CONFERENCE ON COMMUNITY-BASED DISASTER RISK MANAGEMENT AND ADAPTATION

Siem Reap, Cambodia, OCTOBER 3-4, 2017

TOWARDS DISASTER AND CLIMATE RESILIENT COMMUNITIES

PROCEEDINGS
Draft Report

Contents

1. BACKGROUND

Cambodia, in common with other developing countries, faces high level of risks associated with multiple natural hazards and experiences flood and drought almost every year. Rural communities have borne the impacts of such natural hazards consisting primarily of storms and floods followed by droughts, with associated epidemics and pests. In certain years, flash and overland flooding becomes extreme, resulting in the loss of human lives, destruction of crops and livestock. Floods impact on homes and the network of community infrastructure. Drought has also become a severe disaster recently, causing water shortage for both human consumption and agriculture.

Community-based disaster risk management (CBDRM) is a very appropriate approach in coping with such catastrophic events and is gaining popularity in Cambodia and the Greater Mekong Sub-region (GMS). The CBDRM-Farmer Water Users Community component of the GMS Flood and Drought Risk Management and Mitigation Project (FFRMMP) implemented by Ministry of Water Resources and Meteorology (MOWRAM) is among the most important ongoing activities on this topic in Cambodia. At the same time, the CBDRM approach is closely related to the efforts ongoing related to Community-based Adaption to Climate Change. The Strategic Program on Climate Resilience (SPCR) carried out by the Ministry of Environment (MOE) in Cambodia is actively involved in building capacity of institutions and communities in climate resilience. Both programs (FFRMMP and SPCR) provide a great opportunity to organize a highly visible conference on CBDRM and Community-based Adaptation.

The Conference was held in Siem Reap during October 3-4, 2017 and convened representatives from Cambodia, the region, and globally to share experience and identify new approaches to ensure resilience to disaster and climate change of communities.

2. OBJECTIVES

This conference was a knowledge-sharing event aimed at pulling together the different experiences of CBDRM and Community-based Adaptation from within the country, the region, and globally. The main objectives were:

1. To share knowledge and experiences from Cambodia and the region for strengthening gender-responsive and inclusive community-based preparedness/responses and building capacities of local communities to reduce risks of natural disasters
2. To seek novel approaches for a sustainable management of gender-responsive and inclusive community-based disaster risks

The Conference was organized jointly by the Community-based Disaster Risk Management (CBDRM) team in Cambodia with the Ministry of Water Resources and Meteorology (MOWRAM) funded by Asian Development Bank (ADB) together with the Special Program on Climate Resilience (SPCR) in the Ministry of Environment (MOE), also funded by ADB.

The Conference was held at the Apsara Palace Resort and Conference Center, Siem Reap, Cambodia, on October 3-4, 2017.

3. PROGRAM

The program consisted of nine sessions, of which five were held during the first day of the Conference (October 3), and the remaining 4 sessions in the second day (October 4). Apart from the Opening Session (Session 1) and the Closing Session (Session 9), the other Sessions included presentations, general discussions, and in some cases panel discussions. Some Sessions (such as Session 3, Session 4, and Session 7) included Parallel Sessions (Session 3.1 and Session 3.2; Session 4.1 and Session 4.2; and Session 7.1 and Session 7.2). The Conference program is in **ANNEX 1**.

SESSION 1: Opening
SESSION 2: Learning from the Past and the Future of Disaster
SESSION 3 – Community Adaptation and Financing of CBDRM and CBA
- Session 3.1: Community Adaptation and Disaster Risk Reduction in Cambodia
- Session 3.2: Financing CBDRM and CBA: International Experience

SESSION 4 – Disaster Risk Assessment, Early Warning Systems, And Communication
- Session 4.1: Assessing Risk and Vulnerability of Community
- Session 4.2: Early Warning Systems and Communicating to Communities

SESSION 5: Wrap-up of Day 1
SESSION 6: Sustainability of Initiatives on CBDRM and CBA
SESSION 7 – Preparedness and Response of Communities to Disasters
- Session 7.1: Share Experience from Capacity Building of Communities in Adaptation and Preparedness (infrastructure, institutions, technology, human resource development)
- Session 7.2: Disaster Response of Communities: Emergency and Recovery during Flood, Drought, and Storm

SESSION 8: Planning and Implementation of CBDRM
SESSION 9: Conclusion

4. PARTICIPANTS

The Conference was attended by 179 participants (see list in **ANNEX 2**). The participants included government and community representatives, development partners and NGOs, experts, and practitioners from Cambodia and abroad. Participants from abroad included delegations from Lao PDR, Myanmar, Thailand, Vietnam, and Zambia; experts from Japan and the Philippines.

