked who was responsible for certain activities, they knew names of the relevant squad members. Many of the original squad members had moved away, so interviewees asked for training for new younger members, and refreshers for existing members.

The micro groups originally held monthly meetings, with various activities throughout the year, but by the time of the evaluation most were inactive. Many members said they needed an external person to take the lead, saying “When we call a meeting nobody comes.” Nevertheless, many interviewees said they were still in touch with other former group members, and drew on these contacts for advice and support on various issues. Some had drawn on the training provided – for example, in income-generation activities such as poultry farming or sewing – to make lasting improvements.

The team found that if a group was not functioning effectively, the best option was to hold an open discussion with group members to decide whether to continue with the group or replace it with another mechanism of self-organization.

Training was an extremely useful tool. One way of ensuring the sustainability of the project was, in the final year of the project, to offer training for selected group members who had been strongly engaged in project activities and were likely to remain in the community for the foreseeable future. Meanwhile, after the programme ended, it was helpful to run training at regular intervals to refresh former trainees' knowledge and pass down the principles of disaster risk reduction to younger generations.

→ **Learning point: Forging community links**

Levels of cohesion and commitment within the groups were variable. Most groups had not perpetuated along the formal structures set out by the programme. Nevertheless, many had evolved into alternative forms that still offered support. When communities were under the immediate threat of an impending cyclone, the former roles and structures kicked into action and people continued to take on the responsibilities as defined by the project. Moreover, many participants had forged links with other group members, and people continued to draw on these individual connections for support and advice.

“Through the micro groups, we women got better organized. Although the main discussion topic introduced by the project was disaster preparedness, we also started to share very personal problems among ourselves, and continue to do so.”

Family-level disaster risk reduction

A key priority for the programme was to ensure that families were aware of disaster risk reduction measures and practised them continuously. This was ensured through a range of activities, from supplying storage containers for food and water during cyclones to facilitating meetings in order to discuss disaster risk-reduction activities. The evaluation concluded that all the households interviewed were well prepared for cyclones.

At the family level, the programme worked to establish micro groups and facilitate meetings, and provided training and demonstrations on disaster risk reduction techniques to help people protect their lives, housing, assets and valuables. It also supplied food and water storage containers and tree saplings (which protect the homestead and have a range of other practical uses), and helped some communities maintain tube wells, to ensure safe drinking water.

The evaluation team assessed disaster risk reduction among families through two activities: by interviewing family members, and asking them what steps they would take at each of the cyclone warning levels, from 1 to 10, and by looking at how they behaved during the most recent cyclone warning.

After the warning for cyclone Aila in May 2009, people reported having:

- listened to the radio and disseminated warnings by megaphone
- fixed loose pillars and shelves in houses with ropes
- fixed the roof of the house to trees with ropes
- made a small platform for livestock
- prepared dry food such as flat rice and puff rice
- filled plastic containers with rice, lentils and important documents, and burying it under the house (to protect documents from water damage and ensure an emergency supply of food until the local region recovers)
- prepared a small bag with valuables and essentials such as food
- accompanied women and children to seek refuge in the shelter at Signal 7
- chosen one strong male household member to stay in the house and secure it.

The shelters are designed for 800 people, but there is room for many more if needed. During the warning, around 1,500 people had stayed in each one. Most stayed for three-to-four hours, while others stayed all night.

People said that even though cyclone Aila caused hardly any damage in the Cox's Bazar District, they would still go to the shelter next time there was a warning. People had taken on board the fact that a cyclone warning can never be considered a false alarm, because cyclones are unpredictable until a few hours before they hit. The evaluation team considered this a very positive outcome of the programme.



The evaluation team concluded that the households interviewed carried out all possible measures to protect their lives and livelihood. Indeed, they were even better prepared than the programme taught them to be: seeking refuge in the shelter is recommended from Signal 8 onwards, but people left at Signal 7. One group even went to the shelter at Signal 4, because of their vulnerable position close to the sea.

There were also indications that cyclone preparedness had become an integral part of people's lives during normal (non-emergency) times. Houses had been built in ways that would reduce damage from a cyclone, and basic skills in first aid and diarrhoea management helped people to have better health during normal life, enabling them to be more resilient in times of disaster.

