

IMPLEMENTATION OF FLOOD WARNINGS AT LOCAL LEVELS

Action Contre la Faim

Action Contre la Faim (ACF) is present in Cambodia since 1989 and has worked in Kampong Cham since 1998, with 4 Flood Disaster Preparedness projects co-funded by DipECHO and MRC, being carried out with local partners, the Provincial Red Cross (PRC), as well as the Provincial Committee for Disaster Management (PCDM).

Projects consisted of emergency flood response and preparedness including:

- The set-up of a Red Cross Volunteers (RCV) network with a range of training courses
- Community Based Flood Mitigation: micro-projects
- Water supply and sanitation in external and internal safe areas
- Stockpiling of Flood Relief Emergency Kits
- Knowledge capitalization: capacity building to partners
- Flood Hygiene Management
- Flood Information Management: annual flood damage survey/database
- Flood Early Warning System

The overall objective is to reduce the vulnerability of flood-affected communities to flood disasters. And the specific objective is to prepare all implicated stakeholders (Cambodia institutions, local authorities, communities and Civil Society) for and to respond to Mekong flood disasters.

ACF strategy in Kampong Cham province is focussed on the irregular and exceptional annual floods, which creates a specific vulnerability independent to the fact that the province is considered as 'wealthy' in comparison to the Cambodian context.

This vulnerability affects especially the poorest people, unable to rent a boat, or losing all their goods during the flood events. Benefit of floods (alluvium) is limited in Cambodia, but the prejudice can be enormous (housing damaged, cattle and food security situation irremediably worsening, water related diseases)

The selection of this area of intervention is also justified by coordination choices (including with NCDM) and by the fact that the province is the most populated of Cambodia (which is link to the number of villages potentially affected by floods and number of vulnerable people).

The vulnerable communities have evolved various coping mechanisms for both normal and exceptional seasonal flooding. The main option is for families to re-locate to Safe Area, from 1 week to several months, depending on the extent of the flood and the situation of household and village. The decision to stay or move is crucial to save properties and lives and any movement of persons and property consumes vital household income. Thus, development of a **Flood Early Warning System** which can assist people in making such decisions appeared as one priority for local stakeholders.

Projects are conducted in close co-operation with both key national DM partners in order to build capacity and ownership of the programme in future. Activities are focussed on sustainable, cost

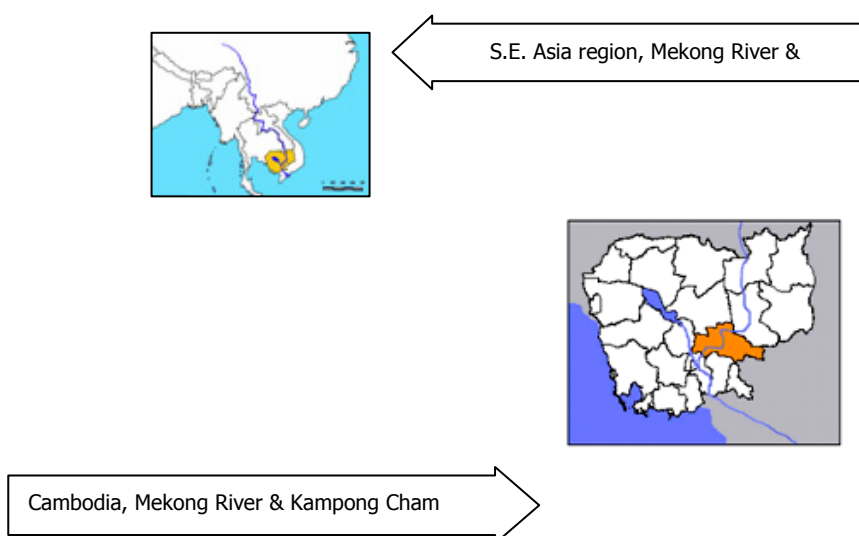
effective activities that through providing information and skills to flood prone communities will better prepare them to react to these floods. In this way ACF aims to provide models for community disaster preparedness, from the provincial to the community level, which can be adopted by national DM institutions and other agencies in Kampong Cham or other provinces after the eventual departure of ACF.

MRC contributed to fund EWS activities (1-way and 2-way forecasts). Consolidating the experience of the previous annual flood season, monitoring and evaluation activities showed that EWS volunteers are more convinced than previously that the EWS works, as they saw the 1.2 metre rise of the Mekong River level in 24 hours. ACF built on the successes of the 2005 flood season, leading to more villagers using the EWS and thereby increasing chances of overall sustainability.

