

## **DISASTER RISK MANAGEMENT IN CAMBODIA**

### **1. Introduction**

1. ADB's guidelines<sup>1</sup> for emergency assistance projects require that interventions to repair damaged infrastructure caused by a disaster should also consider the need for improvement of the Government's capacity to manage future disaster risks. . This involves examining the organization and management of resources, roles, and responsibilities to strengthen resilience. Emergency management during a disaster caused from natural hazard should include plans, structures, and predetermined arrangements such that response actions will efficiently function among all stakeholders involved, and coordinate the efforts of the Government and its development partners, and other voluntary and private agencies that would assist with emergency needs.

2. In Cambodia, almost all disasters are flood related disasters. Hence this link document will focus more specifically on flood risk management. However, principles of risk management involved for this can also be readily applicable to all disasters (or even man-made disasters like oil spills and terrorist attacks) with appropriate variations as applicable, essentially predetermined.

### **2. Overview of Disaster Risk Management**

3. There is a wide range of activities required during the three phases of emergency management of natural disasters, which are essentially based on past experience alone, as follows:

- (i) Preparedness – this phase has two sub-phases, structural and non-structural. During the hardware sub-phase it is necessary to plan and provide all hardware (eg. strong structures that can withstand a disaster) to minimize the damage during an anticipated disaster. In the software sub-phase emergency management experts plan phases 2 and 3 below, with all stakeholders involved, and test run the emergency management plan repeatedly (emergency drills). Such plans are aimed to simulate actual scenarios of an emergency, with strong focus on phase 2: response.
- (ii) Response – this phase is usually of short duration to deal with the immediate effects in saving lives<sup>2</sup>, is sometimes called the golden 72-hours.
- (iii) Recovery– this phase also has two sub-phases. The first sub-phase follows immediately after the disaster to provide emergency actions for affected communities, and dealing with the immediate disruption, damage, and other effects the disaster causes; essentially the sub-phase restores lifeline. The second sub-phase focuses on restoring the affected area to original standard or better. The time required to complete this sub-phase is

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<sup>1</sup> OM Section D7/BP

<sup>2</sup> Saving livestock is equally important for communities of emerging economies as their living in most cases is totally dependent on livestock. However, it is not common to see this approach in existing cases of actual emergency management plans. Therefore, this project makes specific focus on saving livestock during emergency management planning.

usually much longer than that of the first, and largely depends on the severity of the disaster.

4. **Flood Risk Management.** Looking more specifically at the activities required to achieve management of flood risk, it must be kept in mind that this is a process of management rather than flood prevention. There are 3 key elements that define flood risk; hazard, exposure, and vulnerability. Dealing with each of these is the key to risk management,. These elements, and typical ways of managing them to enable risk reduction, are briefly described as follows:

- (i) **Hazard** – this exists in areas that are flood prone, and the degree of hazard varies according to the frequency and nature of the flooding (eg, depth and velocity of the flood waters). Reduction of the hazard can be achieved mainly through structural measures to protect against them, such as providing levees /dykes, or to reduce the magnitude of floods by installing flood reduction facilities (eg. retention basins or dams), river channel improvements, diversion channels, or reducing flood runoff by improving the watershed.
- (ii) **Exposure** – this is a measure of how exposed people and physical assets are to the flood hazard. The more exposed people and assets are, the greater the risk. Exposure can be reduced mainly through non-structural measures such as changing land use (existing and for future planning), raising house levels, building platforms etc.
- (iii) **Vulnerability** – if people and assets are exposed to a flood hazard, the degree of risk depends on how vulnerable they are to damage. Vulnerability can be reduced by making sure the most vulnerable people understand the risks and are well prepared. This can be done through forecasting and early warnings, and having emergency response and recovery plans. Dealing with vulnerability is mostly a community-based activity.

