

## **MEETING LOCAL NEEDS FOR FLOOD PREPAREDNESS PROGRAMS AT PROVINCIAL AND DISTRICT LEVELS IN THE LOWER MEKONG BASIN- MRC/ADPC EXPERIENCES**

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### **1. BACKGROUND**

Since 2004 the Asian Disaster Preparedness Center (ADPC) and the Mekong River Commission Secretariat (MRCS) have jointly been implementing two projects under the MRC Flood Management and Mitigation Programme (FMMP) to strengthen effective flood emergency management capacity of disaster management authorities at provincial and district levels, particularly in the utilization of the MRC flood information products and in the development of flood preparedness programs (FPP).

The two projects are: 1) “Capacity Building for Planning and Implementation of FPP at Provincial and District levels in the Lower Mekong Basin” Phase II and 2) “Flood Emergency Management Strengthening (FEMS)”. With financial assistance from ECHO (European Commission Humanitarian Aid Office), starting from March 2005 to April 2006, the first project, hereafter called ECHO II, has recently been completed with the main activities of training of provincial and district disaster management officers in Cambodia (provinces of Kratie and Kompong Cham), Laos (provinces of Khammouane, Savannakhet, Saravane and Champasack) and Vietnam (Can Tho City and province of Tien Giang)<sup>4</sup>. The FEMS project is funded by GTZ (Gesellschaft fuer Technische Zusammenarbeit) and being implemented from September 2004 to June 2007 in Cambodia (provinces of Kandal and Prey Veng) and Vietnam (provinces of An Giang and Dong Thap). Due to shorter period of implementation the ECHOII project essentially concentrated on capacity building of local disaster management officials through a series of training and on FPP development of Kratie district, while the FEMS project has longer period of implementation and thus covers broader aspect, from FPP development to its implementation, e.g. capacity building and training, public awareness on flood related issues and regional knowledge sharing and exchange, etc.<sup>5</sup>.

The activities described in this paper are drawn mainly from the FPP experiences in the target districts and provinces in Cambodia, Lao PDR and Vietnam and presented as part of up to date progress of FEMS’ and ECHO II’s implementation. Implementing partners are the National, Provincial and District Disaster Management Authorities, National Mekong Committees (NMCs), National Hydro-meteorological Departments and concerned line agencies, Mass Organizations, National Red Cross Societies, International Federation of Red Cross and Red Crescent, Civil Society Organizations, NGOs, etc.

### **2. DEVELOPMENT OF PROVINCIAL AND DISTRICT FPP THROUGH PARTICIPATORY APPROACH**

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<sup>4</sup> Project document: “Capacity Building for Planning and Implementation of Flood Preparedness Programs at Provincial and District Levels in the Lower Mekong Basin (Phase II)” under DiPECHO Fourth Plan of Action for South East Asia (2004-2005)

<sup>5</sup> Project document: “Flood Emergency Management Strengthening”, Component 4 of the Flood Management and Mitigation Programme (FMMP), 2004

“Prevention is better than cure” is a well-known saying which has particular implication for flood management and mitigation. After devastating disasters e.g. Mekong flood in 2000, people realized that socio-economic damage and loss of lives could have been prevented if people are well prepared. The Component 4 of the FMMP is undertaking an important step in addressing the issues of capacity building in FPP at local levels.

In Cambodia the concept of flood preparedness program is quite new. The Provincial Committee for Disaster Management (PCDM) and District Committee for Disaster Management (DCDM), whose members are from the line departments, are coordinating disaster management activities.

Before the start of the FPP development an institutional analysis study at provincial and district levels has been conducted in the target provinces and districts. The study identified the gaps in the coordination and planning and the need for a comprehensive disaster management plan at the provincial and district level<sup>6</sup>.

Under ECHOII project the achievements are: 1) adaptation of Training Course Curriculum for use at Provincial and District level, 2) 5 provincial training courses in Cambodia (1 course each in Kompong Cham and Kratie provinces), Vietnam (1 course each in Can Tho City and Tien Giang province) and Lao PDR (1 course for participants from Khammouane, Savannakhet, Saravanh and Champasack provinces), 3) Support to preparation and initial implementation of FP programs in Kratie District, Kratie province of Cambodia.

