Elements of disaster resilience: lessons from Bangladesh

Mainstreaming Livelihood-Centred Approaches to Disaster Management Project

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PRACTICAL ACTION
Technology challenging poverty
Sustainable & Diverse Livelihoods
building disaster resilient communities

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PRACTICAL ACTION
Technology challenging poverty
Many poor people in rural Bangladesh live in areas subject to extreme flooding and riverbank erosion which destroy their crops, homes and livelihoods, undermining their economy, health and nutritional security. Two key strategies are generally considered to reduce vulnerability to disaster: 1) decreasing the impacts of hazards on lives and resources through prevention, protection and preparedness; and 2) increasing resilience by strengthening and diversifying livelihood options. Increased income can be achieved through skill development for alternative or diversified livelihood options, both on farm and off farm.

The 'Mainstreaming Livelihood-Centred Approaches to Disaster Management' (DRR) Project of Practical Action Bangladesh has used a sustainable livelihoods approach to demonstrate positive development impacts that increase resilience and the ability to adapt to climate change. The project has promoted a number of on-farm and off-farm activities based on local needs, capacity and opportunities. With improved knowledge and support mechanisms, several thousand vulnerable families from flood-prone, river eroded areas of Bogra, Gaibandha and Sirajganj districts now have the capacity to reduce their vulnerability to disaster risks.

**Livelihood diversification through on-farm and off-farm activities**

**On-farm activities:** Training in practical technologies and skills for farming activities, such as profitable livestock (cow, goat, sheep) rearing, poultry (duck, hen, pigeon) rearing, beekeeping/apiculture, homestead gardening, garlic and watermelon cultivation, early maturing rice cultivation, nursery establishment and fruit sapling plantation, were provided to individuals and groups (project participants). The project also provided appropriate inputs to the trainees. 4,000 families in the project locations...
are now using newly acquired knowledge and skills. Gainful employment has been stimulated within the communities, leading to increased earnings, the ability to satisfy basic needs and increased disaster resilience.

This appropriate needs-based approach has resulted in measurable economic gains by beneficiary families. Livestock interventions have had significantly greater impacts on strengthening livelihoods than purely agricultural technologies. Cow, goat and sheep rearing have not only significantly increased earnings, but also provided alternative sources of income. Two years after receiving a goat, a beneficiary can be earning Taka 5,000-6,000 per year. The income from a cow can be Taka 45,000 - 60,000 per year. Apiculture is a profitable and popular enterprise among landless households, requiring little land, simple technology, and a high market price for the honey. This intervention has been replicated both within and beyond the project areas, creating income earning opportunities for many.

Farming the flood: floating vegetable gardening enable families to ensure household food supply during flooding.
Off-farm activities: A number of off-farm activities, such as bamboo product-making (handicraft), mat-making, blanket making, curd production and seed preservation, were promoted under the project by providing training to selected participants. The project also provided equipment to the trained persons so that they could begin earning money using their newly gained skills.

Packaging and blanket making have been replicated within the community. The group of people involved may choose to divide responsibilities within sub-groups taking up separate components such as raw material collection, marketing etc; each group contributing to the production of the end product. Each component can even be run as a separate competitive enterprise. Curd production was a completely new way of generating income for the community. The beneficiaries who received training in these skills are now earning money all year round - even during the monsoon season, previously a period when no sources of income were available. Skilled beneficiaries involved in these off-farm activities are now each earning Taka 70 - 150 per day.

Neelmoni (left) of Kazipur received training on making bamboo products including ‘darki,’ a trap for fishes. A fisherman moves towards flooded spot to fix his traps to catch fish (right).
**Impacts of livelihoods promotion**

The project beneficiaries have used their additional income from on-farm and off-farm activities to reduce their future vulnerability; raising their homestead plinths, repairing and strengthening their houses and improving their hygiene practices through flood-proofed latrines, and improving their water supply by installing flood-proofed tube-wells. Some have also saved money in the bank or in mud pots in preparation for future needs. Their increased income has enabled people to meet many needs such as purchasing food, funding their children’s education, buying or making furniture, repaying loans and even leasing land for cultivation. Increased income has increased food security, health, well-being and the ability to cope with hazards, shocks and stresses.

**Opportunities/ Lessons learned**

The livelihoods-centred approach to DRR has clearly demonstrated that skill training coupled with initial input support can equip people with new opportunities and enhanced ways of earning a living. Improved incomes not only move people away from destitution, but also increase their ability to cope with both predictable and unpredictable shocks and stresses. Strengthening and diversifying livelihoods through skill development of on-farm and off-farm activities is easily replicable in other areas of the country and provides a means of reducing poverty and vulnerability while increasing resilience to disastrous events. Livelihood diversification must not be done at the expense of other initiatives, but rather build on, complement and strengthen existing livelihood strategies. This objective was achieved by selecting new livelihood options through participatory analysis, considering vulnerability, availability, effectiveness, adaptability and environment. Building on locally available resources and capacities ensured that many of the technologies chosen were replicable by the community without external support. It is important to work with government departments and personnel as much as possible, and link communities with existing government schemes and services. Involving government officials in project activities also provides an opportunity for them to learn new approaches and new ways of thinking that they may not have been exposed to before.
**Challenges**

Shortage of land for on-farm and off-farm activities was found to be a major constraint, especially for extremely poor communities. The illiteracy of some group members had the potential to cause problems, particularly in understanding concepts of income, expenditure and profit margins as well as the ability to label information to communicate with customers. More investment is needed for the development of human resources that will further increase the resilience of targeted households.

**The chain reaction: reaching the non-targeted**

Searching for and applying new, suitable, sustainable mechanisms for the distribution of assets was a feature of the DRR project. Many participants received a she-goat or sheep from the project. During the distribution of these, the project participants were committed to hand over their 1st goat/sheep kid to another vulnerable but non-beneficiary family under the supervision of the CBO and Union Parishad members. This asset transfer mechanism was also promoted between non-beneficiaries to non-beneficiaries successively. As a result, although the project initially distributed more than 1100 goats and sheep among target households, the number of families that will benefit will continue increasing as offspring are handed on. Close supervision from the CBO and/or local government is needed for effectiveness and sustainability of this system.

*At a village of Sariakandi, women gather to donate their sheep kids (left). A woman heads to her home with a young goat which she has just received from a neighbour as donation (right).*
Khalilur Rahman - the Honey-man from Kazipur!

Khalilur Rahman of Kazipur Upazila, Sirajganj, is an active and responsible community volunteer, trained in DRR. In 2007, following training on beekeeping/apiculture, which included visiting active bee-keepers to gain practical experience, Khalil received one apiculture box (hive) and a colony of bees, (at a cost to the project of 2000 taka). His initial earnings from this single hive were Taka 400-600 per month. Later he increased his number of hives to four. In 2010, he is selling an average of 8 kg of honey, worth at least Taka 2,400, each month. This has allowed Khalil to repay a previous loan of Taka 5,000 and deposit Taka 10,000 in his bank account. This money provides security in the event of a disaster. He has also purchased a cow as an additional source of income. In addition he has invested in risk reduction strategies, raising the plinth of his homestead, investing in a flood-proof tube well and building a cattle shelter.