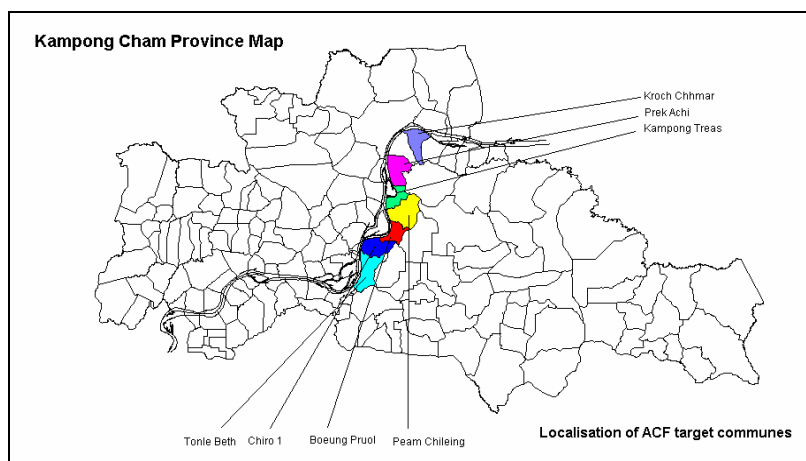
The MRC funded activities will enable provision of flood forecasts and warnings, which have the potential to increase understanding of information by community and therefore effective response. Activities focused on strengthening understanding of villagers of the MRC general forecast, while awaiting the results of the 2-way village specific forecast during the flood season.

► Location of the project

Kampong Cham province, located in central east Cambodia within the lower Mekong Basin, is largely affected by those exceptional floods. With 1 690 000 inhabitants and high population density along the Mekong River, approximately 600 000 people within 650 villages might be vulnerable to floods.



ACF, in collaboration with PRC and PCDM implemented a Flood Early Warning System project in 39 villages (7 communes and 2 districts) along the Mekong River in Kampong Cham province and more than 40.000 people benefice directly of the EWS.



► ACF Project

Attention was focused to simplify the forecast message and to increase awareness on EWS. ACF used its local knowledge and its experience to develop effective tools at community level, while assisting them to identify responses to MRC flood forecasts and contributing to MRC product improvement. ACF continued to work with provincial disaster management institutions (CRC, PCDM) in order to optimize chances of the flood Early Warning System (including MRC forecast product) being sustainable.

To complete the EWS, ACF strengthened the local capacity on Disaster Management and Disaster Preparedness through training at National, Provincial, District and Commune levels. ACF developed the Flood Information Management consisting to collect and compile the flood damages data in flood prone areas in order to guide PRC and PCDM to use the information generated by the system for analysis and decision-making.

◆ Flood Early Warning System

The EWS project has been implemented in 2003 and has enjoyed the support and enthusiasm of stakeholders from the national, sub-national and local level. ACF has managed to involve district, commune, village officials and volunteers (RCVs, VHF ICOM radio owner) in the implementation of the EWS project.

EWS activities

- **Participatory meetings** with the communities to identify EWS measures to implement at village level as identification of warning level and marking on Flood mark, installation of EWS public board, identification of procedure to respond to warning (reinforce house, evacuation plan, etc...)



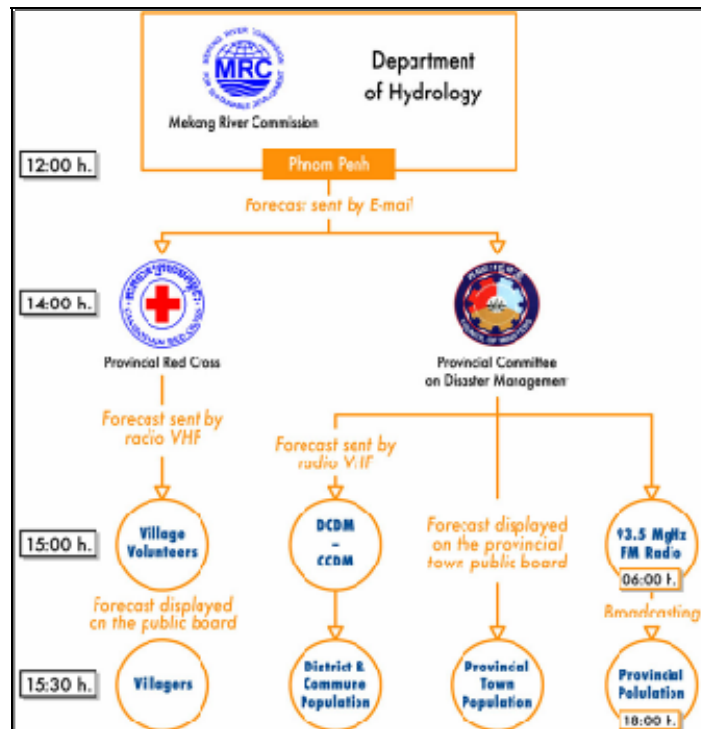
Public board



Flood mark

- Reception and dissemination of 3-days flood forecast and warning by MRC and Department of Hydrology to PRC and PCDM using the Red Cross volunteers network to disseminate flood forecast and warning to the communities.