Under FEMS project a draft provincial and district FPPs were developed by PCDM/DCDM through extensive consultation led by PCDM/DCDM Secretariat, with technical support from ADPC and NCDM-Cambodia. The draft program was presented to a wider audience of PCDM/DCDM and its member line departments. The program was distributed prior to the workshop to provide time to the departments to review. The final plan was endorsed by the PCDM/DCDM and its members at the consultative workshops.

In the FPP, the concept of preparedness is applied for all three periods: before, during and after flood. Many were misled by flood preparedness being done only before flood. Apart from provincial/district profile (Geography and Land Size, population, Main Rivers and other Water Sources, Hazard, Vulnerability and Capacity Analysis) the main contents of the FPP cover : 1) Institutional Mechanism and Management (PCDM, Provincial Disaster Management Teams, Standard Operation Procedures for Preparedness, Response and Rehabilitation; 2) Flood Preparedness (Before flood); 3) Emergency Respond Operations (During Flood); 4) Rehabilitation ( After Flood), 5) Flood Risk Reduction Measures (Long Term Preparedness).

The project activities have revitalized the roles and responsibilities of PCDM/DCDM members and its Secretariat. The Secretariat profiles have been raised. The provincial and district FPP are the first programs jointly developed by PCDM/DCDM. The experiences gained will help them prepare for their future FPP activities.

The mechanism in FPP at provincial and district level has been set in motion. The existing capacity building has tremendous potential to be further developed and strengthened. Facilitated and technically supported by the project, PCDM/DCDM and NCDM focal points have been on the driving seat in coordinating the development of provincial and district FPP.

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<sup>6</sup> “Institutional Role Analysis and Improvement Identification Study for Kandal and Prey Veng Provinces, Cambodia”, April 2005, conducted by ADPC under the Flood Emergency Management Strengthening (FEMS), MRC Flood Management and Mitigation Programme,

This FPP development has been a learning-by-doing process in which PCDM/DCDM staff and concerned focal points have gradually developed their planning skills in flood preparedness as well as the coordinating capacity within PCDM/DCDM. The activities have changed PCDM/DCDM own perception of what their roles should be in disaster/flood management, i.e. to get involved in the overall disaster/flood management activities from preparedness, mitigation to response and recovery phases.

For practical purpose and in order to effectively operationalize the FPP activities PCDM/DCDM have proposed to set up a Disaster Management Teams composing of four key areas of interventions: 1) search and rescue, 2) health, hygiene and sanitation, 3) information management and assessment and 4) emergency relief operations (see Figure 1).

In Cambodia the FPP is being implemented through priority sub-projects, e.g. installation of flood marks in flood vulnerable communities, training on loss and damage assessment, training on community-based flood management, training for school teachers on flood safety measures, public awareness campaign, survey to identify flood-related problems faced by women-headed households, safe area management and resources inventory.

Unlike in Cambodia, most of the flood preparedness planning process has been established and practiced in Vietnam. Regular planning processes are taking place at both provincial and district levels and annual plans are produced well before the flood season every year.