He has become a renowned resource person in the locality, and has been hired by other organizations to facilitate training on apiculture. He also supplies apiculture boxes and bee colonies to new apiculture farmers. Over the last three years, 20 other families trained by Khalil have started apiculture. Khalil plans to form a beekeeping group where apiculture will be part of the farming system, creating alternative employment opportunities for local vulnerable communities.

Khalilur Rahman is now renamed, and well known in his neighborhood and beyond as "Madhu Khalil or Khalil the Honey-man".

Packaging dreams through small enterprise

Under small enterprise development, the project developed new skills of women and girls of flood-affected families to create and diversified their income generation opportunities to support their families both in normal and disaster periods. In 2009, 10 selected vulnerable women beneficiaries of Kamarjani of Gaibandha district received training and input support on packaging (box-making). They initiated the production of various types of packet for supplying to different shops in the local markets. This group has establishing good linkages with famous sweet and sari shops in Gaibandha, providing them with a regular supply of packaging.

The group has a good number of orders, regularly selling packaging goods worth Taka 5,000-6,000 per member each month. With profits of Taka 1,200 -1,500 per household per month, those women are self-reliant and contributing to the family income. Some are paying for their children's education, preparing stronger housing and installing sanitary latrines. Their success has a positive influence on their society and contributes to the disaster resilience of their community.
Rubia (front) of Polashpur village of Kazipur, with some of her neighbours, received training on packaging (box-making). With the new skills, Rubiya and her fellows initiated a small enterprise of box-making, with a regular supply to local shops which ensures their income throughout the year.

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Cluster Housing

a pathway to reduced disaster risk and poverty alleviation

Mainstreaming Livelihood-Centred Approaches to Disaster Management Project
People are at risk from natural hazards because of their social, economic and environmental vulnerability. While their capacity to prepare for and respond to hazards can lessen the scale and impact of potentially disastrous events, increasing their resilience is the key to reducing their risk of suffering losses. Families living in disaster-prone areas, with the ever-present risk of physical damage, are unable to engage in sustainable income generating activities.

Practical Action Bangladesh, under the project 'Mainstreaming Livelihood-Centred Approaches to Disaster Management' (DRR), recognized the plight of the landless and homeless families of the project areas. Their physical insecurity and exposure pointed to a hopeless future. Without safe housing they were unable to make a living.

"Cluster Housing" is an initiative which establishes a group of houses in a particular location which is above the level of the highest recorded floods. 135 homeless families were housed in six cluster villages in safe localities in Bogra, Gaibandha and Sirajganj districts. These homes not only reduced the physical exposure of the families, but also enabled them to engage in a range of different productive economic activities which increased their resilience.

**Target groups**

The selected beneficiaries of cluster housing used to live on embankments or in other people's houses. Their houses were in very poor condition, major repaired by every year. They did not have safe drinking water or hygienic sanitation facilities. They did not have scope for cattle and poultry rearing or land to cultivate vegetables or plant trees. They couldn't go away to sell their labour due to unsecured houses and most of them suffered from asset loss due to floods.
Beneficiary families were selected in consultation with local community-based organizations (CBOs), the Union Parishad (UP), the elected local government body with final endorsement from the UP Chairman. Suitable land was identified by the local population on the basis of UP determined criteria and purchased in the name of local implementing partner organizations. The selected beneficiary families helped to raise the land above flood level, while being made aware of their roles and responsibilities and the facilities they would receive.

A 'Cluster Village Implementation Committee,' consisting of a concerned UP member, members of the local community based organizations (CBOs), volunteers, elite persons and project staff were formed to coordinate cluster village construction. The Committee designed the position of individual houses within the village according to the available land and its location. All construction related activities were done using local labour. The beneficiaries' contributed about 3-5% of the total cost.

After construction, each house in each village was handed over to a pre-selected family. A notarized agreement was signed between the family and the local implementing partner organization under which a piece of land, the house on it, and the common facilities of the cluster village were leased to the family for 99 years. Each beneficiary agreed to their shared and individual responsibilities and an informal management committee was formed in each village. A savings scheme was initiated for the funding of cluster village development initiatives.

Their dreams come true - by signing the notarized papers, now they have homes of their own.

**Translating a dream into reality**

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Salient features of DRR project cluster village

- Low-cost model (around Taka 40,000/house in 2009) tested using locally available materials (of C.I. sheet and RCC pillars)
- Village plinth raised 2 feet higher than 1988's (the highest) flood level
- Each one-room house has cooking and gardening space (1.5-2 decimal/house)
- Houses are made flood and moderate storm resistant
- Access to safe drinking water (1 tube-well for 5 families) and hygienic sanitation (1 latrine for 2 families) facilities are in place
- A pond providing water for domestic chore and space for fish culture (e.g. in Kazipur)
- Scope for home-gardening to grow vegetables for household consumption
Security leading to serenity in lives

A fixed home address in a cluster village has many benefits including a sense of security, both physical and mental. The legal lease holding of a house and a piece of land has increased feelings of well-being and social cohesion. Increased income, better nutrition, and proper water and sanitation facilities are keeping them healthy and fit for work. Households are now able to engage in economic activities such as cattle or poultry rearing. They can grow vegetables in their small gardens. Women are free from disaster impacts during critical times like during pregnancy and child delivery. In many instances, the social status of beneficiaries has noticeably improved. Good social networks have been established within the clusters. In Kamarjani (Gaibandha), an informal school has been established in the community house of the cluster village providing children and adult education.

Challenges and opportunities

The cluster housing initiatives of the DRR project clearly demonstrated that participatory planning and community-driven approaches are essential for the successful achievement of sustainable community development. The provision of safe housing has been shown to not
only reduce loss of assets, but also allows the spontaneous uptake of income generating activities previously beyond the reach of homeless people. The increased cohesion and strengthening of the relationships between the rehabilitated families is very important for mutual gain, to tackle complex situations and for ensuring support from local government institutions and other service providers.

Several issues have been identified during the implementation of the cluster village initiatives. When choosing suitable sites it is necessary to consider whether livelihood opportunities are available. Suitable affordable land for cluster village is often hard to find in river-eroded areas. The design and materials used for house construction needs to take account of local culture, demands and availability.

The cluster villages of the DRR project have demonstrated how a relatively low cost intervention has ensured the security of vulnerable peoples’ assets and lives. Physical security has created income opportunities for the relocated people contributing to their overall disaster resilience.
"Now I am no more vulnerable to flooding as my new home is raised two feet higher than the flood level of 1998"

Nurul Islam (55), a river-eroded hardcore poor living in Goghat village of Gaibandha District having one son and three daughters. Once he had arable land, homestead, cows, goats and other household assets. But he lost everything due to frequent river erosion, turning into a vulnerable landless day labourer dependent upon others and unable to provide three times meals a day for his family. "I have changed my home at least 12 times and rebuilt my homestead with hard labour after each erosion period" Nurul Islam said. But after the devastated flood of 1998, he could not recover homestead and was forced to live with misery in relative houses.

Nurul Islam's family was selected by the DRR project to be housed in the cluster village considering their vulnerable social and economic conditions. Presently, he is no longer vulnerable to river erosion and has gained his lost confidence. He boldly expressed "We are no longer treated as refugees. We are free from social violence, getting all kinds of facilities, social networks, earning sources and linkages with others. I am very happy and grateful to Practical Action Bangladesh as well as SKS for proving us a permanent address".