5. It is the combination of the three elements (Hazard, Exposure, and Vulnerability) that define the level of risk to a community or individual. For example, there is no risk even if a flood hazard exists but there is no exposure. Likewise, there is no risk even if both hazard and exposure exist, but neither people nor assets are vulnerable. This means that the formulation of strategies to manage flood risk will require analysis of all three of these elements, and solutions are likely to involve targeting all of them under a coordinated and complementary strategy.

6. Every disaster event provides new knowledge and information to improve risk management process. Given that floods are the most frequent disaster in Cambodia, and given the close inter-linkages between disaster risk management and climate change adaptation measure, it is essential to explore the effects of climate change on the flooding regimes. This requires research to determine its likely effects on the magnitude and frequency of flooding. Relevant information would need to be fed into disaster risk management plans, as it relates to each of the 3 above element of flood risk. One example of structural risk reduction measure may entail adapting stronger design standards<sup>3</sup> of infrastructure in order to reduce the hazard, or the levels of exposure and vulnerability might have to be increased to account for the effects of climate change.

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<sup>3</sup> The proposed GMS Flood and Drought Risk Management Project includes activities to review and update of hydraulic design guidelines for water infrastructure in the Mekong Delta in response to climate change to be coordinated by the Mekong River Commission Flood Management and Mitigation Program, with studies in Cambodia and Viet Nam.

7. Paras 3 to 6 illustrate that there is a wide diversity of actions required for disaster risk management. Overall, this requires a highly integrated approach with stakeholders at all levels from senior central government down to village communities. At every level, it is essential there is a clear understanding of disaster risk situations and capacity to do what is needed to reduce the risk and manage the residual risk. This highlights the enormity of the task, and the need for a comprehensive disaster risk management framework for the country.

8. **Flood Insurance.** In the aftermath of floods, the possibility of flood insurance becomes a topic of close scrutiny. The possibility was firstly discussed with Government, and it was indicated that the possibility has been raised frequently, but no readily implementable options have been formulated to date. To follow up, consultations were held with a major international private sector insurance company that is currently operating in Cambodia. Clearly it has interest in providing flood insurance, but only on the basis that it first has access to accurate data and mapping showing flood areas and probability information. Such information is not available at present. For the immediate future, the company sees its commercial prospects in covering private sector business in Phnom Penh and Siem Reap cities. To this end, it is investing its own resources for mapping in both cities. Coverage of public infrastructure is also on its radar, but feels this is unlikely in the near future. Crop insurance is also a possibility, although again, on the basis that information was available to assess the risk probability. The clear message was that, from a commercial point of view, extensive adoption of flood insurance is not realistic in the near future, but will become a more realistic possibility as the related database and knowledge builds up in the future.

### **3. Outline of Past and Ongoing Activities related to Flood Risk Management**

9. Since 2000, activities to address disaster risk management in general, and some more specifically for flood risk management, have increased. More details of the various activities are presented in Attachment 1 of this document, while some of the key ones are outlined as follows:

- (i) The Ministry of Water Resources and Meteorology (MOWRAM) plays a significant role in managing floods, and of particular importance is weather and flood forecasting so that early warnings can be issued through its department of Hydrology and Meteorology. It also has responsibility for implementation of various structural measures that reduce the impacts of floods.
- (ii) The Mekong River Commission (MRC) has recently establishment of a fully operational regional flood forecasting center in Phnom Penh, and also provided related technical products and services.
- (iii) Under an ADB TA (2005-2008) implemented by MOWRAM, a strategy for community based disaster risk reduction was prepared.
- (iv) A series of small scale community based projects have been implemented in selected locations to build capacity at provincial, district and commune level in flood preparedness, funded by the European Commission's Humanitarian department (ECHO), and other NGOs.