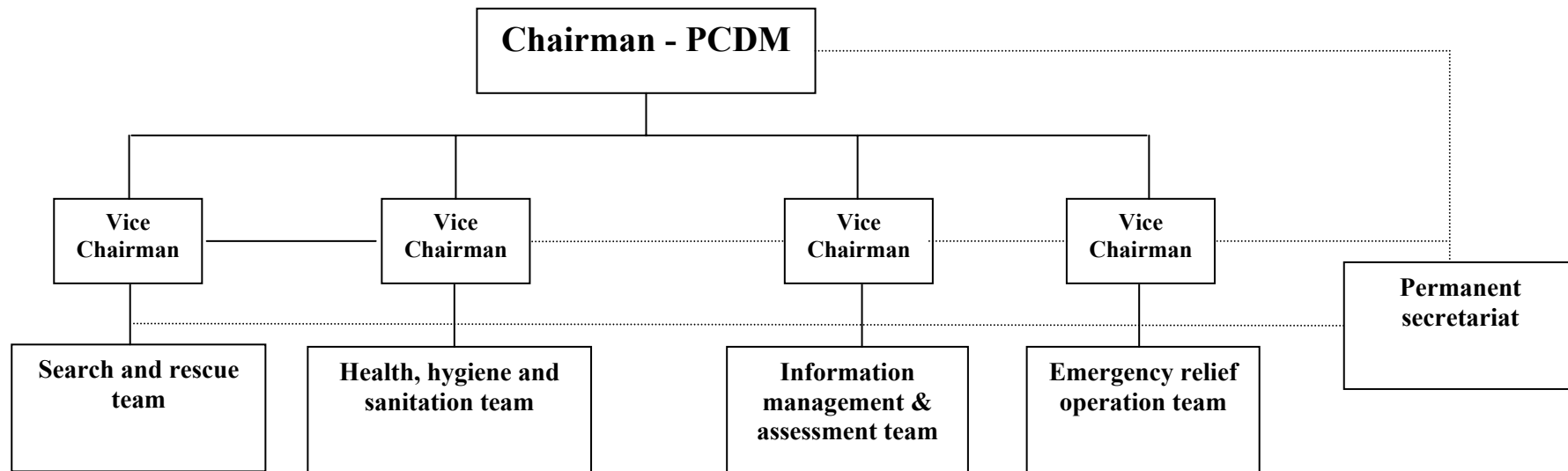
The Institutional Analysis study conducted in An Giang has helped significantly, nevertheless, in identifying gaps and needs in the regular planning process. Based on that, the FEMS project team has listed out a number of recommendations for improvement of planning process, products and the implementation, which will be shared with the Provincial Committee for Flood and Storm Control (PCFSC) and District Committee for Flood and Storm Control (DCFSC) of target provinces and districts in Vietnam<sup>7</sup>.

Under the circumstances, it is highly recommended not to introduce the same planning model in Vietnam as in Cambodia, since it will only create a parallel planning process to the existing one. (The Annual Provincial and District Flood and Storm Control Plan), which proves to be adequate and effective.

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<sup>7</sup> “Institutional Role Analysis and Improvement Identification Study for Provincial Committee for Flood and Storm Control (PCFSC) of An Giang Province and District Committees for Flood and Storm Control (DCFSC) of Chau Thanh and Tan Chau Districts, An Giang Provinces”, Final draft, March 2006, prepared by ADPC and Mekong Development and Research Institute, Can Tho University, under the FEMS, MRC FMMP.

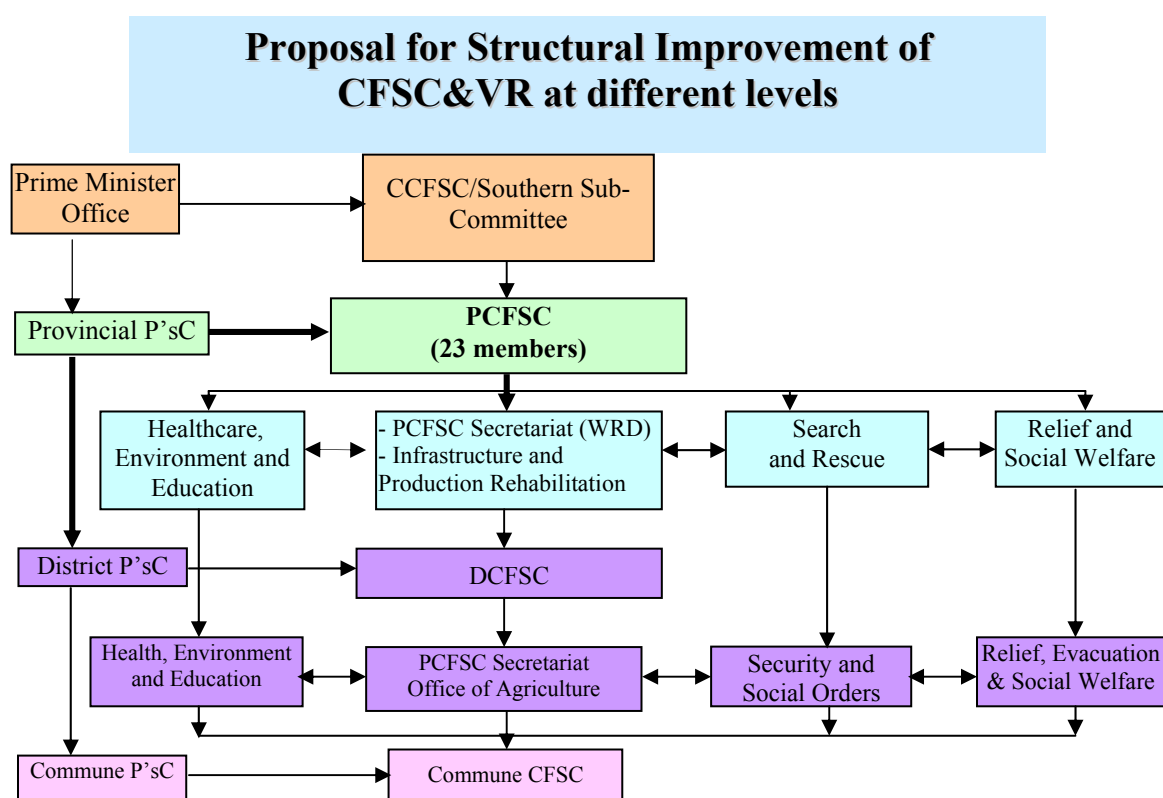
*Figure 1: Proposed Provincial Disaster Management Teams, Cambodia*