Like a fugitive, river erosion forced Nurul Islam to take refuge in many places. Now he has a safe home. Nurul Islam with his family in front of his new home at cluster village (right) and immediate past house (left).
Living at cluster village, Shahana feels as secure as the baby in her lap. For the first time in her life she has a secure place to live. Shahana moved to the cluster village built at Salabhora village of Kazipur when it opened in early 2009. She was chosen by her peers in the local community, because she had nowhere secure to live with her husband and young baby. She said that the best thing about the new village is that it gives her security, this means that her husband, a casual day-labour, can travel further for work without having to worry about her because the villagers all look after each other.
Mainstreaming Livelihood-Centred Approaches to Disaster Management Project

Improved WatSan Facilities
for increase resilience of vulnerable community
Despite Bangladesh's notable progress in water & sanitation provisions for its people, these facilities are still limited in most flood-prone areas. Most of the existing hand-pumped tube-wells and latrines in these areas are not resistant to flooding. In the 'Flood emergency response, preparedness and risk management Survey of 2007' Practical Action found that due to inappropriate technology 98% of tube-wells in rural areas were inundated each year during the seasonal floods. In the absence of safe drinking water people are forced to consume contaminated water, resulting in people suffering from serious illnesses such as diarrhoea, dysentery, cholera, typhoid and sometimes even death.

The 'Mainstreaming Livelihood-Centred Approaches to Disaster Management' (DRR) Project of Practical Action Bangladesh identified the need for safe water and sanitation in the targeted flood-prone project areas of Bogra, Gaibandha and Sirajganj districts. Accesses to hygienic WatSan facilities have been shown to be a crucial element in improving general health and well-being, contributing to more resilient livelihoods and the ability to cope with disasters. The project promoted appropriate models for hand-pumped tube-wells and sanitary latrines which demonstrably reduced the vulnerability and improved the health of beneficiary communities.

**Purpose of water & sanitation activities**

- Enhance access of target groups to basic level of water supply and sanitation using appropriate technology
- Reduce incidence of water-borne diseases, especially during periods of inundation
- Promote sustainable water and sanitation services in flood-prone areas
- Ensure privacy of women and adolescent girls
- Build capacity of communities to minimize the problems relating to water and sanitation
Flood-proof Tube-wells

To ensure year-round access to safe drinking water, a total of 162 flood-proof elevated tube-wells were installed in the three project locations. Normally at least 10 families or 50 people access safe drinking water from each tube-well. This number rises to 20 families or 100 people during flood times.

Before installation, information on the expected depth of the water table for a locality was collected from the Department of Public Health Engineering (DPHE) and the Union Parishad (local government body). All tube-well sites were tested by DPHE for arsenic contamination in the ground water. With active instruction from the DPHE Engineer in each Upazila (lowest administrative unit), the installation started. The area of each tube-well platform or base was 5 feet x 5 feet, with a final height of two feet above the 1998 flood level - the highest ever recorded for the area. On average the bases were 3-4 feet above the ground. All platforms were constructed with bricks, sand and cement. All tube-wells were installed 15-20 feet away from the nearest latrine. Toolkits with necessary components were provided to trained caretakers for routine repair and maintenance.

Workers set a fire to join pipes during the installation phase of a flood-proof tube-well.
"Now we are no more vulnerable due to lack of safe drinking water, especially in flood period."

Anguri Bewa (45), Hindukandi village, Sariakandi, Bogra

Anguri Bewa has lost all her arable and homestead land to river erosion. This has happened four times in her life. She now lives on the embankment. Previously she had no source of safe drinking water near her home; she had to collect drinking water from other people's houses about a kilometer away. During periods of flooding, she often had no alternative other than to use river water. This meant that her family members were frequently affected by various waterborne diseases. Due to her poverty she did not have the financial resources to install a tube-well for safe drinking water. Recognising the need of Anguri Bewa and others like her, the project has installed a flood-proof raised tube-well nearby which now supplies safe drinking water for not only her family but also for her neighbours.

Raising of a tube-well platform in progress.
Flood-proof Sanitary Latrines

A total of 437 flood-proof sanitary latrines have been installed in the three project locations. In normal periods, a family of 5 will use a single latrine, but during periods of flooding as many as 6 families (30 people) will need to use a single latrine.

The hygienic flood-proof model is basically a pit type latrine in which the earthen pit is protected by five concrete rings with a water trap pan slab at the top. The project followed ring and slab construction standards in consultation with the local DPHE. Before starting construction, the adjacent ground was compacted appropriately. The latrine bases were constructed with brick, sand and cement, with the finished slab placed 1-2 feet above the flood level of 1998.

A mason finishes the base of a flood-proof latrine (left) replacing an unhygenic latrine (right).
"We are now saved from water-borne diseases by using sanitary latrine supported by Practical Action."

Hazi Kubbas Hossain (58)
Karaibari village, Kamarjani union, Gaibandha

In response to both the frequency of flooding and the villagers' capacity, the DRR project installed 49 flood-friendly sanitary latrines in Karaibari village of Kamarjani Union using low cost technology. At the same time courtyard meetings to increase awareness on health and hygiene were conducted with the village inhabitants. Once people had become aware of the benefits of improved sanitary arrangements and how these contribute to reducing their exposure to disaster risks, people began to install sanitary latrines using the approved technology. As a result they have become used to using sanitary latrines, reducing the incidence of water-borne diseases.

Karaibari village is now free from defecation in the open, with less rubbish and no bad roadside smells. Less disease means lower expenditure on medicines by families and children with better health. Women are also getting privacy and safety from floods. Karaibari, with 80% sanitation coverage, is a model village in Kamarjani Union.

Impact of flood-tolerant Tube-well and Sanitary Latrine

The elevated tube-wells and flood-proof latrines have ensured safe water and hygienic sanitation all-the-year-round in targeted flood-prone areas. This reduces the incidence of disease and hence disaster risks. During flooding the tube-wells installed through the project serve more than 16,000 people while the latrines are used by more than 13,000 people in the three project areas. This leads to fewer cases of diarrhoea, dysentery and other water-borne diseases, reflected in better health and lower economic losses. This was clearly evident during the devastating floods of 2007 when disease outbreaks were reported to be higher in areas not covered by the DRR project's water and sanitary interventions. The vulnerable communities have welcomed these technologies and mainstreaming is already underway. Local government authorities have already started to replicate these technologies under their annual development activities.
I am really motivated by the initiatives of Practical Action demonstrating raised tube-well considering the flood level.

Anisur Rahman Uzzal (35), Kamarjani, Gaibandha.