- (v) The National Committee for Disaster Management (NCDM) has been supported under the ADB-funded Emergency Food Assistance Project (EFAP) 2008-2010 to build capacity to respond to food emergency through enhancing the information system.
- (vi) Support to NCDM under a component of the Ketsana Emergency Reconstruction and Rehabilitation Project (KERRP) funded by the World Bank to prepare risk maps, build information and early warning systems, and prepare building codes that are appropriate for flooded areas (expected to commence in mid 2012).
- (vii) MOWRAM is being supported under the Water Resources Management Sector Development Program (WRMSDP) funded by ADB to promote integrated water resource management (IWRM) and adaptation to climate change. This will strengthen the strategy, policy and legal framework for IWRM and improve the coordination and cooperation with other ministries and agencies.
- (viii) The Strategic Program for Climate Resilience (SPCR) for Cambodia which was approved in June 2011 to support a range of interventions to address climate change will contribute to emergency management.

10. Although there are past and ongoing activities being implemented by various agencies with support of different development partners, the interventions appear to be not well coordinated. The overall effectiveness of both past and future efforts could therefore be enhanced and made more sustainable if activities were implemented within a more systematic and cohesive framework.

#### **4. Current Institutional Framework for Disaster Risk Management**

11. To address the elements of flood risk management, a fully integrated approach is needed. Therefore multi-agency involvement is essential. Agencies must work together at all stages to identify risk, reduce risk and manage residual risk. Typically, the most significant institutional challenge is seen as establishing effective working partnerships between the many agencies that need to be involved.

12. In Cambodia, the National Committee for Disaster Management (NCDM) has a coordinating function that is generally limited to disaster preparedness and emergency relief. During a disaster, NCDM is responsible for the immediate actions and coordinating role between the different line ministries, and the donor community. On the other hand, the sectoral line ministries have responsibility for the implementation of specific structural interventions for flood risk reduction, and for restoration of damaged infrastructure.

13. While general policies and strategies for disaster risk reduction are in place, the Law on Disaster Management is pending approval, and has been for some years now. Lack of a law to govern disaster management remains a constraint to developing strong coordination among the involved line agencies.

#### **National Committee for Disaster Management (NCDM)**

14. The intended function of NCDM can be summarized in its mission statement: *“to lead the disaster management in Cambodia.”* It is chaired by the Prime Minister and comprises ministers

of each government agencies, plus the Royal Cambodian Armed Forces, Cambodian Red Cross and Civil Aviation Authority. More specifically its functions and responsibilities include:

- (i) To coordinate with the line ministries, UN agencies, IOs, NGOs, International Communities, National Associations, and Local Donors in order to appeal for aid for Emergency Response and Rehabilitation.
- (ii) To make recommendations to the Government on issue and policies relating to disaster preparedness and emergency responses.
- (iii) To disseminate information and strengthen coordination on disaster management from national down to community level, including the necessary capacity development.
- (iv) To recommend to the Government on the needs for adequate disaster prevention, emergency response, and rehabilitation (eg, funds, human resources, equipment etc).

15. Given NCDM's mandate, and its composition with the most senior government decision-makers, it is the most appropriate organization to take the lead in disaster risk management. To effectively undertake its tasks involves many organizations that must coordinate their efforts to effectively function during the three major phases of the disaster as described above in para 3.

16. Based on lessons learned from responses to the 2000 flood and the Ketsana Typhoon in 2008, a review of NCDM's capacity was undertaken in 2009. It was agreed by both government ministries, development partners, and the NGO community that the key areas with regards to disaster management that need strengthening are briefly described as follows:

