

Community-based Flash Flood Risk Management

2.1 The Need for Community Level Flood Management Initiatives

Communities must be involved in the development process if activities are to be successful and sustainable. This is as true for disaster management as it is for other development initiatives (ADPC/ECHO/UNESCO 2004). The following are some points to take into account in relation to community involvement.

- Local communities know their village and the local situation best and no outsider can understand the local opportunities and constraints as they do; thus, they need to be involved in identifying and resolving disaster vulnerability issues.
- Communities have a personal interest in avoiding disasters and are the main source of local resources; thus, they have the motivation and ability to carry out local activities.
- Communities are naturally very concerned with the local affairs on which their survival and wellbeing depend, so information should be generated in a manner and language that is understood by the community.
- Central level management and response programmes often fail to assess the needs of vulnerable communities, undermine the potential of local resources and capacities, and may, in some cases, even increase people's vulnerability.

Generally, households prepare for flash floods individually, taking care of everything from stocking food, obtaining bedding materials, and searching for easy passage and shelter during floods. This results in maximum loss during floods as individual households cannot perform all the necessary preparations effectively. A participatory approach ensures that activities are coordinated with others and there is a distribution of responsibilities; hence, the community is better prepared to avoid disaster. A community flash flood risk management committee² (CFFRMC) can be formed as a local institutional arrangement to increase the capacity of households and communities to withstand the damaging effects of natural hazards. Forming an organised committee brings a whole community under an umbrella and makes other stakeholders aware of available resources and ways to protect themselves against flood risks. The process of working and achieving things together can strengthen communities. It reinforces local organisations; enhances confidence, skills, and the capacity to cooperate; increases awareness; and achieves critical appraisal.

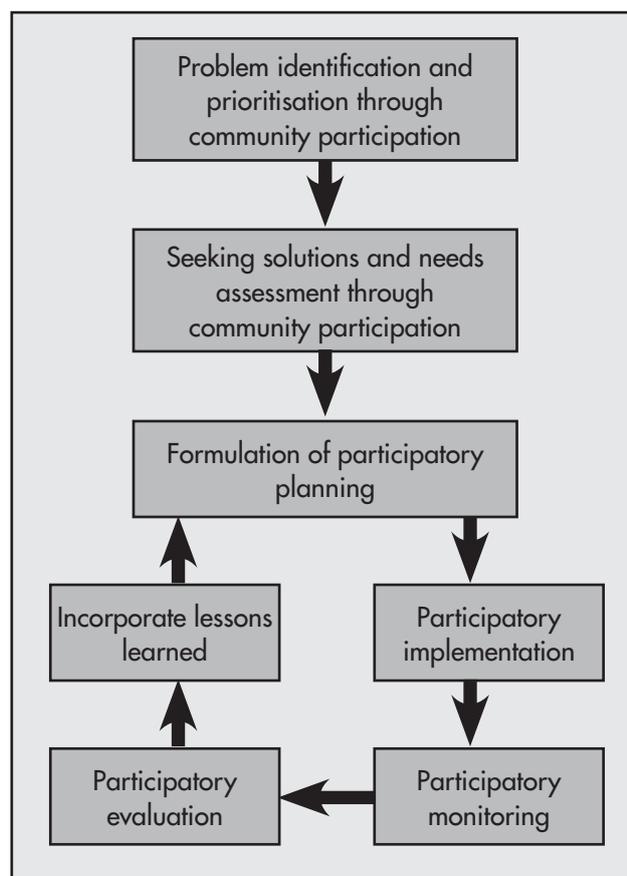
An organised committee can more easily obtain external support, as an authorised unit can speak on behalf of the whole community. This also facilitates the networking of information and communication with external supports, which are often available only during the affected period. In development projects, the CFFRMC builds support and ownership of the project, thus increasing the possibility of interventions being sustained after the project ends. Community participation in planning and implementing projects accords with people's right to participate in decisions and is an important part of democratisation in society.

² Depending on the hazards, the committee can have different forms. In general cases, it can be a community-based disaster management committee (CBDMC), which addresses multiple hazards. In areas where one specific hazard is predominant, the committee can be focused on that particular hazard, e.g., community-based flood management committee (CBFMC).