It is more beneficial to assist the PCFSC and DCFSC in the direct implementation of priority action areas identified in their existing Annual Provincial and District Flood and Storm Control Plans. Now PCFSC and DCFSC has listed out key priority action areas to be undertaken under the FEMS as follows: 1) training on search and rescue for local staff, 2) training on loss and damage assessment, 3) management of emergency kindergarten through training of the child care takers from Women Union, 4) training of commune leaders on CBFM, 5) swimming lessons for school children, 6) public awareness campaign, and 7) set up a simple early warning system in the communities, etc.

For practical purpose and in order to effectively operationalize the FPP activities PCFSC/DCFSC have proposed to set up a Disaster Management Teams composing of four key areas of interventions, under PCFSC: 1) Health, Environment and Education, 2) Infrastructure and production rehabilitation, 3) Search and rescue and 4) Relief and social welfare and 5) Information and Dissemination; and under DCFSC: 1) Health, Environment and Education, 2) Infrastructure and production rehabilitation, 3) Search, Rescue and Social Security 4) Relief, Evacuation and Social welfare and 5) Information and Dissemination (see Figure 2).

*Figure 2: Proposed Provincial/District Disaster Management Teams, Vietnam*



The new set up of the disaster management teams in Cambodia and Vietnam is being proposed for approval from higher concerned authorities.

The following are some key points needed to be addressed by local authorities:

- Existing resources is in most of the cases under utilized and often underestimated. A combined and well-coordinated resources mobilization can make a lot of differences in time of need. For example, private sectors have not been fully involved in the FPP

- FPP is a living document and the process should be embedded in the day-to-day activities of PCDM/DCDM
- Initiatives and public participation in fund raising for disaster management
- Mutual assistance, experiences and knowledge sharing and exchange among provinces and districts have not been widely practiced.
- Community are aware and involved in the FPP developments and will be further strengthened through the implementation of small projects

### 3. RELATIONSHIP BETWEEN FLOOD EARLY WARNING AND THE FPP

The need for early warning is reflected in a set of simple questions in the flood vulnerable communities where people have been trying to better cope and live with floods.

- When will my village be flooded? For how long and at what depth?
- Will my children be endangered?
- Should rice paddies be harvested earlier?

Flood early warning system is usually a chain of actions consisting of four steps: 1) Meteorology and meteorological forecasting, 2) Hydrologic and hydraulic modelling (incl. collection and treatment of data), 3) Transformation of the forecast into warning and 4) Getting the warning to the people<sup>8</sup>. While steps 1 to 3 are being developed and improved by the FMMP's Component 1 "Establishment of the Regional Flood Management and Mitigation Centre" the FEMS project will deal more with step 4 on "Getting the warning to the people". It is said that "reliability of the warning chain is as strong as its weakest link". It is no doubt that it is our determination under the FMMP to strengthen all the warning chains.