Noting that the DRR project's raised tube-wells were not inundated during the floods of 2007 and 2008, Uzzal was motivated to raise his own tube-well using the demonstrated technology. In addition, he persuaded and assisted his relatives and neighbours to adopt this simple technology and helped to spread the installation of flood-free tube-wells to other parts of his village.
Kulsum of Dhekuria village of Kazipur washing clothes with tube-well water. Located on the river side of an embankment, her house usually inundates during seasonal flooding. Her husband lost his eye-sight for which the family has to struggle for a living. The family had no source of water of their own - for drinking and for domestic use. When the flood attacks, tube-wells in neighbouring homes inundate and discharge contaminated water. The project has installed a flood-proof raised tube-well near her house which now ensures the availability of safe water. She says, "It's really great help, not for only me, but also for my neighbours."
Community-based Organization
a vehicle to community risk reduction

A community-based organization (CBO) is a group of community members who voluntarily come together to contribute to the overall development of their community. They are often initially motivated by the need to tackle a particular local issue or problem, such as DRR. With appropriate facilitation, training and equipment, CBOs in disaster-prone areas can initiate and support positive, sustainable changes that promote disaster resilience within their communities. Their social standing and influence allows them to adopt an ambassadorial role, promoting disaster risk reduction (DRR) at the grassroots level. At the same time, by establishing linkages with other local development institutions and service providers, CBOs initially established with a disaster mitigation agenda can also support local development initiatives.

Realizing these opportunities, Practical Action Bangladesh, under its ‘Mainstreaming Livelihood-Centred Approaches to Disaster Management’ (DRR) Project, facilitated the establishment of three CBOs in Bogra (Sariakandi), Gaibandha (Kamarjani Union) and Sirajganj (Maizbari and Kazipur Sadar Unions). The CBOs have not only worked as entry points for DRR initiatives in these flood-prone areas; they are expected to continue to exist and continue to promote disaster resilient livelihoods beyond the life of the project.
CBO formation process

- Build rapport with persons respected by the community
- Identify potential persons having leadership skills
- List people from all walks of life willing to serve their community
- Primary discussions with the group about the DRR project
- Create a working group by mobilizing people with specific, basic skills and commitment to serve all including the most vulnerable members of the community
- Identify roles and responsibilities of the 'community organization'
- Formation of a general assembly of 21-31 persons and an executive committee of 7 nominated members
- Build their capacity on leadership, disaster management and early warning
- Strengthen the organization by formulating a constitution, establishing an office, sources of income, providing resources such as an evacuation boat and early warning equipment, and registering with government system.

Roles of CBOs in disaster risk reduction and development

The DRR project has highlighted the important roles CBOs play before, during and after disasters. They have worked closely with the project to implement project activities and achieve the prioritised outputs. The CBO members have helped to develop 'Community Based Disaster Risk Reduction Plans' for their respective communities. They have overseen the implementation of planned activities and helped to increase awareness of DRR issues, through various campaigns including informal courtyard sessions, rallies and cultural shows with appropriate messages. They maintain close links with the Union Parishad (the elected body for a Union - the lowest local government unit), its Union Disaster Management Committee (UDMC), the community volunteers, local NGOs and the community in general. CBOs regularly monitor disaster threats and provide early warning messages as and when required. During floods, they have helped to organize and conduct search and rescue operations along with local administrations. They have also planned, organized and conducted relief delivery with aid agencies. CBOs play an important role in maintaining contact with other humanitarian organizations as well as government service providers. CBOs provide a vital link between the communities they represent and the outside authorities and services on which people depend.
Lessons from CBO initiative: Challenges and opportunities

Well constituted CBOs can help communities to evaluate, plan for and take collective actions to meet specific, regular or emergency needs. The DRR project has shown that CBOs make a real contribution to the resilience and long-term development of communities. In the event of an emergency, CBOs can mobilize the community to implement their contingency plans, providing an initial response before external support arrives. They can also help communities to manage existing or potential conflict situations by enhancing social harmony and community cohesion. The operation, self-reliance and sustainability of a CBO is dependent on their having a source of income. Saving schemes, including revolving funds, can contribute to their long-term viability.

While the value of CBOs as vehicles for both development and disaster risk reduction are undeniable, obstacles to achieving effective, committed CBOs have been encountered. In some instances lack of transparency and accountability, poor chain of command and dependency on project support resulted in ineffective institutions. Ensuring the stand-alone long-term sustainability of the CBO is challenging. Experiences in Bangladesh and elsewhere have shown that two to three years may not be sufficient for the establishment of a confident, self-reliant CBO. An exit strategy in relation to CBOs needs to be planned from their initial establishment. The creation of formal linkages with local government institutions (e.g. Union Parishad) and government service providers can support and significantly contribute to the long-term viability of these organizations.

CBOs in Flood 2007

During the floods of 2007, the CBO members of all three project locations played a vital role, monitoring the flood threats, raising awareness in the wider community, and disseminating early warnings to the community using equipments supplied by the project. CBOs also participated in rescuing flood-stranded peoples, evacuating houses damaged by river erosion, erecting temporary cattle shelters; and establishing temporary sanitary latrines and elevated tube-wells. On all occasions they took part in flood shelter management and assisted in selecting beneficiaries for emergency relief distribution.

Ashar Alo Unnayan Sangstha, the CBO of Gaibandha, installed six temporary latrines in flood 2007.
Dighalkandi Manob Unnayan Songstha - a vehicle for disaster risk reduction

Dighalkandi Manob Unnayan Songstha, consisting of 19 general members (10 men, 9 women), was established on 27 March 2007. The members of this CBO of Sariakandi, Bogra, include community leaders, young active persons, school teachers and other able persons from the locality. As a part of capacity building, this CBO received a series of trainings on disaster management, financial management, and contingency planning. They then became involved with different social activities in their locality, such as early warning message collection & dissemination, courtyard meetings, rescue activities, tree plantation, and day observations. They also assisted their community in raising homestead plinths, installing tube wells & sanitary latrines, constructing livestock shelters, repairing embankments & roads, distributing free goats & sheep among hardcore poor households, and providing financial support for treatment & marriage ceremony to hardcore poor households. The CBO members have maintained close linkages with other stakeholders. For example, some CBO members are also members of Sariakandi Sadar UDMC Early Warning Committee and their respective Ward Disaster Management Committees. Aware of the importance of raising funds to ensure its sustainability, this CBO is generating income through a number of initiatives including poultry rearing, cow rearing, beef fattening, renting out the rescue boat, weekly savings, etc. while maintaining a bank account. They are now working to stimulate their community's development and disaster risk reduction.

CBO members, as part of the Early Warning Committee, always alert local people about possible disasters whenever needed. They collect flood forecast information from the Bangladesh Water Development Board, measure the water level in their locality and verbally disseminate early warning messages to their community using megaphones and public announcement systems of the local mosques.

Jamuna Somajbettikh Sanghaton, the CBO of Kazipur, Sirajganj, raised money from the locality and helped to arrange marriage of the daughter of Nazir Hossain living in Matherpara village in 2008. In 2009, the CBO members also helped with money to arrange burial of Shree Jagobandhu, an extreme poor person of Kunkunia village.

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Mainstreaming Livelihood-Centred Approaches to Disaster Management Project
Experiences of Bangladesh in disaster management have clearly shown that the first response and a significant proportion of the total support in disaster situations come from local people. It may take days for outside responders to enter affected areas due to the time needed to assemble personnel and resources, transportation limitations, or unfamiliarity with the area. Given the significant role a community can play in disaster prevention and emergency response, effective utilization of social capital is crucial in community-based disaster management.