2.2 Conceptual Framework for Community Participation

The community must be part of risk identification, prioritisation, plan formulation, implementation, monitoring, and evaluation (ADPC et al. 2004). People must be involved in all aspects of the risk management process, beginning with assessment. Community-based risk assessments can be carried out using participatory rural appraisal (PRA) tools, which can gather the information needed for assessing the community's risk. A community risk assessment allows all community members to participate, and to identify the flood hazard they face and understand it. The assessment provides them with the information they need to enable them to participate in decision making. Risk mapping can be a community project that encourages participation and awareness. It is an exercise that not only produces a risk map that is understood by the participants, but also informs them of potential hazards, vulnerability of risk elements, and potential exposure. Figure 7 shows the conceptual framework for community participation.

A community-based risk assessment is a simple method to assess risk and to design community-level flash flood risk management plans. It has a low level of accuracy because the information collected is subjective and tends to be more qualitative. For example, community members may not remember events accurately, especially those that happened long ago. But, in spite of all the constraints, community resources cannot be underestimated. Participation is the key to conducting a successful community-based risk assessment. The opinions, knowledge, and experience of the community can be tapped by establishing a process for active participation.



Source: Based on ADPC 2003

Figure 7: Conceptual framework for community participation

2.3 Community Flash Flood Risk Management Committee

Forming a committee

The first step in forming a CFFRMC is to collect information regarding its importance; existing institutions; and roles, responsibilities, and formation procedures; and to disseminate that information to stakeholders. Involving socially deprived and marginalised groups like women and indigenous people helps the committee to function successfully by ensuring it addresses the concerns of every level of the community.

An ad-hoc committee of five to seven members should be formed before the formation of the main committee. The ad-hoc committee should involve itself in discussions and interactions with the communities likely to be affected, local leaders, and teachers, including women and different ethnic and social groups. For such discussions, the ad-hoc committee should seek the help of a catalytic organisation (see Box). The main objective of this committee is to draw up a draft constitution and facilitate the formation of the CFFRMC. The ad-hoc committee should call for meetings to discuss the draft constitution, which should be amended to reflect the suggestions made in the mass meeting.

Role of an external catalytic agent

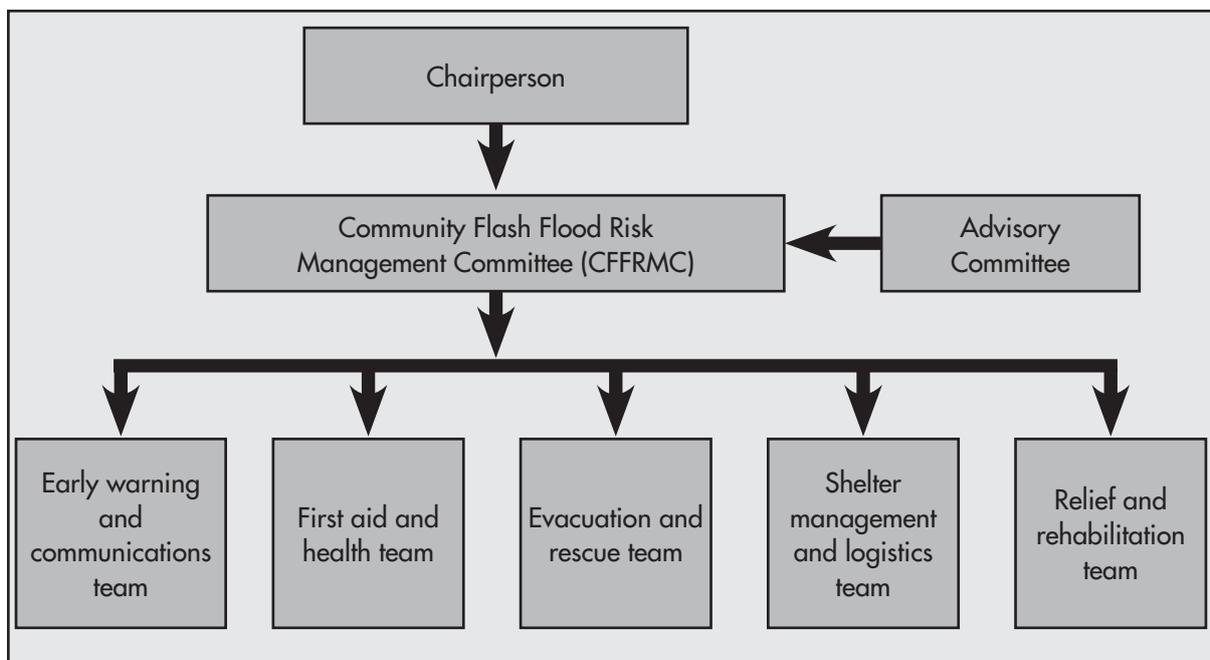
An external agency like an NGO, or knowledgeable and motivated persons are needed during the formation of the CFFRMC to provide motivation, training, and guidance. CFFRMC members alone might fail to draw the attention of the villagers to the need for flash flood risk management. The catalytic role of external agencies in facilitating joint ownership between the CFFRMC and villagers is very important. External catalytic agents, including dynamic and knowledgeable local leaders, teachers, and NGOs, can act to bridge gaps between villagers and the CFFRMC. They can mobilise and influence communities to designate responsibilities, and can also play a role in liaising between the CFFRMC and government institutions.

