

Building Resilience through Community Participation
A Report on the Pilot Project on Community Flood Management in
Bangladesh, India and Nepal

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submitted by Hydrology and Water Resources Department of WMO

Introduction

Planning for risk reduction in integrated flood management requires a clear understanding and awareness of the existing and possible future flood risks. Unless the population is aware of the risks it faces, local energies cannot be mobilised to build resilience. Being aware of risks is an essential requirement for undertaking precautionary actions. As such, understanding of risks should be viewed as the first essential step in the development of an action plans. For effective community participation in the integrated flood management processes, including emergency preparedness plans, it is essential that they are made aware of the flood risks and the factors that determine them.

Perception of risks due to flooding among communities and within a community differs considerably. The new settlers/migrants or refugees in a flood plain may not be aware of the causes, frequency and likely magnitude of flooding in a given area and are vulnerable due to lack of knowledge. The population in areas subject to flooding due to infrequent floods or flash floods with a return period of more than a lifetime lack such knowledge. The demographic composition of the population, e.g., the presence of old citizens who might have experienced the highest flooding in the region also reflects on how the community perceives these risks. Perception about risks and corresponding responses within a community can also vary according to their relative education level, economic standards and political clout.

A pilot project on “Community Approaches to Flood Management” was implemented to introduce the community level approach to Integrated Flood Management (IFM) as part of the activity “Associated Programme on Flood Management (APFM)”. The pilot project was implemented by Bangladesh Unnayan Parishad (BUP), Bangladesh; Institute for Resource Management and Economic Development (IRMED), India; and Jalsrot Vikas Sanstha (JVS), Nepal. Community-based flood management manuals have been prepared - for the respective countries, viz. Bangladesh, India, Nepal. The manuals have been prepared in consultation with selected flood-prone communities in the three countries (two communities in Bangladesh,

The objective of the pilot project was to find out how people cope with floods, what are the risks involved, how can they carry on with their lives forward after the floods, and to devise ways of organising themselves and improving their capacity to do the things more effectively and to identify additional critical tasks that they may undertake to improve their flood management capacity and preparedness.

One of the biggest impacts of floods on the poor is on their livelihoods. Flooding affects economic and social infrastructure, industrial activities and other business activities. If equipped with an organizational structure and improved capability (through proper training), individually and collectively, the local people can manage floods better, with damages and losses substantially reduced even during major floods. Collectively, within the framework of a local organization titled Community Flood Management Committee (CFMC), the local people not only can mobilize efforts within the flood-affected areas to effectively liaise with and secure assistance from different possible outside sources in a coordinated manner.

The approach is useful in improving the flood management capacity of the communities concerned and reduces their flood vulnerability. The Manual is based on the experiences in three countries. It should, however, be mentioned that the Manual provides some generalizations. Specific conditions in a country may require specific measures. The Manual highlights a set of key common responses, which provide a broad framework, with reference to which specific measures for particular situations in different countries would need to be worked out taking into account the particular situational contexts. (three in India, and two in Nepal). The study areas are shown below in Figure 1.