5. PRESENTATIONS AND PAPERS

Each session included speakers and presenters. The presenters prepared presentations of their work are available online at the address **http://www.spcrcambodia.org/en/cbdrm.php**. Some of the presenters also prepared short papers which are also available online at the same.

6. SUMMARY OF THE CONFERENCE

6.1. SESSION 1: OPENING

i. Welcome Remarks by H.E. Governor of Siem Reap Province

H.E. Pin Prakad, Deputy Governor of Siem Reap Province welcomed all participants and noted that climate change causes extreme disaster particularly flood and drought which are the major impacts on livelihood of communities in Siem Reap province as well as other provinces. Through this conference, participants from various regions will also have opportunity to learn and share experience on disaster risk management for vulnerable communities.

ii. Welcome Remarks by H.E. Dr. Samiuela Tukkuafu, Country Director, Cambodia Resident Mission, ADB

Dr. Samiuela Tukkuafu, on behalf of the Asian Development Bank, welcomed participants and speakers from the region and beyond, especially our delegates from Zambia who are here to participate through a South-South Exchange Program of the Pilot Program for Climate Resilience.

He said that natural disasters are increasing worldwide. Floods; droughts; typhoons; and other natural hazards continue to wreak havoc in poor and vulnerable communities, causing tens of thousands of deaths, damage to infrastructure; and billions of dollars in economic loss, globally each year. In Asia and the Pacific, 1.8 million natural hazard-related deaths have been recorded. This is equivalent to 51% of the global total, from 1970 to 2012. Over the same period, direct physical losses were reported almost US 1.5 trillion. A recent analysis from an ADB study indicates that direct physical losses from disasters are far greater than the region's share in global gross domestic product.

Disasters can result in detrimental impacts to local communities, undermining social and economic gains. Across local communities, the most poor and vulnerable are especially at risk, and are more likely to suffer due to disasters leading to loss of lives, homes, productive assets, and livelihoods. Climate change is a key driver in inducing the severity and frequency of disasters.

Cambodia is highly vulnerable to climate change. Such high vulnerability is not only due to the significant dependence of its economy on climate sensitive sectors like agriculture and water resources, but also due to low adaptive capacity of its communities and ecosystems. By 2050, it is projected that annual daily maximum temperatures will rise by 2°C to 4°C with higher increases during the dry season; and that higher incidences of rainfall will be more frequent, particularly during the already wet rainy season. Enhancing the climate resilience of Cambodia's economic therefore critical, and implementing community-level measures to strengthen disaster and climate resilience is vital for achieving inclusive and sustainable development.

Cambodia was selected for the Pilot Program for Climate Resilience, which aims to demonstrate measures to integrate climate risk and resilience into development planning. In 2011, the Government of Cambodia with support from the ADB prepared the Strategic Program for Climate Resilience (SPCR) comprising seven investment projects in four priority sectors (agriculture, water resources, transport and urban development) and one capacity building technical assistance. The total investment in these projects is approximately 588 million.

In several of these Strategic Program for Climate Resilience investment projects, community-based disaster risk management and community-based adaptation is a main component. This can be attributed to the fact that ADB, and development partners; together with the Royal Government of Cambodia recognize their importance for achieving sustainability at the local level. It is essential that communities are engaged in dialogue with government and civil society organizations so that the root causes of disaster risk and vulnerability to climate change are identified, necessary resources are mobilized, and priority actions are implemented. The Pilot-Program for Climate Resilience, through the ADB TA, has also provided support to strengthen the capacity of 18 Cambodian civil society organizations in implementing community-based adaptation and disaster risk reduction activities, and in mainstreaming community-based adaptation and disaster risk reduction into their operations.