The committee structure

A CFFRMC is a legal community representative organisation that can plan, implement, and monitor different activities of flash flood disaster risk management and minimise the impact of flood on the community.

The CFFRMC should have at most 11 members elected from a general assembly according to the procedure set by the constitution. Care should be taken to ensure proper representation from different sections of society, particularly women and disadvantaged groups. There should be an advisory committee made up of representatives of district-level government organisations, concerned members of VDCs³, schoolteachers, local health workers, agricultural extension workers, representatives of local NGOs, doctors, engineers, and so on. The committee should be chaired by the head of the local government body and should nominate a secretary from among its members.

Every CFFRMC should include different teams or sub-committees with various responsibilities, each team led by a team leader. The central committee should decentralise responsibilities to various teams to work effectively for risk reduction. Figure 8 illustrates the structure of a CFFRMC. This is a typical structure; actual structures may differ according to the specific needs of each location and community.



Source: Based on ADPC 2003

Figure 8: Typical structure of a community flash flood risk management committee

³ VDC (village development committee) is the lowest unit of local government in Nepal. The equivalent unit in India is the panchayat and in Bangladesh, the union parishad.

Early warning, communication, and information team: The early warning, communication, and information team is responsible for establishing communication within the community and also with other stakeholders. It develops early warning systems and disseminates information to all communities and concerned agencies. The team should incorporate local knowledge on flash flood risk management in the process and communicate existing local knowledge to external agencies. It should develop systems for documenting the response by different teams and for assessing community needs. Its chairperson should liaise with local government for continued relief operations during and after floods.

First aid and health team: The first aid and health team is responsible for raising community awareness about health, hygiene, and education in times of flash floods. During flash flood events it mobilises and organises camps to treat injured people.

Evacuation and rescue team: The evacuation and rescue team works during the flood period to evacuate affected people. If possible, it should arrange to evacuate cattle and wealth along with people. It can also work with first aid teams to provide first aid support.

Shelter management and logistics team: The shelter management and logistics team manages shelter for victims and so must establish and maintain stockpiles of material and develop logistical systems to distribute relief, with community accountability.

Relief and rehabilitation team: The relief and rehabilitation team ensures the necessary stock of relief goods and its proper security and monitoring. During floods, it identifies the needs of individuals and families, and coordinates the rehabilitation and reestablishment of the victims.

The role of volunteers in the five teams is very important. In fact, the whole CFFRMC depends on volunteers. Each team needs to enrol a certain number of volunteers. The team members and volunteers should be selected to maintain proper geographic, gender, and social representation. The detailed roles and responsibilities of these teams are given in Annex 1. For the volunteers to be able to work according to their responsibilities, they should be trained after joining the teams. Refresher trainings should be organised periodically (see below).

Responsibilities of the committee

A CFFRMC is a community-level forum representing all stakeholders and implementing flash flood risk management measures, as well as promoting flash flood awareness and advocacy at policy and planning levels. The roles and responsibilities defined here are the major, but not the only, responsibilities of a CFFRMC.