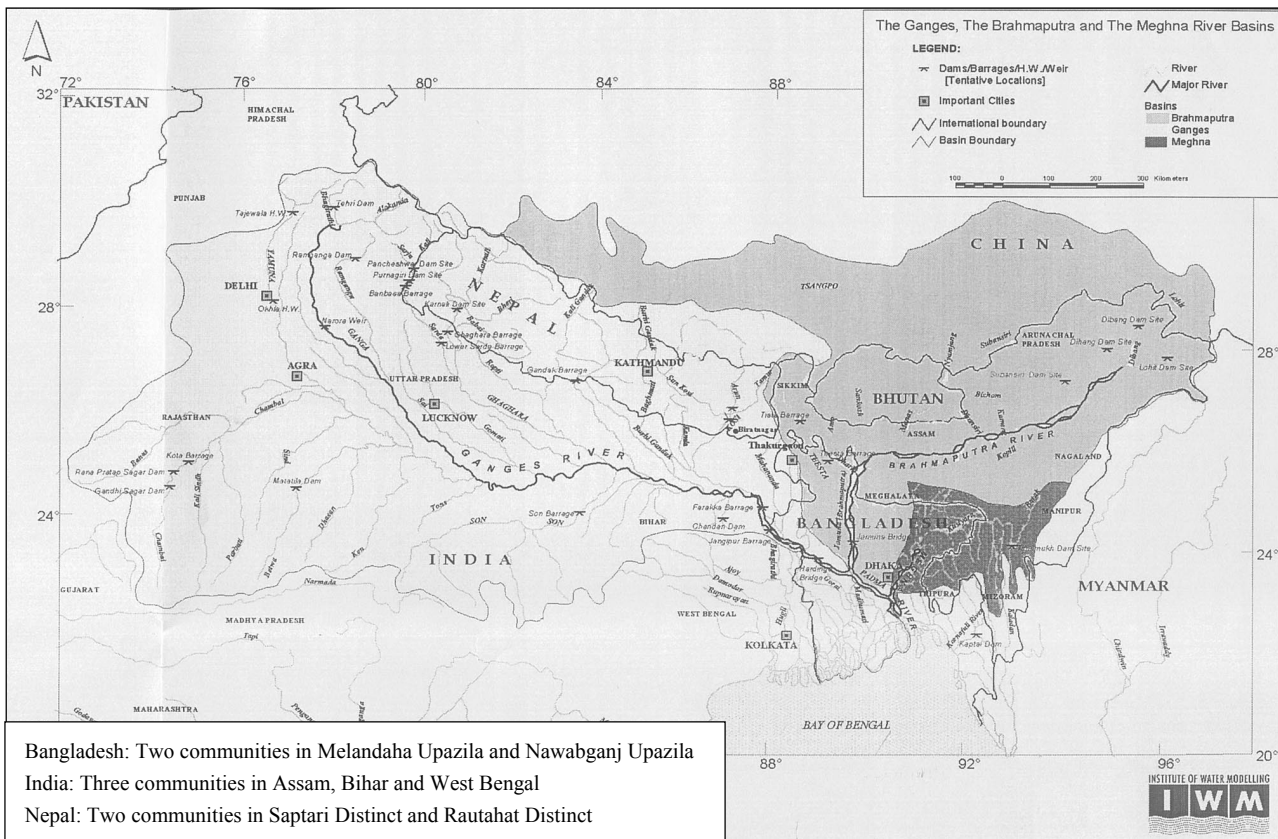


Figure 1: Ganges-Brahamputra-Meghna (GBM) Basin

Proposed Frame Work for Community Approaches to Flood Management

Flood management activities may be of three broad types: (i) advance preparation (ii) real-time responses and (iii) post-flood rehabilitation. Preparation relates to such activities as are conceived for execution during a flood and where preparations are made in advance. The purpose is to reduce flood-related vulnerability of households and communities. Real-time responses to reduce damages and losses as a flood is understood to be imminent and, then, as it sets in. As flood recedes, rehabilitation phase begins.

Preparedness (Advance Preparation)

In order to begin the preparedness process, people need to understand that a flood is coming and how intense it might be in terms of areas that will be affected as well as the depth of inundation and the estimated duration of the flood event. People have been traditionally doing their own flood forecast by looking at the behaviour of the rainfall, water levels in rivers, or the behaviour of snakes, frogs, ducks and other animals. These methods are empirically weak but quite often effective in areas where no technically sound flood forecasting and warning activities are in place. But, even though such activities are in place in many places now, quite often flood-forecasting messages do not reach the affected population in time and in technical terms and language they understand. Therefore, they still have to combine their traditional knowledge with the information they receive from the bulletins aired by media, radio in particular, from time to time during flood seasons. Such bulletins are often in technical-speak and cannot be fully grasped by the ordinary rural people. People often seek information from the chairmen or the members of the local elected bodies, local knowledgeable persons and officials but do not often receive satisfactory information. In the light of these circumstances a considerable degree of uncertainty remains. People are, therefore, constrained to rely more on empirical methods as indicated above. The conclusions have sometimes been right; but not so at other times regarding both timing and intensity of floods. Lack of timely and effective flood forecasting and warning, disseminated in local languages, remains a major problem.

Community action starts with the community mobilization to strengthen the organizational bases for local flood mitigation initiatives. In the past, most of the activities were carried out by people themselves during a flood and were based on individual initiatives. People were hastily organized, if at all, and that too primarily for the construction of physical facilities or often unplanned evacuation and rescue activities. If these activities are carried out in a community-based organized manner at community level, vulnerability and risks due to flood can be substantially reduced. For that to happen, community institutions are needed for collective action planning, implementation, monitoring and evaluation. Based on the pilot study carried out in the GBM basin described above, the basic institutional structure in the form of CFMC has been identified to be the essential building unit. Under the proposed community approach, the focus is community involvement in all phases including awareness raising, individual and community capacity building, planning, and implementation.

In the community approach, flood preparedness includes the following activities:

- Formation of a community level organization to manage floods, say Community Flood Management Committee (CFMC)
- Assessment of various requirements to reduce flood vulnerability and to enhance capability of the community to reduce damages, losses, and sufferings of the people
- Training for capacity building at community and individual levels, as appropriate
- Planning for rescue and evacuation, flood proofing and flood moderation
- Organizing drills to facilitate effective evacuation
- Making provisions for addressing unforeseen eventualities
- Monitoring of the proceedings with respect to various activities undertaken and reporting
- Managing information for future reference
- Resource Mobilization