iii. Opening Remarks by H.E. Professor Dr. Sabo Ojano, Secretary of State of MOE and SPCR Programme Coordinator

H.E. Prof. Dr. Sabo Ojano said during the welcome remark that in fact, women are the most vulnerable group to climate change. They depend much on available local resources. Also, we can learn from them about adaptation practices at community level based on their knowledge, skills and experiences, so mainstreaming gender into adaptation project planning are a key strategy to sustainable development and poverty reduction.

iv. Opening of the Conference by H.E. Bun Hean, Secretary of State of MOWRAM

In opening the conference, H.E. Bun Hean noted that this important conference will be able to share and exchange valuable experience in the field of community based disaster management and climate change adaptation.

He mentioned that fatalities caused by flood are better reported than suffering caused by droughts. Over the past decades, economic losses and number of people affected by natural disaster have increased worldwide more rapidly than both economic and population growth. The impacts of the disaster are deeply related with the socio-economic conditions, tradition, culture and political climate of the communities.

Due to this, the approach in this conference that we are going to discuss in all their forms and aspects and share in the coming two days would help to promote a bottom up approach working in harmony with the top down approach to address the challenges and difficulties.

v. Briefing on Conference Objectives and Expectations. Dr. Ancha Srinivasan, ADB

In outlining the conference objectives, expectations and the agenda, Dr. Ancha Srinivasan noted that we had heard many disaster and loss statistics from welcoming speakers, but losses in Asia Pacific are outpacing increases in GDP – one motivation for the increase in ADB funds for DRM. CBDRM is an important approach that has been gaining strength over the last decade, Community based Adaptation is slightly behind. Disasters are local level events – they happen in communities and to communities, and these communities are already amongst the most vulnerable. Communities are the central point for disaster risk reduction. There is a need to integrate CBDRM efforts as it is applied by different groups, especially for women and children who are the most vulnerable. Adaptation and resilience is about being prepared and being able to bounce back. New technology and skills are emerging – early warning methods and communication tools, bringing the view from space down to the village.

vi. Keynote Speech on "CBDRM and CBA in the regional context of GMS" Dr. Atiq Kainan Ahmed, Programme Manager Climate Resilience, ADPC

In the Keynote speech, Dr. Atiq Kainan Ahmed, noted that CBDRM is an important approach that has been gaining strength over the last decade. CBDRM is a process with emphasis on peoples participation, bottom-up, ownership, inclusive of women, children and other vulnerable age groups. Disasters happen in communities and to communities, and these communities are already amongst the most vulnerable and since they have limited capacity to address these risks and a small event can turn into a major disaster. Communities are the central point for disaster risk reduction. There is a need to integrate CBDRM efforts as it is applied by different groups, especially for women and children who are the most vulnerable.

Community based Adaptation (CBA) has lagged a bit behind CBDRM which is a process with emphasis on people participation, bottom-up, ownership, inclusive of women, children and other vulnerable age groups. Adaptation and resilience is about being prepared and being able to bounce back. The product from CBDRM and CBA initiatives is the increased ability of communities to absorb shocks, recover and rehabilitate their lives, houses and livelihoods.

New technologies and skills are emerging – early warning methods and communication tools, bringing the view from space down to the village. Such new initiatives include NASA – from space to village, early warning, capacity building, mapping risk and uncertainty. There are more complex systems, such as urban disaster risk reduction, migration and movement of peoples, and conflict situation. These technologies bring new forms of risk management. Now we need to re-integrate these approaches, and emphasize how to localize and treat the community as the central unit.

6.2. SESSION 2: LEARNING FROM THE PAST AND THE FUTURE OF DISASTER

This session brought together 3 speakers considering flood forecasting at basin wide level for both flash floods and long-term flooding, drought (MRC); climate change projections for the region and illustrated some of the projections for increase in temperature and rainfall with different tools e.g. World bank Climate Change Knowledge Portal, MRC and ICEM tool for Cambodia. Emphasising that projections are not forecasts, but necessary to appreciate the range and intensity of the changes. But it is necessary to interpret these long-term changes in temperature and rainfall with other parameters e.g. for agriculture. Caritas focused on community capacity building and provided a flood early warning system in Kandal and Kampong Cham provinces. They emphasized coordination and networking with NCDM and local government, a recovery programme, and mitigation measures such as water filters and solar pumps.