- organise and mobilise the community to prepare against disaster and reduce the loss of life and property
- awareness raising and advocacy at a multi-stakeholder level regarding elements that can reduce flash flood risk
- train volunteers and community members regarding what to do before, during, and after flash floods
- maintain an emergency stockpile and ensure its proper distribution during flash flood events
- manage distribution of shelter and relief among affected people equitably and according to need
- monitor the exact allocation of relief to affected people

Emergency functions of CFFRMC

- issue warnings
- manage evacuation
- organise search and rescue with community participation
- provide first aid and arrange subsequent medical assistance
- conduct damage needs capacity assessment and report damages and needs to government and disaster-management agencies
- coordinate, plan, and implement relief delivery operation with aid agencies in an equitable manner

- advocate for the rights of victims in the event that political considerations influence the allocation of relief items
- influence local governments to design sustainable development plans for the most vulnerable people by reducing their geological and ecological hazards through a participatory approach
- coordinate with responsible agencies before flash flooding for timely support
- design evacuation and contingency plans for the cluster and prepare the community accordingly
- motivate community people to avoid construction and settlement in flood-prone zones
- motivate community members to flood proof buildings to increase their capacity to withstand flooding
- develop a local flood warning system based on local knowledge
- extend support to link indigenous and local knowledge for early warning and preparedness with the experts in developing plans and programmes
- promote flood-friendly agricultural practices and other regeneration of economic activities after flood devastation

Institutional empowerment

Forming the committee and sub-committees (teams) does not end the need for flash flood management. Proper empowerment and skills must be developed to react to crises and work accordingly. Quick and rational decision making by the functional bodies is very important. Every member has different responsibilities, and each responsibility is important, so committee members, team leaders, and volunteers must have appropriate expertise and understanding of responsibilities. Various training events and knowledge-sharing opportunities must be organised to empower these actors.

Training must cover skill development in the areas of early warning, preparedness, and risk reduction. Some examples of such skills could be measurement of precipitation, water-level gauge recording, early warning, participatory hazard and vulnerability mapping, preparedness planning, community-based first aid, community-based disaster management, building mitigation structures, watershed management, and agriculture management. The CFFRMC should conduct training needs assessments at regular intervals.

Financial empowerment

Many of the CFFRMC's activities will require funding (see Chapters 6, 7, and 8). Therefore, the CFFRMC must establish close contact with external agencies, including government agencies, to obtain funds.

The community members must arrange some funds themselves to feel ownership and a sense of accountability. Villagers in affected areas are often economically weak and, therefore, their cash contributions may not be significant. However, community contributions do not necessarily have to be in cash; people can contribute in the form of agricultural products or labour.

Some of the existing fundraising mechanisms include the following.

- Social and religious events can be organised to raise donations. For example, in Nepal it is common to organise a religious ceremony (e.g., purana), which may last several days to weeks, during which a large number of devotees visit the ceremony and pledge donations for development work (e.g., building schools, health posts, roads).
- Mountain forests are rich in herbal and medicinal plants, some of which can be sold commercially. Environmental safety should not be compromised while conducting such activities.
- Some funds can be diverted from the products of community forestry. Community cultivation of cash crops can also be encouraged.
- Some portion of local taxes (e.g., road tax, quarry tax) can be extracted for CFFRMC funds.

Transparency and accountability of the funds used in flash flood management activities is very important. The CFFRMC must hold a general assembly to give details of its financial activities, with villagers, government personnel, and other external parties involved in the auditing.

Governance

Why is governance an essential element of a CFFRMC? Governance provides the enabling conditions for communities to absorb or resist perturbations such as flash flood events, bounce back from disturbances, and adapt to changes brought about by the events.

The CFFRMC is responsible for practising good governance in its risk management procedures. Assessment of needs, prioritisation, and equitable allocation of resources are key points for good governance, which effectively mainstream planning for risk management. Every person has his or her own view on the matter, so it is important to sort the disputes and maintain equal priorities by incorporating various ideas in the planning. The governance process, no matter in what country or system it occurs, must encourage a cyclical planning process that allows for learning and improvement over time. This is also known as 'adaptive management'.