Way of dissemination of flood forecast:



MRC 2-way village specific flood forecast and warning

After having transmit 3 days flood forecasts to the EWS volunteers, the EWS volunteer reports to PRC the water level specific to the village (reading on Village flood marker) and then PRC sent his report to MRC. Each day flood forecast is updated and maintained by the EWS volunteers and it is noted on the billboard.

ACF 1-way flood forecast and warning

PRC shares flood forecast and warning with PCDM who is responsible to inform the DCDM and the Department of Information. PRC transmits the flood forecast and warning to the EWS volunteers. When the EWS volunteers receive the flood forecast (only the water level of Kampong Cham), and disseminate the flood forecast and warning to the villagers through different methods.

- **Flood forecast and warning broadcasting on Provincial FM radio 92.5 MHz** by the Department of Information.
- **3 radio drama broadcasting on Provincial FM radio 92.5 MHz.** These radio drama spot have been created in order to sensitize the population on EWS and actions to be taken before, during and after the floods. The first one is broadcasted before flood (June), the second during floods (July-August-September) and the third one after floods (October).
- **Awareness on EWS in schools and villages.** Training on *Flood Preparedness and Early Warning System awareness* was given to the teachers and local authorities. IEC Material has been distributed to teachers (pictures, books) and to communities to inform the population on the disaster risk reduction measures. The teachers organized sessions with their students before and after flood season, monitored by ACF, PCDM and PRC.



School session

- **Meetings and Field visits** with the local authorities, civil society and EWS volunteers concerning the Disaster Preparedness and the EWS.

Impact and issues

Implementation of all flood EWS related activities was well coordinated and anchored on the PCDM and PRC. With the EWS in place, villagers report that they have more than enough time to prepare basics necessities, protection of livestock and livelihood assets because they receive accurate flood forecast up to 3 days in advance, depending the source of their information. Each source of flood forecast (public board, flood mark, FM radio) has its own strength and weakness. In general, villagers consider all the sources to be accurate and reliable and the FM Radio 92.5 MHz makes this their preferred medium. The FM Radio 92.5 MHz broadcast was enthusiastically accepted by all partners and beneficiaries from the national to village level.

The EWS is providing benefits to the population including the unanimous willingness of provincial and village officials to continue with the implementation the flood EWS even without ACF. It is with this perspective that ACF will be transfer the EWS to PCDM while continuing the broadcasting of the flood forecast and warning and the radio dramas by FM Radio 92.5 MHz,

adapting the EWS measures in order the needs of the population and awareness on EWS in schools and communities.

A guideline on EWS and Disaster Risk Reduction could be developed in order to capitalize and share ACF experiences with all Cambodian Disaster Management Stakeholders interested in implementing these activities.

◆ Flood Information Management

ACF, PRC and PCDM have collected and compiled since 2000 flood damage data from all flood-prone villages (~ 650 villages) within the Province through RCV and local authority networks. The database has the potential to be a precious tool for PRC and PCDM to assist them in analysing situation and planning flood disaster management activities and policy.

Impact and issues

It will be necessary to guide PRC and PCDM in using the information generated by the system for analysis and decision-making and to insert in the context of planning for floods preparedness and mitigation at Provincial or at least at Commune level.

In the future PCDM will be in charge to collect and analyze the flood damage data with the production of Provincial, District and Commune maps with the strength collaboration of PRC.



Flood map – Kampong Cham

2001

► **Conclusion**

Awareness, which is of primordial importance concerning Early Warning System and flood preparedness, will continue to be done by Provincial FM radio and at school. All the activities, which are low cost and very easy to implement, have been running already in stretch collaboration with PCDM during the previous project.

The final goal is to completely handover the Early Warning System and Flood Information management to PCDM with the support of ACF and the cooperation of PRC. The level of knowledge and experience that have been accumulated by ACF and its partners in Kampong Cham province on Early Warning System deserves to be capitalized and shared with all Cambodian Disaster Management Stakeholders interested in implementing these activities. A complete handover includes the national level, especially the NCDM.