i. Hydro-meteorological disasters in Cambodia and GMS Historical Trends by Mr. Oudomsack Philavong, Regional Flood Management and Mitigation Centre, Mekong River Commission (MRC)

Mr. Oudomsack Philavong provided an overview of flood and drought events in the Lower Mekong Basin. He highlighted the years when big flood occurred - 2000, 2002, 2008, 2011 and 2013. In 2000 800 people were killed, especially children with 400 million USD in damages. The floods in 2011 flood caused more damage than 2000, even though 2000 flood was the largest in terms of flood extent. In Cambodia the flood on 3 November 2011 struck 18 cities in Kampong Thom, Battambang, Banteay Meanchey, and Siem Reap provinces. The death toll was 250 and more than 23,000 families were evacuated to higher ground. In 2013 the floods caused 356 million in damages with 168 persons killed and 440 kms of National roads damaged. The Ketsana typhoon occurred in 2009.

The Regional Flood Management and Mitigation Centre carries out three types of monitoring 1) Drought: River Monitoring of water levels along Mekong Mainstream and issue bulletin of forecast water level for the next seven-day during November – May; 2) River flood forecasting, monitoring water levels along Mekong Mainstream and issue flood bulletin of forecast water level for the next five-day during June – October; and, 3) Flash Flood Guidance during June – October on 1 hr, 3 hr and 6hr basis, but while this is good for households, it does not provide enough warning for farmers.

ii. Climate change projection for the GMS and climate induced extreme events in Cambodia by Peter-John Meynell, ICEM, Team Leader SPCR Cambodia Package 1, TA-8179 CAM

Mr Peter-John Meynell presented some of the results of regional downscaling of climate change projections and the tools available for understanding these projections of increases in temperature and changes in rainfall patterns in the next 30 years. He made the point that projections are not forecasts. Climate change is full of uncertainty and though we know that something is happening with the climate and that extreme events appear to becoming more frequent and intense and with increasing variability, it is very difficult to predict what is going to happen and when. Climate projections are an attempt to define the extent and ranges of climate change into the future; they are based on different scenarios of carbon emissions and greenhouse gases in the atmosphere and different models based upon patterns of global circulation in the atmosphere. He drew examples from the MRC climate change analysis of three scenarios (from IPCC5) and three Global Circulation models for the entire Lower Mekong Basin; the World Bank Climate Change Knowledge Portal, which provides a comprehensive set of scenarios and models, though not at the same resolution, and ICEM Cambodia Climate Change GIS Toolbox, currently under development with the Ministry of Environment and the ADB SPCR programme. In understanding the changes in temperature and rainfall patterns, it is necessary to interpret these changes in other parameters which may help to predict extreme events such as seasonal changes in rainfall, temperature and evaporation (for drought) and increases in frequency of storms and intensity of daily rainfall (for flash floods).

iii. Stories of two communities affected by flood and drought in Cambodia by Mr. Mey Long, Disaster Management Manager, Caritas Cambodia

Mr. Mey Long's paper - Community Based Disaster Preparedness/ Measures for Adaptation to Climate Change Project and Emergency Response – drew upon two case studies 1) in Prek Russey commune, a flood prone area of Lovea Em district of Kandal province near by the river which usually floods every year, and 2) Prek Pra village in Kampong Cham province. He emphasised the need for capacity building for communities and developing flood early warning systems for these communes in Kandal and Kampong Cham provinces.