Good community governance for flash flood risk management can be achieved by the following.

- **Participation:** A participatory approach that includes the whole community is important. Voices are raised about needs and demands for the mitigation procedure. The goal of a CFFRMC can only be sustained if all stakeholders can envision a path toward a desired future outcome.
- **Communication:** A CFFRMC's effectiveness can be measured in terms of its input into teaching the community about a problem, its causes, and appropriate solutions to minimise loss. Peaceful resolution of stakeholder disputes is vital.
- **Efficiency:** Efficiency of the committee is achieved by minimising financial, political, social, and environmental costs. CFFRMCs should be accountable to the public and stakeholders.
- **Equity and inclusiveness:** Mainstreaming gender issues is important. Promoting the empowerment of women and marginalised groups is necessary, and such groups must have opportunities to become involved.
- **Responsiveness:** The committee must be responsible and accountable to the community and include all stakeholders.
- **Transparency:** Transparency of procedures indicates good governance. Decisions should be taken and their reinforcement done in a manner that follows rules and regulations. Information should be freely available and directly accessible to those who will be affected by such decisions and their enforcement.

Redressing grievances

Despite all possible care, some people's interests might not be protected to the extent desirable. When such lapses are reported, the CFFRMC should try to redress the grievances to the satisfaction of the concerned parties in order to maintain harmony and mutual trust in the community. Those dissatisfied must have an opportunity to appeal to higher authorities. The formation and success of a mechanism to redress grievances is an important factor in the long-term sustainability of the community approach to flash flood management. The institutional mechanism to be created should take note of this aspect.

A public cell to redress grievances should be established under the CFFRMC with direct supervision by the district-level government⁴ to resolve disputes arising out of allocation of shelter, distribution of relief items, and other causes. The CFFRMC's secretary is responsible for logging appeals and researching the validity of grievances. The working mechanism of the committee has to be clean, transparent, efficient, and speedy – acknowledging an appeal within five days and disposing of it within 90 days. People not satisfied with a judgment can appeal to the local government body, the decision of which will be final and must be accepted by all parties.

⁴ This could be the district development committee (DDC) in Nepal, or the district government (zilee-hakomat) in Pakistan, and so on.

2.4 Government Involvement in Risk Management

National governments have a fundamental role to support ‘preparedness and recovery’ at various levels of administration. The superior financial resources, institutional mechanisms, and technical capacity of national governments are targeted to assist local governments in the recovery tasks following an emergency. It is presumed that, through legislation, the national government has organised the resources under its mandate, has planned the necessary coordination between its various agencies and departments, and is generally prepared to assist the local levels during the response period (Sutardi 2006).

The role of government in improving community preparedness and participation can include ensuring the legal status of the CFFRMC, distinguishing the roles and responsibilities of the CFFRMC and local governments, mainstreaming risk management and vulnerability reduction activities in the local development plans, and enhancing the capabilities of the CFFRMC. The areas where government involvement is necessary are listed in Table 2.

It is essential that the activities mentioned in Table 2 be conducted in close collaboration and coordination with the CFFRMC. Along with these responsibilities, monitoring and supervision of the whole process is also very important. Government organisations should monitor relief measures, relief camps, and provision of basic amenities: water, sanitation, health care, rural communication links, and other facilities.

Pre-flash flood preparedness	During flash flood	After flash flood
Facilitate a meeting involving the CFFRMC, local government, and local NGOs before the monsoon to review the preceding year’s successes and failures in flash flood management and to update the arrangements	Mobilise qualified search and rescue teams like army or police according to the severity of the disaster	Contribute to the distribution of relief items
Provide funds for capacity building of the CFFRMC, awareness-raising campaigns, construction of mitigation structures, and construction of safe heavens on uplands	Allocate health personnel and medicine	Assist in rehabilitation processes
Facilitate the strengthening of the functioning of the control room (see Chapter 6)	Assist in providing basic necessities like safe drinking water, food, and shelter	Make arrangements for financial support to the community
Assist in collecting grain and fuel to use during a crisis	Allocate police to save the remaining property of the people in affected areas	
Provide technical assistance during construction of structures for mitigation and capacity building and awareness-raising campaigns		