An example of the constitution of the CMFC is shown in Figure 2

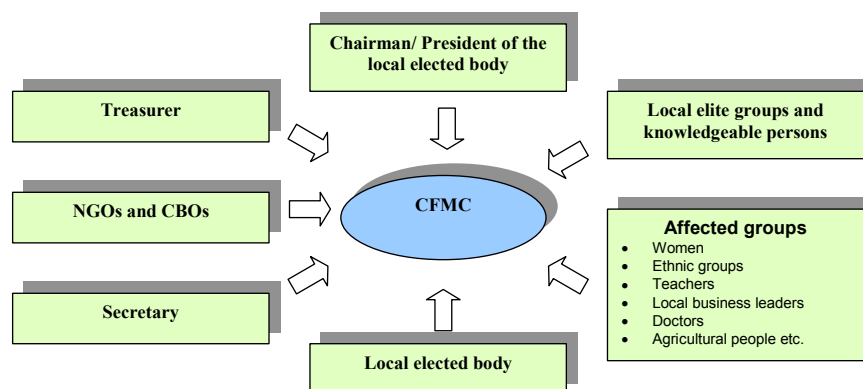


Figure 2: Likely Constitution of the Community Flood Management Committee (CFMC)

Real-Time Responses (Pre-Flood Responses and During-Flood Responses)

Timely responses, as planned, should be implemented prior to, during, and after a flood event. People of flood-prone areas of the countries of the region have been responding to floods during all the three stages on their own, which may be considered household-level coping mechanisms against floods. Lack of organizational capacity and guidance has not allowed pooling of limited capabilities of the people, resulting in random outcomes. It is envisaged that these individual actions - if coordinated at the community level and if the community capacity is strengthened through such activities as awareness building, training, and networking - can generate an effective grassroot-based flood management approach. Key elements of this approach are outlined below.

Pre-Flood Responses

When the flood is imminent, the CFMC may organize constant Flood Vigilance Task Activities (FVTA) to check on how an impending flood is developing (i.e. to assemble and review available information on flood

forecasting and issue warning to the people in the language they can understand). The CFMC should keep record of indicators (for example, water level relating to landmarks, say, on electricity poles or old trees) observed, the corresponding warnings issued, the actual effect that took shape in terms of the extent of flooding and the mobilization of people and resources in response to the evolving situation. The data bank created thereby overtime can be a very useful background material in dealing with future floods.

According to the degree of severity of the forecasted flood, warning should be issued, giving the likely severity level in different parts of the area. Warning concerning different levels of severity should be given out that the residents could relate with actions that they are supposed to undertake in relevant parts of the area. The likely actions may include staying alert, keeping one's belongings and valuables at higher elevations, preparing for evacuation, evacuation as deemed necessary, and relocation to a safe refuge.

The CFMC may allocate specific responsibilities such as assemblage of information and issuance of warning to particular members responsible for FVTA. There are several modalities of issuing warning to choose from by showing flags (hoisting different colour-coded flags) on bamboo poles or hanging flags over tall trees at open spaces so that these can be seen from all sides of the area. During the phase of preparation and drill programmes, people should be informed of the significance of these flood signals, i.e. what colour of the flag means what is the likely extent of flooding and what actions are expected of them.

During-Flood Responses

In case of flooding, one may choose one of the following two options (a) enduring flood by staying inside the house or compound, or (b) leaving the house and taking shelter either in non-flooded areas or in nearby flood shelters, if available.

Enduring flood is indeed difficult. Many poor families tend to stay back in their marooned dwellings, often in raised platforms inside the dwelling or on rooftops to avoid moving out and risk the theft of their valuables. In doing so, they sometimes fall victim to snakebites, even drowning. Escaping flood waters and taking shelter elsewhere also depend on the availability of flood shelter or high places to move to, which are expected to be arranged by the CFMC. In the context of the emerging circumstances, the CFMC would need to work out procedural details regarding undertaking various tasks including the management of the proposed flood shelter (s). If a CFMC is not in place, one may be quickly established; and if that is not feasible at the present, individuals will have to use their best judgment about what to do and how. But, it would be advisable to coordinate activities with neighbours and others as much as possible.

Recovery and Rehabilitation (Post-Flood rehabilitation)

Flood affected people are keen to get back to normal life. After suffering losses in terms of crops, livestock, and property, they often find themselves in extremely difficult situations and cannot rehabilitate themselves without assistance from the government, rich benefactors, or NGOs/CBOs. Sometimes, neighbours help one another towards getting back to 'normal life'. Interpersonal relationship and kinship also play vital roles in helping some flood affected people to find their feet again. Community effort can be useful in repairing partially damaged houses, often by means of collective free labour supporting one another. Well-to-do people sometimes employ poor neighbours in restoration activities, thereby offering temporary employment. In the case of large scale flood devastation, government's role in relief and rehabilitation becomes crucial. Once the evacuees have left, the CFMC should arrange the cleaning up of the vacated flood shelters/camps to make them usable for their usual purposes.

Up-linking the Community Approach to Flood Management to national and regional level

The success of the Community Approach to Flood Management lies in the political will demonstrated to implement the approach nation wide and also in other countries in the region that were not covered by the project. Sustainability of the project depends largely on the ability of governments to further provide minimum seed funding and to support a larger number of communities. There have been no major obstacles in the implementation of the project in the three countries. The single most important lesson learnt is that the approach can be adapted to a wide variety of environmental and socio-economic settings and replicated in a large number of communities. The linkage between community-based approaches and a close uplink to national activities related to flood management and disaster reduction is important to ensure the sustainability of the project results.