

## Cambodian Community Based Flood Mitigation And Preparedness Project

**Location:** Kompong Cham, Prey Veng and Kandal Provinces, Cambodia

**Date:** 1998-2002

**Sector focus:** Flood Hazard Mitigation

**Spatial focus:** Community level

### Bibliographical reference

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MacLeod, Kurt, *Cambodian Community Based Flood Mitigation and Preparedness Project*, Proceedings of the Regional Workshop on Best practices in Disaster Mitigation, ADPC, (2002). Cited in: World Bank Institute of Distance Learning

Additional background information was collected for this guidance note through correspondence with Mr. Kurt MacLeod (contact information provided below), and from the *PACT Evaluation Report* (2000), available on the Provention website at <http://www.proventionconsortium.org/?pageid=43>.

### Abstract

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On an almost yearly basis in Cambodia, flooding of the Mekong River causes loss of crop-land, livestock, and death as well as extensive damage to infrastructure and personal property. The Cambodian Community-Based Flood Mitigation and Preparedness Project (CBFMP) was launched in September 1998 under the Asian Disaster Mitigation Program and brought together the Cambodian Red Cross (CRC), Private Agencies Collaborating Together (PACT) and the International Federation of Red Cross and Red Crescent Societies (IFRC). These three organizations jointly implemented the project with funding from the Asian Disaster Preparedness Center (ADPC). The objective was to establish sustainable, replicable non-government mechanisms for disaster mitigation and preparedness with a focus on flooding. A unique opportunity presented to measure the impact and gather lessons learned from implementation before and after one of the area's worst floods in four to seven decades that occurred in 2000. The project mainly used a participatory disaster risk assessment (PADR) methodology.

A mid-term evaluation of the flood mitigation and preparedness activities was undertaken in 2002. Communities were asked to indicate if the flood mitigation project they undertook was "the best solution" or "not the best solution" for their community. For those indicating that the activities were "not the best solution", community members explained that the flood mitigation project that they completed did not fully address their needs with respect to reducing the effects of seasonal floods, or only protected a portion of the village population. The communities that identified their flood mitigation project as the "best solution" for their community described the benefits that would accrue

to them in terms of enhanced safety and ease of access, and often, in relation to potential economic improvement. Local political improvement was also noted in terms of increased social cohesion in the communities.

## Technical description

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**Hazard/risk type:** Flooding

**Type of assessment:** Participatory Disaster Risk Assessment (PDRA)

## CRA process

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**Methods used:** Disaster mitigation and hazard mapping to identify hazards and vulnerabilities at the community level, interviews, brainstorming, and stakeholder meetings.

**Was livelihood analysis used?** No, a livelihood analysis was not taken into account, however there was mention of the considerable loss of livestock due to floods and the project evaluation points to improved agricultural marketing. Where a rebuilt road or new bridge in the project provided a reliable transportation route, communities note improved market access.

**Was external specialist knowledge introduced?** The International Federation of Red Cross and Red Crescent Societies assigned a Disaster Preparedness Delegate to work with the Cambodian Red Cross and other parties in the implementation of the project. During group meetings, the capacity of the Cambodian Red Cross trainers was reinforced through the presence of an ADPC facilitator.

The assessment took the perspective that the people in the community have been born and raised there and had intimate knowledge of local geography and traditional mechanisms to organize and mobilize community resources. There was no formal external knowledge concerning floods and livestock introduced other than informally through the partnerships of agencies partaking in the project.

## Vulnerability analysis

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Vulnerability assessment was carried out, however there was no analysis. Vulnerability seems to have been implicitly defined as exposure to flood hazard. There does not appear to have been analysis of the causes of people living in exposed areas other than recognition that land that is prone to flooding tends to be occupied by some of the poorest people in the world. There is no analysis into the socio-economic reasons why some rather than other households suffer more during flooding and subsequent droughts.

## Capacity analysis

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**Resources available: *Financial Resources:*** The International Federation of Red Cross and Red Crescent Societies funded a Disaster Preparedness Delegate to strengthen the capacity of the Cambodian Red Cross staff. Communities identified mitigation activities through proposals to a Management Committee.

Through the Disaster Management Department financial partnerships were established to finance these activities through provincially-based NGOs in Prey Veng (Padek), Kampong Cham (Action Against Hunger, Save the Children Australia, House of Hope-Inner Change, United Nations High Commissioner for Human Rights) and Phnom Penh/Kandal (AusAID, American Red Cross, Oxfam, World Vision International, CWS, JVC, Christian Outreach, UNDP and Caritas Cambodia). Oxfam provided its funds through Nak Akphiwat Sahakoum (NAS), a local NGO. PACT was responsible to broker these funding relationships and did so through regular stakeholder meetings to share lessons learned between project participants, NGOs, donors and the government. The intention was to

create a link between participating communities and donors that would last beyond the project and ensure sustainability.

**Human Resources:** The Cambodian Red Cross (CRC) recruited two trainers and two coordinators who conducted a three-day Training of Trainers for the Disaster Management Department training team and the Provincial Branch Staff. The network of national Red Cross volunteers, an IFRC Disaster Preparedness Delegate, the Social Services of Cambodia provided training in community organizing for the CRC training team

**Limitations to capacity:** The community members were largely farmers and had heavy workloads in the field. For successful involvement of the villagers in the CBFMP project it was necessary to accommodate for the seasonal schedules.

## **Action planning and implementation**

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**What actions were actually planned?** There were 23-flood mitigation and preparedness activities planned.

**What actions were actually carried out?** All 23 of the flood mitigation and preparedness activities were completed, these included road reconstruction and bridge construction.

