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## Participatory monitoring and evaluation in flood proofing pilot project, CARE-Bangladesh

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### • Introduction

In 1996 CARE Bangladesh initiated a three-year community based Flood Proofing Pilot (FPP) Project. This article discusses how it has pursued its aims, and how monitoring and evaluation fits in alongside planning and testing various flood proofing measures with villagers.

After the devastating floods of 1987 and 1988, the Bangladesh Government launched a series of Flood Action Plan (FAP) studies to formulate and implement technically, financially, economically and environmentally sound solutions to the adverse effects of floods in Bangladesh. This is known as 'flood proofing' - the provision of long term non-structural or minor structural measures that can be undertaken by individual, families or communities to mitigate the effects of Flood. In one of the studies, FAP-23<sup>1</sup>, current flood proofing activities were reviewed and evaluated to determine the overall requirement of flood proofing in Bangladesh.

CARE's FPP plans are based on the recommendations written in FAP-23. The project is funded by USAID and jointly implemented by CARE, partner NGOs and the Local Government Engineering Department of the Bangladesh Government. CARE's FPP project aims to promote flood proofing as an integral requirement of all development

activities in flood prone areas and to show how flood proofing can improve the social and economic well being of individuals, families and communities. The FPP seeks to reduce the disruption of normal social and economic activities during and after floods. Specifically it aims to:

- conserve household and community resources during floods;
- maintain individual and household physical well being during floods; and,
- motivate individuals, families and communities, through participatory learning and action techniques, to enable them to sustain improvements in their economic and social livelihood in flood prone environments.

As flood proofing requirements depend on the flood environment, this pilot project phase involves the testing and implementing of various flood proofing measures in 115 villages in two districts with different flood environments. One is an active flood plain in the major river channel in the north-west of Bangladesh where flooding is more frequent. The other is situated in the south-east, an area that remains deeply flooded for four to six months.

### • FPP and participatory planning, monitoring & evaluation

#### 1. Planning

To ensure people's participation and ownership of flood proofing activities and to enable clear monitoring and evaluation, good

<sup>1</sup> The Bangladesh Government launched 26 FAP studies. FAP-23 is one of the studies which aims to identify and implement effective flood proofing measures. The study was launched in 1992 and was sponsored by USAID.

planning is essential. CARE FPP used the principles and methods of Participatory Learning and Action (PLA) to learn from the community, about their problems, possible measures to overcome the problems, to identify effective interventions and take actions accordingly. The Project used the following PRA methods for the initial planning of flood proofing measures: transect walks, social mapping, wealth ranking, seasonal diagram, time-line, historical matrix, problem prioritisation and semi-structured interview. During this phase the project staff stayed in the villages for five days to build rapport and develop an appropriate plan with the villagers. In the PRA sessions, both CARE and their counterpart staff facilitated the sessions.

In 1997 PRA was facilitated in both the flood environments. Four teams of three staff (including where possible one woman) were established to facilitate PRA in 15 villages. Each team spent five days in each village identifying the flood related problems and the flood proofing measures or interventions required to alleviate them.

Community dialogues were conducted in every village where the flood proofing activities were to be implemented. During the community dialogue, CARE FPP staff and villagers reviewed the outcome of participatory analysis, identified the flood proofing interventions, and determined the prospective beneficiaries of various measures. Participants considered the economic status of individuals, flood vulnerability, erosion, inundation etc. in identifying the interventions and beneficiaries. Community contributions and external resources required were also determined in the sessions.

Each village had different needs, so a wide range of flood proofing interventions were identified in the various villages. The following were implemented:

- homestead raising (improving the plinth level of homesteads above flood level);
- raising grounds of communal places;
- flood shelter;
- provision of an evacuation boat;
- flood proofed water and sanitation system;
- plant based erosion protection;

- social forestry;
- homestead gardening;
- CAGES - aquaculture for alternative income generation during floods; and
- flood preparedness and health education.

Each village also formed their own village committee called the Local Project Society (LPS) that works for the villages as a whole. The committee is comprised of seven villagers, including, where possible, a community leader, a teacher or religious leader, a local social worker and a landless person (defined as having less than 1 acre of land and required to sell his/her labour). At least two members of the committee should be women.

The LPS has a range of tasks and responsibilities. Besides assisting in implementing community decisions, they contribute in the identification of FPP interventions, identify local resources and take initiatives to use them for the project. They encourage and ensure homestead gardening, and assist landless households to obtain long term tenancy certificates (at least four years) from land owners. They help the community, CARE and partner NGOs to acquire land for communal interventions, such as schools, shelters, mosques and management of boats. They help resolve any disputes related to the project. They monitor the quality of the work, such as for example, compactor work and turfing, and ensure that labour payment proceeds as planned. The LPS also assists households to collect earth for homestead raising and helps maintain saplings for plantation activities.