Realizing the importance of community volunteers in disaster risk reduction (DRR), Practical Action Bangladesh trained and engaged 300 community volunteers in Bogra, Gaibandha and Sirajganj districts under the "Mainstreaming Livelihood-Centred Approaches to Disaster Management" (DRR) Project. Community volunteers are now playing an active role in the society while acting as a defense group for the community. The project provided training to the volunteers on disaster preparedness, mitigation, rescue, evacuation, first aid, early warning systems, climate change, and disaster risk reduction. A simple Bangla pictorial guidebook, to which they could refer, was given to each volunteer. A first-aid box was given to each of the 10 volunteer groups. A megaphone, radio, umbrella, uniform and cap was also supplied.

*During disasters, community volunteers can play a significant role to provide immediate support to the worst-affected families when outside respond delays.*
Each volunteer is responsible for 10 households. The volunteers offer support to risk and resource mapping, identifying local problems and providing possible solutions. They actively organize and participate in disaster preparedness activities, such as courtyard meetings, rallies, day observance, cultural programmes, dramas, early warning, and establishing linkages with local service providers. Following a disaster, volunteers

**Criteria for volunteer selection**

- Permanent residence in respective union (local government unit)
- Age within 18-45 years
- Accepted by the community
- At least with primary level education
- In good health
- Hard-working, honest and sincere
- Have motivational capacity and attitude towards local development
- Ready to serve at least 10 households
- Willing to offer additional services as per project needs

**Service stimulated by capacity building**

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*Volunteers in a group discussion session during training.*
participate in damage and loss assessment, selecting worst affected families for relief distribution, shifting affected people to safe flood shelters, flood shelter management, funeral activities, while providing special support to pregnant women, children, elderly and wounded people. Once the flooding has subsided volunteers encouraged people to return to their homes from the flood shelter. The enthusiasm and motivation of the volunteers contributes to the on-going success of the community-based DRR and livelihood initiatives.

Community volunteers are directly responsible for facilitating courtyard meetings in their respective communities. Through these meetings community members are made aware of important issues such as plinth raising, raised tube wells, flood proofing sanitary latrines, storing dry food, portable stoves, savings and the storage of saline solution and medicines as risk reduction strategies. Discussions have also been held on storing cattle feed, shelter for animals and improved animal health through vaccination. As a result of this acquired knowledge, many households, despite their economic constraints, have raised their homestead plinths, sanitary latrines bases, and tube-well platforms above flood level.
Volunteers raise awareness of community members on different issues through courtyard sessions.
During the flood season (June-September), the CBOs and early warning committee members constituted under the DRR project provided warnings on the flood situation in the three project locations. Though flooding in 2008 was not severe in all parts of the country, some low-lying areas of project locations suffered from inundation. In September the community volunteers, trained during the project, rescued 222 families (Bogra 50, Gaibandha 27 and Sirajganj 145) from marooning and erosion, and shifted them to safe places using the rescue boats supplied by the project.

Establish formal communication structure

To ensure sustainability, community volunteers were formally linked with Union Disaster Management Committees (UDMCs) (local government's disaster management body), community based organizations (CBOs) and other service providers. 4% of the community volunteers contribute as active members of the five UDMCs of the project areas. CBOs and government service providers are aware of the role of the volunteers and use their help on a regular-basis during both disaster and non-disaster periods. All the project volunteers are to be coordinated by their respective UDMCs at the end of the project.
During the devastating flood of 2007, the volunteers of Kamarzani Union of Gaibandha district collected money from the local elite, hired a boat and rescued 26 flood affected family members from the char and placed them in secure places such as school buildings, on the embankment, etc.

During the flood of 2008, members of Dhalu Pramanik of Bogra repaired the weakened embankment, saving about 3,000 households in six villages from being flooded.

During the floods of 2010, 4 families from Dhakuria embankment under Maizbari Union of Kazipur Upazilla were rescued by volunteers using the community's rescue boat.

Some volunteers of Sariakandi (Bogra) wrote a drama script on DRR and performed the drama in February 2009. About 1000 people enjoyed the programme while being made aware of the importance of disaster preparedness

"This year's (2007) flood gives us an opportunity to test our skills and the knowledge that we have learned and planned with support from Practical Action.*

Ayub Ali, a volunteer from Kamarzani Union of Gaibandha.

A scene from a drama staged by the volunteers in Bogra.
Mahmuda (right), a community volunteer of Bogra, dresses the cut-finger of a woman. She saved three families of Partitparal village during the flood of 2009. One night, becoming aware of the impending danger, she rushed through the dark to inform the relevant CBO of the need to rescue the people. The CBO rescued people from the houses which were about to be eroded by the river with the assistance of volunteers and the project rescue boat.
দুর্ঘট ব্যবস্থাপনায় জীবিকাকেন্দ্রিক কৌশল:
বাংলাদেশের অভিজ্ঞতা

মেইনস্ট্রিমিং লাইফলিফ্ট-সেন্টারড
অ্যাপ্লোকেশ টু ডিজাস্টার ম্যানেজমেন্ট
প্রকল্প

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ন্যা ও নদিভাঙ্গন এলাকা বাংলাদেশের বহু দক্ষিণ মানুষের বাস। বন্যা ও নদিভাঙ্গন এসব মানুষের ফসল, ঘরবাড়ি ও জীবিকার উপায় ধরা করে, তাদের আর্থিক অবস্থা এবং হাস্য ও পৃষ্ঠা নিরাপত্তায় হুমকি সৃষ্টি করে। দুর্যোগের ক্ষয়ক্ষতি কমানোর জন্য সাধারণত দুর্যোগের কৌশল অনুসরণ করা হয়। প্রথমতি- প্রতিদিন, সুরক্ষা ও প্রকল্প মাধ্যমে মানুষের জীবন ও সম্পদের ওপর দুর্যোগের প্রভাব কমানো; দ্বিতীয়তে- জীবনধারণের বিভিন্ন উপায়ে শক্তিশালী করার মাধ্যমে মানুষের দুর্যোগ-প্রতিরোধক্ষমতা বাড়ানো।

কৃষি ও কৃষি-বাহিরিত উভয় কেন্দ্রেই বিকল্প এবং বহুসংখ্য জীবিকার জন্য গ্রহণার্থী দক্ষতা সৃষ্টি করে মানুষের আয় বাড়ানো যায়।

মানুষের প্রতিরোধক্ষমতা ও জলবায়ু পরিবর্তনের সঙ্গে খাপ খাইয়ে দেওয়ার সক্ষমতা বাড়ায় এমন ইতিবাচক পরিবর্তন আনার জন্য প্রাথমিক পাকিস্তান এবং আফগানিস্তান-এর 'মেইন্টেনাসই লাইফলিভর্ড-সেনটার আর্থিকসেস টু ডিজাইনার মানেজমেন্ট' প্রকল্পে মূলত টেকসই জীবিকা কৌশল অনুসরণ করা হয়। প্রকল্পের কর্মকার্যের মধ্যে রয়েছে- কৃষি ও অকৃষি জীবিকা, খাদ্য আরাম, নিরাপদ পানি ও স্বাস্থ্য সমস্যা সমাধানের প্রভৃতি। দুর্যোগ-ঝুঁকি কৃস্ত ক্ষেত্রে চালু করা হয় বিভিন্ন বিষয়ের জন্য ভৌগলিক সংগঠন (সিবিও) ও স্থানীয় উন্নয়ন কর্মকার্যের বিভাগ থেকে তৈরি করা হয়।