The CBDP awareness raising helped the communities to reduce the risks of disasters by preparing household items for safe-keeping, house reinforcements, repairing boats, identifying safe areas for people and animals and the importance of boiling drinking water. Caritas have worked with Village Development Associations and Agricultural Cooperatives to improve income generation, and through them sharing disaster preparedness such as how to well prepare food and non-food items before the flood comes. Caritas has also worked with agricultural cooperatives to create structures for rice production groups, credit groups, seller groups, compost fertilizer production groups, saving groups and to set up emergency cash at the village level. Caritas work has included promotion of Renewables for Climate change mitigation, model green schools and networking with relevant stakeholders, especially NCDM and provincial agencies. The minimisation of risks of drought has been done with water tanks and solar pumps.

iv. Panel Discussion

A. H.E. Men Chean Rithy, NCDM-S Project Manager for ADB-JFPR TA noted that the Law on Disaster Management had recently been enacted, and that NCDM's policies were aimed at prevention of disasters and mitigation of risks in the pre-event period. There was a need to strengthen public awareness activities and to focus upon the vulnerability of communities and their responses to disasters. We should appreciate how disasters can affect society and push vulnerable households into poverty. These are all reflected in NCDM's National Action Plan. He noted how the Caritas CBDRM work is strengthening the capacity of provincial managers, and the need to work with the communities themselves.

B. Hem Chanthou, ADB noted the increasing number of disasters which are occurring more and more frequently. The work of MRC and MOWRAM in providing 5-day flood forecasts is extremely useful, so that farmers can take precautions in that 5-day period. He made the point about the vulnerability of poor people – although also affected by disasters, richer persons can build houses to avoid floods that poorer households can not avoid. Disaster Risk Management work also needs to feed into infrastructure planning, because some new roads can actually make flood problems worse. He emphasized the need for community activity with farmers getting disaster risk advice and assistance from CSOs and provincial departments of DRM.

C. Khim Channy, Oxfam used the example of the 2011 big flood, in 71 communes and 7 districts of Kampong Thom province with more than 50,000 affected families. The most vulnerable are women and children and for them the priority is short term food security for which they may get a cash grant from Oxfam. A second form or assistance is for livelihood losses and for this Oxfam provides cash in exchange for labour. In terms of prevention of disasters or minimizing the impacts Oxfam has been using a similar approach as Caritas, and has been developing water and sanitation (WASH) improvements and small irrigation systems

D. Sok Heng, Sovann Phoum is working in 7 provinces, including in Phnom Penh, on education, WASH and climate change resilient livelihoods. They have been assessing disasters to identify what happened, how to address, what we will do. He questioned what we mean by success in CBDRM, and when it is sustainable? We should identify things that are needed for CBA at national, provincial and local levels, developing climate resilience. But this is difficult – people are poor and adaptive capacity is not strong – the result that is after disaster strikes they give up, move away and sell their labour, reinforcing rural to urban migration. One of the difficulties for the sustainability of CBDRM and CBA is how to scale-up the measures for income generation. Investment is needed a) for the community and b) for investor and ownership is important. He noted that in his opening speech, Bun Hean had mentioned that funds were not sufficient, and a mechanism needs to be developed for ensuring the flow of funds to the communities.

6.3. SESSION 3 – COMMUNITY ADAPTATION AND FINANCING OF CBDRM AND CBA

6.3.1. Session 3.1: Community Adaptation and Disaster Risk Reduction in Cambodia

This session provided meaningful experience of work on the ground. The community adaptation and disaster risk reduction examples are small scale and localized responses to demands from the community. These are drawn from the support of ADB's SPCR programme to NGO and civil society. The CSOs provide a nexus between donors and government with the communities. It complements

the role of government in rural areas. There was emphasis on the sustainability of interventions. It brought together a wealth of examples on five sectors – urban resilience, water supply – a common theme, climate smart agriculture, coastal resilience and child centred adaptation.

i. Introduction to Community Adaptation by You Sina, Training and Capacity Development Specialist, MCRDP-CSSM Plan International

Mr Yun Sina gave an overview of the types of primary and secondary impacts from climate change and issues faced by communities and CSOs undermining their ability to adapt to climate change. Plan International Cambodia has been implementing Package 2 of ADB's SPCR programme providing small grants and capacity building and advice in support of 19 CSO partners in 17 provinces all over the country. These small projects deal with 5 themes which are: Urban Resilience, Climate Smart Agriculture, Water Supply, Coastal Resilience and Child Centered Climate Change Adaptation (4CA). He first mentioned the typical CBA project interventions implemented by partners across all sectors (Vulnerability Reduction Assessment, Awareness Raising, Capacity Building, Local Development Planning and mainstreaming CCA/DRR into CIP). The results under each theme were then presented by the partner organization.

ii. Urban Resilience by Mr. Hieng Hoa, ED of CDMP

Mr. Hieng Hoa described the two CSOs working on urban resilience – CDMP and SKO. The main climate hazards and challenges exacerbating the communities' vulnerability to climate change are: Flooding of streets and houses, poverty and insecure livelihoods, security and poor infrastructure especially housing and WASH in the community, health issues.