**Have these actions turned out to be sustainable?** Following the project, an evaluation was done and communities ranked their flood mitigation and preparedness activities as “the best solution” or “not the best solution” for their community. Solutions that consisted of road reconstruction and the building of a new bridge provided for more accessibility for both community members and non-community members going in and out of the village. Where a rebuilt road or new bridge provides a reliable transportation route, people noted improved opportunities of their agricultural produce reaching local markets. In the case of projects that consisted of new, enlarged or rebuilt culverts, the community expressed that having more control over the water flows enabled them to increase their production, and for some communities, harvest a second rice crop.

**Were there any unanticipated additional benefits of the actions?** According to the publication, the solutions addressed through the flood mitigation and preparedness activities impacted 5,496 households in the project area. The methodology to account for these households is not explained in the case study.

**Were there any unanticipated negative consequences of the actions?** None mentioned.

**Limitations on action/sustainability of actions:** In general, the overriding constraint faced by each of the communities could be defined in terms of a lack of labor, material or financial resources. The principle resource available in abundance in the project areas is physical labor, however, local resources in the form of materials and cash are scarce. If people were busy with their harvest, this took priority over their community project. Additionally, feeling like the project was the “best solution” for their community meant that more community members participated in implementing activities.

Of the six communities that indicated that their flood mitigation project was “not the best solution” to address their needs, three communities in Kampong Cham province expressed that raising the main access road by 7 centimeters would have been a better solution for their community, two communities in Prey Veng province preferred to having a safe hill built, and a community in Kandal province suggested that a water channel was the best solution for them.

## **Indicators**

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The CBFMP program was intended to make flood-prone communities more self-reliant by identifying solutions through community-based activities and mobilizing local resources to provide those needs. Indicators include the number of activities devised and implemented, the number of people affected by these activities, as well as building the capacity of the CRC Volunteers and trust within the project communities.

Specific indicators within individual projects looked at the composition of project participants, the extent of agreement and support for the project, the extent to which community needs were addressed, constraints encountered, traditional processes and mechanisms employed, and perceived general benefits attained by the participants.

## **Contextual notes**

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**Existence/role of prior or contemporaneous conflict?** From the 1960s through to the 1980s civil conflict resulted in loss of life, land and livestock due to the Vietnam War and the Khmer Rouge regime. Traditional community structures were devastated during many years of civil strife. Through the course of the project, people explained that families were virtually responsible for themselves in the event of an emergency flooding situation.

**Role of displacement/relocation.** N/A

**Role of prior disaster & prior recovery attempts?** Limited

**Significant historical, geographic, economic, political, or cultural issues that influenced this instance of CRA and its consequences?** This participatory disaster risk assessment focused on working with some of the poorest, agrarian communities in Cambodia. Conflict due to the Vietnam War and Khmer Rouge regime resulted in loss of land, livestock and life over a three decades.

## **Strategic notes**

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**How has this practice of CRA influenced change in policy and practice at the national level?** The CRC is the main implementing partner for the Royal Government of Cambodia in times of disaster. The CBFMP project brought a more bottom-up approach to disaster preparedness because it placed communities at the center of the approach. It integrated participatory approaches into the CRC's operating environment and their interaction with communities.

**How has this practice of CRA influenced change in policy and practice at local level?** Although there was no direct influence on policy at the local level, the CBFMP did change practice. It gave local communities the analytical tools that they could use for assessing disaster risk and how they could prevent these potential disasters through local responses. This created a more sustainable practice for disaster preparedness.

**How has this practice of CRA influenced the level of organization and solidarity in the locality where it was carried out?** In addition to some villagers expressing that the project had built some community solidarity, the majority of local volunteers and project committee members also expressed that they had gained a great deal of confidence in this exercise that will be beneficial in undertaking future initiatives. Additionally, they confided that they had gained the trust of the people in the community in terms of their capabilities and skills in completing the flood mitigation project.

**Less divided along class, gender, age, ethnic lines?** The three decades of internal upheaval and conflict in Cambodia has generally eroded the traditions of community solidarity and the village elders recognized aspects of this important social element resurface in the process of this project. Some villagers expressed sentiments that the project had served to build community solidarity and bring people together.

**Are the people living in this area more able to speak out on issues that concern them?** The assessment gave people the power to address disaster reduction issues themselves as well as gave them a stronger voice with the main disaster response organization in the country.

**Have new civil society organizations been created directly or indirectly because of this practice of CRA?** Disaster preparedness committees were developed at the community level.

## Lessons learned

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According to the publication, the major lessons learned from the project include:

- ♦ involve local level communities in developing solutions to flood preparedness;
- ♦ the use of community development best practice methodologies can enhance the success of community-based flood mitigation and preparedness projects;
- ♦ use traditional organizational structures in communities to assist in flood mitigation measures;
- ♦ ensure that community level project implementers are well trained in flood preparedness techniques and empowered to mobilize community members in developing solutions;
- ♦ where flood preparedness demands are greater than financial resources available, it is essential to train and mobilize local communities to seek funding outside the community;
- ♦ it is important to develop relationships between communities, government national disaster management departments and donors focusing on disaster preparedness to instill sustainability measures for continued activity support;
- ♦ distinguish between activities that are useful for community organizers and the community themselves. (This lesson is based upon the mapping exercise where the community member found it to be a waste of their time. They knew the areas most prone to flooding based on historical knowledge. At first glance, the activity appeared to be more useful for the Red Cross Volunteers than the community, however it also held a dual purpose to mobilize and sensitize the community.)

## Keywords

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Flood mitigation (structural and non-structural), livestock protection, rural transport, post-conflict confidence building, community-based disaster preparedness.

## Resource person(s)

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