কৃষি ও অকৃষি কর্মকাণ্ড

স্থানীয় চাহিদা, সক্ষমতা এবং সুযোগের ওপর ভিত্তি করে প্রকল্প করা যেটি কৃষি ও অকৃষি কর্মকার্যের প্রসার

ঝাঁপ। উন্নত জ্ঞান ও স্থায়ী ব্যবস্থার মধ্যে এসব কর্মকাণ্ড বজায়, গাইটাদা ও সিস্টেমারের বন্যা ও নদীভাঙ্গন এলাকার কারণে হাসরো পরিবর্তনের দুর্যোগ-ঝুঁকি ক্রের সমস্তার বাড়তে সহায়তা করে।

কৃষিকেন্দ্রিক কর্মকাণ্ড: প্রকল্পে অংশগ্রহণকারী নাগর্জু ও
দলকে উদ্ভূত কৃষি-প্রযুক্তির ওপর প্রশিক্ষণ দেওয়াই হয়। এসব প্রশিক্ষণের মধ্যে রয়েছে- লাভজনক উপায়ে গরু-হাগল-ভোজন পালন, মৌ চাষ, বসতিভূমি উপলব্ধি চাষ, রসুন ও তরমুজ চাষ, উচ্চফলশিল্প খাদ্য চাষ, নার্সারি তৈরি, চারা উৎপাদন ইত্যাদি। প্রশিক্ষণের জানা ও দক্ষতা কাজে লাগানোর জন্যে প্রশিক্ষণপ্রদর্শনের প্রযোজনীয় উপকরণ সহায়তায় দেওয়া হয়। প্রকল্প এলাকায় প্রায় চার হাজার পরিবার প্রশিক্ষণের জানা ও দক্ষতা সফলভাবে কাজে লাগিয়ে কৃষি উৎপাদন বাড়তে সচেষ্ট রয়েছে। এটি এলাকায় লাভজনক কর্মসংগঠনের সূচনা তৈরি করছে। ফলে সম্প্রদায়ের আয় বাড়ানোর স্থিতিশীল উপায় খুঁজে পেয়েছে, যা তাদের মৌলিক প্রযোজনাবলী আরো ভালোভাবে গুরুত্ব প্রদান করছে। জীবিকার্য এই স্থিতিশীলতা সৃষ্টিকর্তা তাদের দুর্ভোগ অভিন্নতা বা দূর্ভোগসহিষ্ণুতা বাড়িয়ে দিয়েছে।

অকৃষি কর্মকাণ্ড: এই প্রকল্পে বাস্তবায়িত অকৃষি কর্মকাণ্ডের মধ্যে অন্তর্ভুক্ত- হরিশ্চন্দ্র, কমল ও বুড়ি তৈরি, দীর্ঘ বাণিজ্য, সৈকত ইত্যাদি। প্রকল্পের অংশগ্রহণকারীদের প্রশিক্ষণের পাশাপাশি প্রযোজনীয় উৎপাদন সহায়তা দেওয়ার প্রয়োজন হয়েছে, যাতে তারা অর্জিত জান বৃহ সহজেই ব্যবহার করতে পারে।

প্রকল্পের অংশগ্রহণকারীরা তাদের কৃষি এবং অকৃষি পেশা থেকে অর্জিত অতিরিক্ত আয় দূর্ভোগের ভিত্তিক কমানোর জন্য ব্যবহার করছেন। যেমন- বসতিভূমি বৃদ্ধি করা, বাড়িতে মেলামাত ও মজারুক করা এবং যাত্রা সুরক্ষা নিষিদ্ধ করার জন্যে যন্ত্রাংশের লাভ ও টিউবওয়েল স্থাপন। আবার অনেক অংশগ্রহণকারী কামনা বিপদ মোকাবেলার জন্য সমর্পিত করছেন। বৃহত্তি আয় অংশগ্রহণকারীদের অর্থনৈতিক সমস্তার বৃদ্ধি করছে। যেমন- খাবার কেনা, ছোলা-ময়দানের শিক্ষার খুচরা চালানো, আলোচনাপথে কেনা, স্থান পরিষদ এবং জমি বদলোনো কেনা।
শুচি আবাসন

শুচি আবাসন কর্তৃক বন্যা সর্বোচ্চ সীমা বিশেষনা করে একটি নির্দিষ্ট এলাকায় মানুষের বসবাসের জন্য কয়েকটি বাড়ি একসঙ্গে তৈরি করা হয়। বড়ড়া, গাইবাড়া ও সিঁজাগঞ্জ জেলার একক নিরাপত্তা স্থানে ছাত্র শুচি গ্রামে ১৩৫টি গৃহীত পরিবারকে বাসসাধারণ দেওয়া হয়েছে। এই নিরাপদ বাসস্থানগুলো শুচি গৃহীত পরিবারগুলোর জীবনরক্ষার স্থলে সম্পর্কিত স্থান হিসেবে করার জন্য পরিবারের সদস্যের অন্যান্য অর্থনৈতিক কাজ নিয়োগিত হতে পারে। এটি প্রকৃতপক্ষে তাদের দুর্ভূত সম্মুখীন করা যাবে বাড়িতে শুচি।

কমিউনিটি সংগঠন (সিডিও), ইউনিয়ন পরিষদ, ইউনিয়ন পরিষদ চেয়ারম্যান এবং স্ত্রীয় প্রশাসনের পরামর্শ অনুযায়ী এই শুচি আবাসন কর্মসূচির অংশগ্রহণকারী পরিবার নির্ধারণ করা হয়।

শুচি নির্মাণের জন্য স্ত্রী ইউনিয়ন পরিষদ সদস্য এবং সিডিও মনোনীত সদস্য, ব্যাঙ্গালের এলাকার সমাজ বাড়ি এবং প্রকল্পের সমন্বয়ে একটি ‘শুচি নির্মাণ কমিটি’ গঠন করা হয়। এই কমিটি বাণিজ্য জমি ও অঞ্চল অনুযায়ী প্রতিটি বাড়ি তৈরির স্থান নির্ধারণ করে। শুচি নির্মাণের জন্য স্ত্রীয় শ্রমিকদের কাজে লাগানো হয়।

অংশগ্রহণকারী পরিবার এবং বাণিজ্যরক্ষক সংস্থার মধ্যে একটি লিখিত চুক্তি হয় এবং পরিবারকে এই চুক্তি অনুযায়ী নির্মিত ঘর, জমি এবং শুচিরামের অন্যান্য সুবিধার ৯৯ বছরের জন্য বন্দোবস্ত লাভ করে। প্রতিটি শুচিরামের জন্যে আলাদা শুচিরাম উন্মুক্ত কমিটি গঠন করা হয়।