The evaluation team felt that families had made good use of the equipment they had received, such as plastic storage containers and tree saplings, but that in the future a small symbolic contribution should be requested in return – either financial or in the form of labour, to encourage a sense of active participation and ownership. Meanwhile, it was important to ensure that awareness raising resources were made of more durable materials, as by the time of the evaluation none of the original literature had survived.

→ Learning point: Reducing damage to homes

The evaluation team observed many houses built in a way to reduce damage from cyclones, with low, clay walls (which are comparatively stable, and do not cause damage when they fall down, unlike corrugated iron), roofs designed to withstand strong winds, and with trees – especially coconut – planted around the homesteads. Where families can afford it, they cover the roof with local reeds and then a plastic sheet, topped with a fishing net.

People said they had gained knowledge through the programme materials such as booklets, posters and calendars, which showed them the different methods and activities, as well as through demonstrations. The evaluation team felt that these techniques had been particularly well received because they drew on existing practices in the region, using locally available materials.



People frequently pointed to fully grown trees on their homesteads and said they had come from saplings provided by the programme. As well as offering structural protection, these provide fruit, timber and construction materials, and can be climbed to escape tidal waves.

“As soon as we heard about the cyclone warning, we prepared ourselves in our homes. At Signal 7 we left for the shelter. It was late in the afternoon. It was actually OK to stay in the shelter during the night, as we had the most important things with us, such as dry food and water, and the committee members organized the crowd well. When de-warning was given we went back to our homes, and were happy that this time the cyclone had spared us.”

Management of shelters

Another major focus of the programme was to ensure that cyclone shelters were properly managed so that all community members – including the most vulnerable, such as women, children and older people – would consider the shelter their best place of refuge during a cyclone.



The communities made extensive use of the shelters – not just during cyclones but during normal times. Eight out of the ten visited by the evaluation team were used as schools. Communities had a strong sense of ownership of the shelters, and when people were asked whom the shelters belonged to, most answered “us”. However, the condition of the shelters varied. They were all cleaned – some regularly – but all needed minor repairs on windows, doors, plastering and painting. Most of the upstairs toilets and tube-wells were out of order. Meanwhile, three had major cracks needing urgent repair, which made some villagers afraid to go to the shelter during the last cyclone warning.

Most people did not seem clear about what the systems for repair and maintenance were, and who was responsible for organizing them. One committee did not even know



Findings

how to withdraw money from the Disaster Preparedness Fund, which was to be used for this purpose. In another community, ten families had collected 200 taka (US\$ 2.8) each to repair the upstairs tube-well, and had given the money to the village disaster preparedness committee secretary – but he had died, and no one knew what happened to the money. This may have been because although communities began collecting funds during the programme period, all repairs and equipment were provided for free until the end of the programme.

The programme also provided equipment to the shelters. Only some of the smaller items still exist, and of these some gumboots, raincoats and torches are still used regularly. In two communities, equipment was said to have been stolen. However, more than half the shelters still had larger equipment such as stretchers, ropes, rescue kits and water drums, either in the storeroom or locked in the steel cupboard provided by the programme.

All the communities asked the evaluation team for new equipment and help with maintenance. The evaluation team felt that a key priority was to assess the condition of shelters on a regular basis and highlight urgent repair works. It was also important to ensure that the government and any other agencies were aware of the importance of ensuring that the shelters are structurally sound.

→ Learning point: Gender orientation

In the 1991 cyclone, almost 90 per cent of the casualties were women and children. This was mainly because many women did not dare leave the house without the permission of the husband, who often was not at home during a cyclone warning. Women who did leave their homes were hesitant to use the shelters, and found it intimidating to stay among the men, and some were harassed. To address this, the programme built wooden partitions to enable gender segregation in the shelters and ran gender awareness sessions and other gender-related activities.

The evaluation team found that in the warning for cyclone Aila, it was the women and children who went first to the shelter, and the men encouraged and assisted them in doing this. Once in the shelter, women were now separated from men, even where the wooden partitions no longer existed. Either the women stayed at one end of the shelter with the men at the other, or the women stayed inside while the men remained outside on the veranda, on the roof, or on the platform downstairs. Men helped to keep this gender separation, enabling the women to maintain a degree of privacy.