After identifying the interventions and the beneficiaries per intervention, the LPS and other community members draw visual village plans that depict the flood proofing activities, clearly identifying who is responsible, what the community will contribute and do, and when it will be implemented. The plan is visualised so that all the stakeholders can read the plan and monitor the progress of implementation

## 2. Implementation

The implementation periods extends from January to June each year. During implementation, the society supervises,

monitors payment and makes decisions about hiring labour and the process in general. The society and villagers meet to review and share the visual plan and take initiatives accordingly.

### 3. Monitoring and evaluation

There are three different sessions of monitoring and evaluation in each intervention session:

- first session - monitor the implementation process
- second session - indicator identification;
- third session - impact assessment and planning.

The first session involves the ongoing monitoring of the implementation process that each LPS carries out itself. The second session took place in May 1997. Three teams of three people carried out a five day PM&E session in each of the 11 villages involved in the implementation process.

In each village, the villagers and the LPS determined the indicators and discussed how they wished to evaluate the project. The social map from the planning phase and one key question guided the session: 'How will we, as villagers, evaluate the project?' CARE staff noted the indicators which the villagers and LPS identified. Over the next two days CARE staff, with assistance from the LPS, drew pictures of the indicators and tested them with the villagers (see Table 1).

The third session, participatory impact assessment, was held in November 1997. The two day session assessed the impact of the project during 1997, which was a fairly normal year in terms of monsoon floods. The session was held in two sample villages: Aftabganj (population of 264) and Jalangarkuthi (population of 353). This was because the previous year was the first implementation year of the Flood Proofing Project and it was also the first time that PM&E was introduced.

In Aftabganj 25 (8 men, 15 women and 3 children) participated, while in Jalangarkuthi, 19 villagers (4 men and 15 women ) attended the session. In Aftabganj and Jalangarkuthi, 64 and 46 households respectively had been raised (increasing the plinth level above normal flood level) by CARE FPP projects.

To understand the villagers' experiences of the floods, we tried to ensure the participation of people from different sections of the village rather than emphasising total numbers involved. The LPS committee used the social map compiled in the planning phase to check whether participants represented all sections of the villages. They were good at reading the map and ensuring that participants came from all sections of the village. In the impact assessment sessions, participation from raised households (i.e. improved plinth level households) was encouraged.

Focus group discussions were held to share experiences of floods using these visual indicators. This provided a means of assessing the progress of villages towards meeting their indicator objectives. It was planned that village sessions would be facilitated by project staff but in one of the villages an LPS member spontaneously took over the facilitation. His facilitation was good and he maintained the sequence of the process. Results of the second session are shown in Table 2.

Besides evaluating progress to date with the plans, the village sessions led to the identification of new flood proofing measures. Participants expressed a need for credit support, supply of seed and creation of employment opportunities. Jalangarkuti village had seen the arrival of nine new households and the villagers requested that their houses also be raised. The results and outcomes of the sessions were shared with the villagers and with the project managers, so that these needs be included in the project cycle.

**Table 1 Indicators used to assess the impact of CARE-supported village initiatives**

Health related indicators	Household related indicators	General indicators
Access to safe water during Flood; Reduce incidence of diarrhoea; Delivery in dry place; Reduce incidence of skin infection for humans and animals (cows).	Inundation of households; Damage of households; Storage of food, fuel wood, fodder, seed; Cooking in safe dry place; Homestead gardening, plantation; Income generating activity; Less emergency selling/ distress selling of properties; Less physical suffering.	Reduce loss of human life, livestock, poultry; Shelter in raised households by the neighbours; More places for children to play; Loss of life due to new ditches.

**Table 2. Example of some of the results from the impact assessment session**

Indicators	Aftabgonj village	Jalangerkuti village
<b>Health</b>		
Access to safe water during flood	All the raised households had access to safe drinking water through flood proofed tubewells.	All the raised households had access to safe drinking water through flood proofed tubewells.
Reduce incidences of diarrhoeal disease	1 out of 64 households reported diarrhoeal disease during flood.	3 out of 46 households reported the incidence of diarrhoeal disease.
<b>General</b>		
Reduce loss of human life	No loss of life occurred during flood.	No loss of life.
Shelter in raised households	4 neighbouring households took shelter in the raised households.	The villagers did not report incidences of this.
More places for children to move around and play	The households reported that their children had enough dry places to move around and play.	The households reported that their children had enough dry places to move around and play.
Loss of life due to new ditches	No such incidents occurred . At the time of indicator identification the villagers were suspicious about the ditches that were created due to earth cutting. They said that the ditches might cause loss of life during flood.	In this village one child fell into the water but was rescued immediately and no sad incident took place.

## • Conclusion

The FPP Project is part of the Rural Infrastructural Sector but an integrated approach was developed because of the participatory planning, monitoring and evaluation. Findings from the PM&E activities helped to develop replicable and cost-effective methodologies for flood proofing. The participatory monitoring and evaluation activities guaranteed the project's relevance to the needs of flood prone areas of Bangladesh. From the participatory process, it has been found that:

- it gives people a voice (for many women, it was the first time they had attended public meeting and expressed their opinions);
- communities could identify their priority issues/needs;
- communities possess good skills of facilitation;
- it is easy to generate and analyse information.

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