To address these challenges, CMDP is working on capacity building on CCA/DRR in urban areas for stakeholders in 2 sangkats in Battambang town. They have been designing a wastewater master plan in these sangkats and dissemination, in collaboration with local authorities, followed by rehabilitation of 2 main drainage systems in the two sangkats, with significant Community contribution. They are also rehabilitating the streets afterwards

SKO is also working on these issues in Phnom Penh and their activities include a Participatory Approach for Safe Shelter Awareness (PASSA) process. Through a housing baseline survey, 185 houses were identified as unsafe. A loan facility has been set up with CMK to fund housing improvements using a "Housing repair kit" with technical training and coaching during house repair. A total of 53 houses have been repaired. The survey also includes a community driven identification and design process for WASH investments and installation (e.g. water filters and drainage).

iii. Climate Smart Agriculture by Mr. Taing Vanchan, Executive Director of HURREDO

Mr Taing Vanchan mentioned the work of seven NGO partners which are tackling the impact of climate change and drought in particular, through interventions in the agriculture sector, such as: WOMEN (Women's cooperative and Resilient rice in Prey Veng), Hurredo (fish ponds in Siem Reap), SP (chiken raising in Takeo), BK (irrigation in Pursat), LI (irrigation in Battambang), LEC (irrigation, Bio-char, soil preparation & home gardens in Kampong Chnang), LWD (crop insurance in Kampong Speu). The CSO and the communities they are supporting are tackling various climate change relation problems in the community such as: poor agriculture adaptation techniques, inadequate irrigation in both rainy and dry seasons, poor soil nutrition for crops, and out-migration of farmers. Vulnerability Risk Assessments were carried out in all projects to assess the needs and identify actions.

The activities that CSOs are promoting include a women-led mill and feed enterprise; climate resilient rice seed promotion, community chick rearing, small scale fish farming with a demonstration with catfish for a single farm family (using plastic sheeting in ponds of 6 x 4 m), technical assistance for climate resilient home gardens, biochar, crop insurance for rice, small irrigation infrastructure, and capacity building on water management to water users committees.

iv. Water Supply by Mr. Meas Viphou, Programme Manager of CRDT

Mr. Meas Viph illustrated the work of seven CSO partners (KSCF, KWWA, SSF, CEPA, SP, CRDT, OC.) and their target communities that have chosen to invest in climate change adaptation through the development of better water supply systems for both household use and small-scale home gardens. The highlighted challenges are that people lack clean water and their existing storage facilities often run out, even before the rainy season ended. As a result, women and children have to walk far to fetch water. People face health issues due to using unsafe water.

Interventions shared with the audience include:

- Piped water supply networks either by community own entities or in partnership with private local water supply company, supplying water to 66 households (KSCF in Kampong Speu, and KWWA in Kratie)
- Pond rehabilitation and increase in community water storage capacity and establishment of pump between pond as pack up system (SP in Takeo and OC Bantey Menchey)
- Construction and operation of rainwater harvesting structures (SSF in Koh Rong)
- Water filter distribution to 120 households and monitoring of their use (SSF Koh in Rong)
- Household level water storage units (CEPA in Rattanakiri)
- Solar powered water supply systems and safe drinking and hygiene facilities in schools (SP in Takeo)
- Strengthening of water management systems and user groups (CRDT in Stung Treng)

v. Coastal Resilience by Mr. Teng, ED of CWDCC

Mr Teng noted that the issues faced by communities in coastal areas affected by Climate Change include: lack of fresh and clean water, saline water intrusion into soils and underground water and sea level rise, illegal fishing and cutting of mangrove, health, and migration due to lack of income, generation lead to migration.

In response to these coastal issues, SSF is involved with marine conservation working with communities and Fisheries Administration to create six different types of zone around the Koh Rong archipelago – Conservation, Protected, Community fisheries, Fish refuge areas, Recreational areas and Multipurpose zones. These are strengthened by community patrolling activities.