“We took dry food, water and most valuables with us as soon as we heard the warning. Men helped us to get to the shelter, and committee members organized the crowd in the shelter. We women and children stayed inside the shelter while the men stayed on the veranda, in order not to make us feel intimidated. Before the project, we had to stay among men inside the shelter, and that is one reason why some of us women did not go to the shelter.”

Capacity building and effective phasing out

A further component of the programme was to strengthen the capacity of the Cox's Bazar unit of BDRCS, and to enable the unit to manage activities after the programme had been phased out – at least to an extent. This involved providing Red Crescent unit members, volunteers and project staff with a range of training and support on mobilizing communities, as well as programme management, monitoring and evaluation, and accounting.

Initially, the programme did not have a specific phasing-out strategy, and in general BDRCS lacked experience in closing down a long-term programme. It was also clear that the unit did not have the capacity to support and monitor activities after the programme ended, so the team needed to be creative and find other ways of ensuring a link between the unit and the communities.

One strategy was to encourage community members – especially members of the committees – to become Red Crescent life members. This was so successful that by the end of the programme the local unit had enrolled 200 life members from the communities that had been involved in the project. (These are volunteers who commit to lifelong membership, and pay a membership fee.) One took on the role of Red Crescent representative in his local village committee, and represented the communities at the unit's annual meeting.

At the end of the programme, a former programme staff member took the role of unit officer, and the German Red Cross funded his salary and monitoring costs for three months. During the first year he helped with the gradual phasing out of support. He eventually moved on to another programme but kept in touch with most of the shelter communities, mainly through the Red Crescent life members.





When the evaluation team visited the unit office and BDRCS headquarters, they felt it was clear that the programme had contributed to the capacity building of the national society, and that knowledge and material developed as part of the programme – including programme documents and training materials – were still being used.

→ Learning point:
**Capacity building of
the existing Red Crescent
structure**

In poor countries such as Bangladesh, the local organizational structure is weak due to educational and financial constraints. In these circumstances, it is important to be creative and find ways to ensure a certain sustainability of a programme. Volunteers have to be attracted from an early stage, by involving them actively in programme activities such as trainings and meetings with the community.

Phasing out a programme has to be a well-planned process from the start, and everyone involved has to be brought on board and fully informed that the programme is ending. Participatory planning of a phasing-out strategy has to be taken up early on, during the first phase of a programme.

“I have kept all relevant documents, such as training material and reports, in my office. I use it a lot for my work, and give it to others when they need it. The project has developed very important material that should not be lost.”

(Red Crescent unit officer, Cox’s Bazar)

Summary of lessons learned

- Communicate clearly the approach and strategy of the programme right from the start, including your plans for phasing out. This will ensure that the programme has the full support of everyone involved. (Four years should be sufficient for a community-based programme if all the required materials, such as training materials, exist.)
- If a group is not functioning effectively after the first year, hold an open discussion with its members to decide whether to continue it, or to replace it with another mechanism of self-organization.
- In the final year of the project, offer training for selected group members who have been strongly engaged in project activities and are likely to remain in the community for the foreseeable future, to ensure the sustainability of the programme.
- After the programme ends, run training at regular intervals (for example, every three years) to refresh the knowledge of those already trained and to make sure that an understanding of disaster risk reduction is passed down to younger generations.
- A Disaster Preparedness Fund might be useful to increase interest in the programme and to develop a sense of ownership. However, clear guidelines on collection, management and use have to be put in place at an early stage to ensure transparency, and to give communities the opportunity to practise drawing on the fund before the programme ends.
- Provide families with equipment such as plastic storage containers and tree saplings, but request a small symbolic contribution in return – either financial or in the form of labour, to encourage a sense of active participation and ownership.
- Make sure awareness-raising resources are made from durable materials, to ensure that they survive well beyond the life of the programme.
- Run demonstrations of disaster-resistant housing technology. These will be more effective if the techniques use locally available material, and are based on existing practices in the region.
- Assess the condition of shelters and highlight any urgent repair works. Make sure the government and any other agencies are aware of the importance of ensuring that the shelters are structurally sound.

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