The flood forecast must be transferred to the people at risk through a chain of actions starting with a conversion of the forecast into warning by a decision process involving different stages, and finally, the warning has to be converted into appropriate action by local authorities and the people at risk<sup>9</sup>.

Getting warning to the people and turning it to action and response involve a long and complex technical, institutional and social process. In other word flood warning triggers this complex process<sup>10</sup>. PCDM and DCDM now have a clear division of roles and responsibilities of each line departments to act, through Disaster Management Teams, and in accordance with Standard Operating Procedures developed for before, during and after flood periods.

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<sup>8</sup> MRC Technical Series: "Proceeding of International Expert Meeting on Early Warning for the Mekong River", December 2002

<sup>9</sup> Plate, E. and Insisiengmay, T. , "Early Warning System for the Lower Mekong River", Water International, Volume 30, Number 1, Pages 99–107, March 2005.

<sup>10</sup> Affeltranger, B., March 2002, "User-based design of socially efficient flood warnings: Concept paper for the Lower Mekong Basin", presented at the International Expert Meeting on Early Warning for the Mekong River, Phnom Penh, Cambodia, March 2002.

After receiving the warning, disaster management personnel at various levels can implement some of the emergency preparedness activities. While some activities like maintenance of safe areas, public awareness raising and inspection and reinforcement of critical infrastructure can be done before that, such activities as formation of Search and rescue team, evacuation of people from flood prone areas, stockpiling of relief materials can be done as soon as the flood information is received. Individual/ household level preparedness is very much depending on this early warning information.

The provincial and district FPP have emphasized the importance of setting up tools for obtaining flood forecast information, e.g. flood marks and bill boards, as part of flood preparedness activities before flood period and the requirement for early warning information during the flood period<sup>11</sup>.

The on-going OFDA funded project “Provision of Flood Early Warning to Flood Vulnerable Communities in the Lower Mekong River Basin” under the FMMP has been successful in translating the Mekong mainstream flood forecasts into village forecasts. These experiences have been so far used by many other partners for community flood preparedness activities. FEMS plans to set up village flood marks and bill boards in a number of villages along the Mekong river and Tonle Touch river in the target districts of Peam Chor and Sithor Kandal, Prey Veng province.

As mentioned earlier the flood forecasting information can be meaningful if it is ultimately translated into action in the communities at risk. Recommendations are made to achieve the above.

- A well-developed FPP at local levels
- Flood forecasting activity fully integrated into the FPP
- A functioning and sustained institutional mechanism committed to maintain the FPP process and implement the action plans in line with the FPP
- Flood forecasting/early warning system should be design to meet the need of communities at risk. Local people must be involved in the development of the early warning system. Demand-driven approach should be applied.
- improvement of education and training: of school children, training programs for understanding flood warnings and flood related information products
- providing information to the population: including the activity of collection and analysis of socio-economic data, and offer information in the form of posters and brochures in the native language
- information dissemination: upgrade communication equipment and system, identify responsible persons and provide them with information material, train these persons
- help people to understand the meaning of flood marks, relate flood stages from river gages to local flood levels, have available emergency plans and train how to use them
- Linking the early warning information into a simple and understandable piece of information for people to absorb in their livelihoods, e.g. village flood extent map related to 1) existing

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<sup>11</sup> “Provincial Flood Preparedness Program of Prey Veng Province, Cambodia, Draft Final Version, March 2006 and “District Flood Preparedness Program of Peam Chor District, Prey Veng Province, Cambodia, Draft Final Version, March 2006.

resources and agricultural practices of villages, 2) safe heavens and evacuation routes, 3) food stockpile, 4) health centres, schools, emergency kindergarten, latrine and pump well, etc.

- preparation for emergencies: stocking of food stuff, medicines, set up coordination with emergency assistant organizations on the local level, establish ways of interaction of local responsible persons with the national and regional warning centers, provide them with equipment for emergency operation
- Linking flood forecasting with flood risk mapping activities and using flood maps for Flood Preparedness Planning and implementation at all levels (national, provincial, district and community level) provide flood maps to persons in charge and help them with interpretation and implementation