- (i) **Policy and legal development and implementation** – this is to provide official guidance and clarity to the disaster management actions needed at all levels (central down to commune). Both the Policy and draft Law on Disaster Management are yet to be approved by the Council of Ministers.
- (ii) **Disaster Preparedness and Emergency Response** – fiscal constraints continue to hamper disaster emergency management activities by NCDM.<sup>4</sup> To date, the funding for NCDM tends to be ad hoc, and there is no systematic funding for development of robust preparedness and response capacity. Funding is more likely to be released during and after a disaster. Hence there is a need to establish systematic program and match it with regular funding.
- (iii) **Disaster Management Information System (DMIS)** – lessons from the 2000 flood, Ketsana, and the 2011 flood, highlighted the need for improving inter agency or inter organizational coordination to deal with disasters. NCDM needs assistance to improve its systems, procedures and capacity to prepare reports on damage and needs assessment. Such information is important if coordination is to be achieved.
- (iv) **Public Awareness and Early Warning System** – while local communities and authorities are already aware of flood disasters, little has been done to develop a systematic preparedness strategy. NCDM has not been engaged in a public awareness program and does not have a public awareness strategy or plan which is a fundamental requirement. Hence, a priority need is to develop a medium term strategy for improving

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<sup>4</sup> However, there has been funding for structural measures to reduce flood and drought undertaken by MOWRAM.

public awareness and preparedness, including being suitably equipped with financial and technical capacity to implement the strategy.

- (v) **Comprehensive Disaster Management Strategy** – this needs to articulate the analysis and planning for a wide range of issues corresponding to all aspects of disaster management. Despite a number of key government policies and pronouncements recognizing the importance of disaster management, there is only limited adoption in practice due lack of resources and capacity. While some government ministries are already implementing disaster risk reduction activities and projects, their efforts are largely uncoordinated. This highlights the need to develop the capacity of NCDM to take the lead in strong coordination.

## 5. Recommendations

17. As described in the preceding paras, disaster risk management demands a multi-disciplinary and multi-jurisdictional approach. The success therefore depends totally on past experience (information available on successes and failures as well other related data) and the institutional arrangements designed to manage risk. In the case of Cambodia, neither of the above, currently, seems adequate to save lives and reduce physical impacts during even the most common flood-disaster related emergencies. The FDERP-AF therefore aims to systematically improve the country's disaster risk management capacity, with efficient coordination among ongoing interventions and thereby fully utilizing past experiences.

18. At present NCDM has limited capacity and resources to carry out its core responsibilities of coordinating a multi-agency effort required for disaster risk management. However, given that this is its clearly stated mandate, there is a strong and urgent need to support a program of strengthening the capacity of the NCDM. It is therefore recommended to provide support to strengthen NCDM's capacity to effectively harness the resources and expertise of the relevant line ministries and other organizations, and provide a cohesive and robust approach manage future flood risk. It should develop a long term plan to progressively build its institutional capacity (from central to the local level). To assist the NCDM establish an institutional development plan, it is recommended to consider a program of emergency simulation exercises with detailed “after-action: assessments. These simulations and assessments, facilitated by specialists, will enable the members of the NCDM to evaluate the strengths and weaknesses of existing procedures to identify institutional development required to ensure the NCDM is able to respond effectively and efficiently to future crisis events. Recommendations will involve further training, including additional simulation exercises, strengthening of policy and legal frameworks to support the NCDM's mandate, and assistance in processing the Law on Disaster Management and its linkages to climate change.

19. It is also recommended to provide support to build a strategic framework for coordinating community-based interventions to reduce vulnerability of at-risk communities to floods risk, to develop a knowledge base for this work, and undertake training activities for staff. It would aim to have NCDM take a lead role for implementing these activities, which at present are being done independently of NCDM. The support should provide for community-based flood risk management (CBFRM) to be implemented under service contracts with suitable NGOs or

organizations with specific skills in this area and with strong networks to sub-national NGOs to implement the actual capacity development activities. This intervention will be designed as a highly-community based activity with participation of all stakeholders and a focus to ensure outcomes are gender responsive. It would also aim to harness the benefits of what has already been done over the last 6-7 years and introduce a consistent set of capacity-development materials and approaches building on existing materials.

20. Since there has already been some support for NCDM, and further support is likely to commence under other projects in the near future, it is recommended that the design of assistance programs be closely developed and coordinated with other development partners and projects.