বাড়ি ও জমির আইনগত মালিকানা অংশগ্রহণকারীদের অর্থনৈতিক সক্ষমতা এবং সামাজিক মর্যাদা বাড়ায়। ফলে পরিবারগুলো যুব সহজেই অন্যান্য অর্থনৈতিক কাজে ঢোকে। গ্রামের ইস্কোমি প্রশিক্ষণ যেমন অর্থনৈতিক কাজে ঢোকে। আবার আনেকেই নিজেদের বেশ জমিতে চাষ চাষে। নারীদের, বিশেষ করে গর্ভবতী নারীদের দুর্ভূতের দূর্ভূতের কমেছে। শুচিরামগুলোতে সামাজিক সম্প্রদায়ের নেতৃত্বের মনোক্ষেপ হয়েছে। উদাহরণ - গাইবাড়ার কামারজেনির শুচিরামের বাসিন্দারা শিশু ও বয়ক্তদের শিক্ষার জন্যে নির্দেশের একটি শিক্ষা প্রতিষ্ঠা করেছে।

![Image of a village with water bodies and houses, illustrating the concept of a green and sustainable village.](https://via.placeholder.com/150)
বন্যাসঘটন নলকূপ

বছরের মধ্যে নিরাপদ ও শুষ্ক পানি সরবরাহের জন্য তিনটি প্রকল্প এলাকায় মোট ২০২টি উঁচু নলকূপ স্থাপন করা হয়েছে। এতে অনুমোদিত প্রকল্প ১০টি পরিবারের অন্তর্গত ৫০ জন মানুষকে একটি নলকূপ ব্যবহার করার জন্য কয়েক কমপক্ষে ২০টি পরিবারের অন্তর্গত ৪০০ জন মানুষকে একটি নলকূপ ব্যবহার করার জন্য প্রস্তুতি করে আছে।

নলকূপ স্থাপনের আগে জনসাধারণ এককোনো অধিদপ্তরের সাথে সংঘাত এর জন্য নির্ধারিত স্থানের উপর পেশী থেকে নলকূপ স্থাপনের সম্ভাবনা সংগ্রহ করা হয়। বাংলাদেশ পশ্চিমাঞ্চলের জন্য নির্ধারিত স্থানের আধিকারিক পরিকল্পনার পর সম্পন্ন করা হয়। নলকূপ স্থাপনের জন্য ১৯৯৮ সালের বন্যার সীমার চেয়ে তখন ২ ফুট বেশি উচ্চতাকে আদায় দ্বারা ধরা হয়েছে।

বন্যাসঘটন নালকূপ ও ল্যাট্রিন ব্যবহারকারীরা মূলধারায় সম্পূর্ণ হয়। জনসাধারণ এবং নতুন প্রশাসনের আধিকারিকভাবে গঠন করে ব্যবহার করে।

নলকূপ স্থাপনের পর এলাকায় ১৬,০০০ মানুষ এসব সুস্থতা লাভ করে। এমন করে তাদের জীবন অর্থনৈতিকভাবে উন্নয়ন করা যায়।
কমিউনিটিতে সংগঠন

দক্ষিণ এশিয়ায় তিনটি কমিউনিটিতে সংগঠন রয়েছে। কমিউনিটির সার্বিক উদ্দেশ্যকে বোঝায় কাজ করতে ঐক্যবাদ সদস্যদের নিয়ে এই সংগঠন গঠন করা হয়। সংগঠনের সদস্যদের মূলত এশিয়ার বিভিন্ন সমস্যা যেমন- দূর্যোগ ব্যুক্তি কমানোর লক্ষ্যে এগিয়ে আসে। এছাড়াও সামর্থ্য প্রশিক্ষণ এবং উন্নয়ন দিয়ে কমিউনিটিতে সংগঠনের কাজ করতে তারা কমিউনিটিতে দূর্যোগসংক্রান্ত ক্ষমতা বৃদ্ধির জন্য প্রতিভাত রাখতে পারে। এসব সংগঠনের সদস্যদের সামর্থ্যের অভাব ও প্রতিবন্ধক কমিউনিটি পরিষেদে দূর্যোগ-হার্বিক কমানোর জন্য কাজ করতে এবং নেতৃত্ব দিতে সহায়তা করে।

দূর্যোগ-হার্বিক হ্রাস করতে কমিউনিটিতে সংগঠনগুলোর দূর্যোগ-পূর্ব, দূর্যোগকালীন এবং দূর্যোগ-পরবর্তী দায়-দায়িত্বের জন্য উদ্দেশ্য দেওয়া হয়েছে। কমিউনিটিতে সংগঠনগুলো উদাহরণ বৈঠক, রালি ও সাংস্কৃতিক অনুষ্ঠানের মাধ্যমে দূর্যোগ-ব্যুক্তি কমানোর জন্য গণসম্পর্কের বাতাসে কাজ করে।

তারা জনসাধারণের পরিশেষ, ইন্ডিয়ান দূর্যোগ ব্যাংকের কমিটি, যোগাযোগের কমিটি প্রথমে ডাল করে এবং কমিউনিটির সঙ্গে সার্বভৌমিক ও বিভিন্ন প্রকাশিত ঘটনার জন্য প্রতিভাত ব্যবস্থাপনা করে।

কমিউনিটিতে সংগঠনগুলো নিরামিষভাবে দূর্যোগ ব্যুক্তি পর্যবেক্ষণ করে প্রয়োজন অনুযায়ী সংস্থাগুলোর সাহায্য নিয়ে। তারা সময় উদার ও স্থানাঙ্ক কার্যক্রম সংস্থাগুলোর সাহায্যে কাজ করে।

কমিউনিটি ব্যাংকসেবক

প্রশিক্ষণের মাধ্যমে দক্ষিণ বোম্বায়, পাইসাকা ও সিরাজপুরের তেলা বংশোদ্ভূত ব্যাংকসেবক একটি গোষ্ঠী তৈরি করে। তাদের কমিউনিটির সহযোগী শক্তি হিসেবে কমিউনিটির উদ্দেশ্য করতে পারে।

কমিউনিটি ব্যাংকসেবকদের দূর্যোগ প্রতিক, দূর্যোগ শক্তিটির কমানো, উদ্যোগ-সাহায্য, প্রাথমিক চিকিৎসা, দূর্যোগ পূর্বাভাস, মার্কিটিং পরিবর্তন এবং দূর্যোগ ব্যুক্তি কমানোর জন্য প্রশিক্ষণ দেওয়া হয়।

প্রত্যেক কমিউনিটি ব্যাংকসেবককে ব্যাংকসেবকরা ব্যবহার উপযোগী একটি করে মেগাফোন, রেডিও, ছাতা, পোশাক এবং চুপি দেখায় হয়। প্রতি ১০ জনের হিসেবে কমিউনিটি ব্যাংকসেবক দলকে একটি করে প্রাথমিক চিকিৎসা ব্যাপার দেওয়া হয়।

প্রত্যেক ব্যাংকসেবককে ১০টি করে পরিবারের দায়িত্ব দেওয়া হয়েছে। ব্যাংকসেবকরা জনসাধারণ এলাকার ব্যুক্তি এবং সমস্যার মাধ্যমে নিয়ে ধারণা দিয়ে থাকেন।

দূর্যোগ-পূর্বাভাস এবং দূর্যোগ-প্রতিক উদ্দেশ্যে তাদের কাজগুলোর মাধ্যমে রয়েছে- উদাহরণ বৈঠক, রালি, নিবন্ধন উদ্যোগপতি, সাংস্কৃতিক অনুষ্ঠান, নাটক ইত্যাদি। জনসাধারণের সাহায্যে প্রতিভাত হয়।
কার্যকর যোগাযোগ রক্ষা করে তারা এসব কার্যক্রম আয়োজন এবং কার্যক্রম সৃজনাভাবে অংশগ্রহণ করে থাকেন।