## ATTACHMENT 1: ONGOING ACTIVITIES TO SUPPORT EMERGENCY MANAGEMENT

### A1. Programs Supporting NCDM

#### a. Ketsana Emergency Reconstruction and Rehabilitation Project (KERRP)

Following the Typhoon Ketsana natural disaster in 2008, the World Bank (WB) undertook a comprehensive assessment of damages and losses, and has subsequently provided \$40 million under KERRP (approved in October 2010) to support emergency assistance for the rehabilitation of flood damaged infrastructure. Three of the components cover the repair of infrastructure and management support, while the Institutional Strengthening and Capacity Building component will support strengthening the capacity of NCDM for disaster preparedness and management.

The overall objective is to improve the capacities of the NCDM and sub-national committees and stakeholders to reduce disaster risks. NCDM is currently in the process of recruiting consultants to implement this component which is expected to commence about mid 2012. It will be implemented under NCDM's leadership and in close collaboration with all related government ministries. As part of a cohesive plan for addressing key skills that have been assessed as lacking, the consulting team performing this project will focus on the following aspects:

- (i) **Development of national and provincial risk maps:** This will involve identifying risks and vulnerabilities and mapping them, including their impact on major sectors (e.g., agriculture, transportation, health, etc.). Public consultation will be carried out to share the information with provinces, districts, and priority communes.
- (ii) **Emergency management information and an early warning system:** A Disaster Management Information Center will be established through purchasing and application of the latest and appropriate computer/information technology and associated skills training for staff. It will include clarifying and allocating responsibility for collection of data, and standardizing reporting formats, establishing communication networks and links.
- (iii) **Development of Housing and Building Codes:** This will review existing codes, particularly for rural communities, and develop a range of practical guidelines, training courses and manuals to improve housing quality and sustainability. Information will be disseminated to rural communities through multimedia interventions. The program will be undertaken through the Ministry of Rural Development (MRD), who will be the custodian for follow up and long-term implementation, and dissemination to the related sector ministries.



## **b. Emergency Food Assistance Project**

Under the Emergency Food Assistance Project (EFAP) supported by the Asian Development Bank (ADB), technical assistance has been provided (2008 – 2010) to support NCDM.<sup>5</sup> This included strengthening the NCDM's emergency response capacity by enhancing the disaster management information system through assessment of hardware and software needs, provisions of equipment (e.g., computers, server), software, and training. Training was provided in data management, and monitoring and evaluation (M&E). However, the Final Report of the TA (March 2011) highlights that the capacity building activities have been short term, and despite being useful, have “failed to build lasting capacity”. It recommended a range of follow up capacity building activities with emphasis on food security and nutrition, with NCDM as a key target agency. The main recommendations include (i) design of food reserve system in Cambodia; (ii) design of a comprehensive system for M&E and early warning for food security and nutrition, and (iii) capacity building of NCDM, PCDM, and related institutions in disaster response, risk reduction, M&E, and early warning. This would build on what was achieved during the just completed EFAP.

In response to the recommendations, a second TA phase of EFAP supported under the Strategic Program for Climate Resilience (SPCR) is planned over the period 2012 to 2014. The specific design of the TA will commence in March 2012 and it is envisaged will provide for further capacity building to strengthen NCDM's (i) formal role and responsibility in the Emergency Response Food Reserve System, and (ii) disaster management information system to better link to the Cambodia Food Security and Nutrition Monitoring System Early Warning.

## **C. Flood Damage Emergency Reconstruction Project**

The ADB financed Flood Damage Emergency Reconstruction Project (FDERP)<sup>6</sup> commissioned an Institutional Review and Capacity Assessment of the NCDM. The assessment involved a review of the policies, structure, performance and outputs of NCDM through individual interviews with NCDM staff, line ministries, development partners, NGOs as well as secondary data and observations of coordination meetings over a six-month period. The assessment highlights the lack of a solid policy foundation and budgetary resources to support disaster coordination functions in Cambodia; the weakness of NCDM's structure and its lack of capacity to formulate relevant legislation, policies and strategies; and its inability to translate policies and strategies into operational plans and implementation. The NCDM management has recognized the results of the study and expressed willingness to improve those weaknesses.

## **D. ADB's Two Integrated Technical Assistances**

ADB has developed two integrated and complementary proposals: (i) a technical assistance project, **Strengthening Coordination and Management of Disasters** (SCMD), of \$ 2 million for a 24 month period, to address DM issues at the policy, at the NCDM Secretariat (NCDMS), and the provincial levels, and (ii) a grant project, **Community-Based Disaster Risk Reduction**

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<sup>5</sup> Grant 0116–CAM: Emergency Food Assistance Project and Strengthening Institutional Capacity for Emergency Response to Food Crisis and Improving Food Security technical assistance. Information in this section is based on the findings and recommendations in the Final Report of the TA (March 2011).

<sup>6</sup> Loan 2852-CAM and Grant 0285-CAM were approved on 27 March 2012.

(CBDRR), of \$2.5 million for a 36 month period, to complement the planned institutional strengthening efforts by institutionalizing community-based disaster risk reduction and coordination through localized structures at the district and commune levels from the priority provinces<sup>7</sup>. These two projects are expected to be implemented from mid-2014.

## **A2. Other Interventions Contributing to Flood-Emergency Management**

### **a. ADB Technical Assistance**

In 2005, ADB approved a TA<sup>8</sup> to assist MOWRAM to formulate a strategy and methodology for mobilizing communities to plan, design, and implement flood preparedness, prevention, and mitigation measures. It was completed June 2008, and delivered a draft Community Based Risk Reduction Strategy. The Strategy was developed in consultation with many stakeholders including the NCDM, the Cambodian Red Cross, and various NGOs. The Asian Disaster Preparedness Center (ADPC) developed training material for use for subsequent similar interventions.

### **b. Mekong River Commission**

Under the Mekong River Commission (MRC), the Flood Management and Mitigation Program has been implemented during 2004 to 2010. The main achievements were to:

- Establish the fully functional Regional Flood Mitigation and Management Center complete with flood forecasting systems. It maintains national and regional flood-related tools, data and knowledge, forecasts with suitable lead time and effective dissemination, and documented basin-wide risk assessments.
- Develop best practice guidelines to address flood risk management at national level, including identifying opportunities for further investments.
- Strengthening knowledge and capacity of national agencies, educational institutions and the Cambodian National Mekong Committee (CNMC)
- Strengthening capacity for flood preparedness and emergency management at provincial, district, and commune level with support of ECHO (see below).
- Develop flood probability information for better land management.

### **c. ECHO**

The European Commission (EU) Humanitarian Aid and Civil Protection (ECHO) has provided funding for a series of small scale projects to built capacity at provincial, district and commune levels for flood preparedness which were implemented through the MRC. Through its programs, ECHO is contributing to reducing the impact of natural disasters in Cambodia, providing disaster preparedness measures integrated into the humanitarian response, when possible. These actions have been piloted in hazard prone areas of the country. The main emphasis is through small-scale interventions at the local level based on the rationale that a well prepared

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<sup>7</sup> Banteay Meanchey, Battambang, Kampong Cham, Kampong Thom, Prey Veng, and Siem Reap.

<sup>8</sup> Piloted under ADB. 2005. Technical Assistance to the Kingdom of Cambodia for Community Self-Reliance and Flood Risk Reduction. Manila (TA 4574-CAM)

community saves lives and assets. Under its Disaster Preparedness Programme (DIPECHO), ECHO is presently providing some € 2 million to Cambodia, with the aim to reduce risks posed by natural hazards to the most vulnerable populations, as well as to improve local communities' resilience. Since 1998, DIPECHO continuously strengthens local disaster preparedness capacities, through training of disaster management committees at local levels, the integration of disaster risk reduction into local planning, the implementation of small scale mitigation measures, the setting up of early warning systems. The Programme also prioritizes education and public awareness campaigns.