দুর্যোগের সময় ব্যাঙ্গাগাব্দকর প্রধান কাজগুলো

হলো- ক্ষয়ক্ষতি নিরাপত্তা, ব্রাহ্মণ বিভাগের জন্য সরবরাহে ক্রিয়পালকৃতি তালিকা তৈরি, জনগণের বন্যা আশ্রয়কেন্দ্র স্থানান্তর সহায়তা, আশ্রয়কেন্দ্র বাসস্থাপনা, মৃতদের সৎকারে সহায়তা এবং গোবর্তি নারী, শিশু, বয়স্ক এবং আহত মানুষকে বিশেষ সেবা দেওয়া।

দুর্যোগ-পরবর্তী সময়ে ব্যাঙ্গাগাব্দকর জনগণকে আশ্রয়কেন্দ্র থেকে আবার নিজ বাড়িতে ফিরে আসায় সহযোগিতা করে থাকেন।

### প্রকল্পের শিখনসমূহ

- কমিউনিটির টেকসই উন্মুক্ত জনের অংশগ্রহণমূলক প্রক্রিয়া পরিকল্পনা প্রণয়ন এবং কার্যক্রম পরিচালনার পস্থতি অনুসরণ করা জরুরি
- দুর্যোগ-বীর্য ক্রান্তি প্রকল্পগুলো সুস্পষ্টভাবে প্রমাণ করেছে, তুলনামূলকভাবে ব্যবহারী ছোট ছোট কমিউনিটি বাসনায়নের মাধ্যমে জনগণের জীবন ও সম্পদের নিরাপত্তা নিশ্চিত করা যায়।
- হার্মোনিয়া জাতীয় জন্য প্রশিক্ষণ আয়োজন এবং প্রশিক্ষণ প্রযোজ্য হলো সাধারণ সহায়তা দেওয়ার মাধ্যমে জনগণের সামনে জীবন অর্থনীতি ভূমির নতুন নতুন পথ উদ্ধৃত হয়। এর বর্ধিত আয় ও স্ব জননায়কের দায়িত্ব দূর করে না, তাদের দুর্যোগ মোকালের ক্ষমতা বাড়ায়।
- কৌশলপত্র উন্মুক্ত সাধারণের মাধ্যমে কৃষি ও অকৃষি পেশায় যে টেকসই উন্মুক্ত উদ্যোগ এবং বৈচিত্র্য আনা হয়েছে, সেটি দেশের বিভিন্ন অঞ্চলের দুর্যোগ-বীর্য জনগণের দুর্যোগের সঙ্গে খাপ খাইয়ে নেয়ার ক্ষমতা বৃদ্ধি করার লাগানো যেতে পারে।
- প্রচলিত পেশাগুলোর কৌশলপত্র উন্মুক্ত সাধারণ করে টেকসই রাপ দেওয়া প্রযোজন
- স্বাধীন সম্পদ ও সম্পত্তিনির্ভর প্রযুক্তিগত প্রযোজন আন্যায় পরিবর্তন ও পরিবর্ধন করে খুব সহজে সমাজের সব করে পোঁছে দেওয়া যেতে পারে।
- সরকার সংস্থা ও সরকার কর্মসংগঠিতের যজ্ঞোত্তীর্ণ সম্পর্ক সঙ্গে রেখে কাজ করা এবং জনগণকে প্রচেষ্টা করার অনুমান ও সেবার সঙ্গে সম্পৃক্ত করা বা এগুলোর আওতায় আনা উদ্দেশ্য পূর্ণতা

### সীমাবদ্ধতা

- কৃষি ও অকৃষি কমিউনিটি বাসনায়নের জন্যে প্রযোজনীয় ভূমির সম্পদ প্রধান অর্থায় হিসেবে কাজ করে। বিশেষ করে, অভিদের জনগোষ্ঠীর উন্মুক্ত ক্ষেত্রে ভূমির সম্পদ বড় বাড়া হিসেবে কাজ করে।
- মায় মায়ে দলীয় সদস্যদের নিরক্ষরতাও অন্তর্বায় হিসেবে দেখা দেয়। বিভিন্ন বিষয় যেমন- আয়, বায়ে ও লাভ অভিজ্ঞ তারিখের সামনে স্পষ্ট করা সম্ভব হয় না।
- মানবসম্পদ উন্মুক্তে অপরাধের বিরোধ
- বিভিন্ন বাড়ির করণে কমিউনিটিতে প্রতিবেশীগুলো টিকে থাকতে সমস্যায় পড়ে। উপরেক্ষীয় বাড়িয়ের মধ্যে রয়েছে- জীবন ও জনসাহিত্যের অভাব, দুর্বল প্রশস্নিক নেতৃত্ব এবং অনুমানের ওপর নির্ভরতা।
ঢাকিপুরের জুলুম্বা বেগম ১০ শহীদ জমিতে গড়ে তুলেছেন ফল বাগান। এসবে সেগুলো লাগিয়েছেন করী, লেপ, আম ইত্যাদি ফলের চারা। বন—প্রবন্ধী কৃষি পুনর্ভবায় আওতায় একাংশ থেকে সামান্য কিছু পৌঁছে বীজ পান তিনি। বীজ থেকে চারা করে বাগানে মাঝান জুলুম্বা। নিয়মিত সেবাসহ পরিষ্কার করেন। ফলের পেছন এলাকায় নিয়মিত পৌঁছে বিভিন্ন বাছুড়ি রোষাগার পথ করে দিয়েছে তাঁকে।

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The ‘Mainstreaming Livelihood-Centred Approaches to Disaster Management’ is a multi-country project of Practical Action, under its Reducing Vulnerability & Natural Resource Management Programme. The project is funded by UKaid from the Department for International Development (DFID)/ Conflict and Humanitarian Fund (CHF). Started in January 2006, this five-year project is being implemented in Bangladesh, Nepal, Peru, Sri Lanka and Zimbabwe with active participation of local partners.

The Bangladesh component of the project, also referred to as ‘DRR Project’, directly worked with 6,000 vulnerable families of five unions of Gaibandha Sadar upazila (Kamarjani union) of Gaibandha district, Sariakandi upazila (Sadar and Narchi unions) of Bogra district, and Kazipur upazila (Sadar and Maizbari unions) of Sirajganj district. All three upazilas are situated on the west bank of the mighty river Jamuna and vulnerable to recurrent river flooding and river erosion. The main aspect of the project is to develop, test and promote a model for livelihood-centred approach to disaster risk reduction taking into account local vulnerabilities. To do so, different relevant options were tested, resource materials and knowledge products were developed, and the livelihood-centred approach was advocated at different levels for further adoption.

This compilation - Elements of disaster resilience: lessons from Bangladesh - summarizes the experience of the Bangladesh component of the DRR Project. Five important elements of this initiative, namely livelihood options, cluster housing, water & sanitation, community-based organizations (CBOs), and volunteers, are included in this compilation. A summary of the compilation in Bangla is also included.

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