#### **d. Water Resources Management Sector Development Program (WRMSDP)**

The WRMSDP is funded by ADB and was approved in September 2010. It will support the promotion of integrated water resource management (IWRM) and adaptation to climate change. This will include developing MOWRAM capacity through strengthening the strategy, policy and legal framework for IWRM. Most importantly the intervention will improve the coordination and cooperation with other ministries and agencies. Under the Program, there is a supporting capacity development technical assistance (CDTA). It will contribute to flood risk management through some of its activities. The aspects of direct relevance to flood risk management are:

- (i) Recognizing that climate change is likely to increase the frequency and intensity of floods and droughts. The CDTA will therefore aim for improved water resources management, to which the RGC is firmly committed. The expected overall outcome is the improved management of water resources and irrigation services in Cambodia through enhanced planning, policy, legislation, organizational development and enhanced human resources capacity.
- (ii) Recognizing that there is no regular mechanism for broad inter-sectoral coordination of water issues at the national level, or at the river basin level, the CDTA will review and strengthen existing inter-ministerial arrangements for coordination of national water resources management. On this basis, it will proceed with either to (a) reformulate and elevate existing coordination structures or (b) establish a new, high level inter-ministerial committee. This committee will be chaired at the highest level of RGC and include Ministers from relevant ministries as members, and supported by an inter-ministerial secretariat. This national water resources management committee will help determine national policy and decide matters of national significance relating to water.
- (iii) It will then support this Committee to assess water resources at a nationwide scale, and initiate the preparation of a National Water Resources Plan as called for in Article 9 of the Law on Water Resources Management. It will promote and mainstream integrated water resources management (IWRM), improve data management and flood and drought forecasting, and improve coordination on adaptation to climate change.

#### **e. Loan 2670-CAM: Rural Roads Improvement Project (RRIP)**

Financed by the Nordic Development Fund (NDF) under this RRIP the Ministry of Rural Development (MRD) plans to develop and test a pilot local early warning system and a pilot program for emergency management planning for rural roads, in Siem Reap. In short, this will provide a fully equipped emergency management center (including a back up mobile unit), with

early warning systems installed in key locations, and emergency management systems in place like appropriate communication, emergency and rescue equipment and vehicles, with trained personnel to manage the center (response teams, medical teams etc). Overall emergency management planning will start in March 2012 by identifying the most effective operational level through past cases described above. MRD will involve all stakeholders during the planning and testing process of the system and will coordinate with and involve all related agencies that share emergency management functions. (See details in linked document 14:

<http://www.adb.org/Documents/RPps/?id=42334-01-3>

**f. Loan 2839-CAM: Provincial Roads Improvement Project (PRIP)**

Financed by the Pilot Program for Climate Resilience, the Ministry of Public Works and Transport (MPWT), under this project, plans to contribute to strengthening national emergency management efforts by piloting an emergency management system in Kampong Chhnang Province and operate it by 2016. MPWT will use a similar approach as of MRD in this project and coordinate well between the two ministries to aim for a successful emergency management plan. Here again the intervention may start in early 2013, thus MRD project's implementation experience would be valuable for the PRIP. (See details in linked document 17:

<http://www.adb.org/Documents/RPps/?id=43309-013-3>

**g. Strategic Program for Climate Resilience (SPCR)**

The SPCR for Cambodia was approved by the Pilot Program for Climate Resilience (PPCR) in June 2011. Given that climate change may lead to more intense flooding, it will provide a number of areas of interventions to address this in 3 sectors; water resources, agriculture, and infrastructure. Its key themes include climate risk management, and flood and drought management, climate proofing infrastructure, capacity strengthening for mainstreaming resilience in to development planning, and stakeholders participation. Specific proposals are in the process of being prepared.