CWDCC is working with coastal communities on raising climate change awareness through establishing a community library, and knowledge sharing through the production of a photo-story book entitled – "No water, no [illegible] T[illegible]ave [illegible]upported 5 community fisheries through mangrove and sea grass conservation (with 3000 mangroves planted) and promoting Community based eco-tourism activities and related infrastructure. They have already seen an increase in income from these activities.

vi. Child Centered Climate Change Adaptation by Mr. Chan Tepsamol, Programme Director of CRF

Mr. Chan Tepsamol noted the work of six NGOs (CRF, MIPAD,BK, SP, WIOMEN, LWD) which are focusing on addressing the vulnerability of children and youth to climate change. Of all community groups, children are the most vulnerable both to climate change and to disasters when they occur. The key challenges here are the poor condition of water supply in schools and for children in general; children' safety and environment - schools do not comply with child friendly safe schools standard and don't reall appl the Mini r of Education' guideline on afe chool, poor awareness of students and teachers on CCA and DRR.
Key interventions by the various partners include:

- Preparing a policy brief on children and climate change for Cambodia – CRF in Kandal
- Promote safe condition of water supply and management, and increase sanitation facilities in schools - SP in Takeo
- School gardens and green school programs on environment management, waste management and tree planting – CRF in Kandal
- CCA/DRR awareness and preparedness to teachers and students and surrounding communities, including through youth Debate on CC, and child drama performances - MIPAD in Mondulkiri and LWD in Kampong Speu
- Promote children' welfare and environment and child-friendly safe school standards
- Mainstreaming of CCA/DRR into school curriculums - CRF in Kandal
- Swimming lessons for youth in high flood risk communities. Swimming and boat rowing skills are very crucial for them in times of flood - WOMEN in Prey Veng
- Construction of dyke around school in flood prone zone

vii. Challenges, Successes, Lessons, and Recommendations

Mr Sina concluded the presentations summarizing the challenges and lessons learnt from all themes and CSOs. I) Close collaboration and contribution from line government agencies is critical. It was sometimes very positive and other times challenging to achieve. 2) Early onset of rain caused delays in construction activities. 3) There is usually a preference for low cost / low tech solutions but these should not be implemented at the cost of quality and sufficient monitoring.

Specific lessons learnt in each theme

- **Urban Resilience**: there is a tension between the microfinance approach, which has strict requirements, and the project intention to reach the poorest of the poor. The PASSA approach was successful in identifying target beneficiaries, loans and microfinance. There is a risk of overlap between investment decisions from authorities and project planned activities. This emphasises the need for early coordination between the project and local authorities. MOUs with line agencies to provide technical support.
- **Climate smart agriculture**: bio-char technical solution is well adapted to use by women and girls; simple animal health and vaccination practices have a very positive improvement in poultry resilience to drought and yields; drip irrigation was suitable, effective and useful in saving water in school and household context; crop insurance is still new and thus must be closely monitored to ensure sustainability.
- **Water supply**: Cooperation with Private Company allowed pooling of resources & improved sustainability; Technical design for construction should be based on resources, technical aspects, & community needs; Water Supply benefited above all Women and Children by minimizing risks and time constraints of carrying water and improved hygiene; continued

capacity building to water users committee is recommended so they can manage the system as planned; open bidding process can sometimes produce higher bidding costs.

- **Coastal resilience**: the work was under-budgeted relative to actual costs and technical design constraints on the ground; smaller harvesting structures work well, saving money and time; community felt empowered through the Photo-story collection and achieved good visibility; dual economic and environmental benefit from ecotourism.
- **4CA**: youth-led CCA and DRR awareness was effective and powerful; children are effective agents of change in the community, good ownership and sustainability when teachers become focal points for school garden; Solar school water supply need significant technical follow up; schools could serve as example and actively transfer knowledge and experience to other schools.

Questions from participants included:

- What about the environment – has need for waste management been considered to cope with the increases in tourism?
- Have climate change and storms been integrated into the infrastructure construction design? Capacity building on water management, construction.
- Awareness raising – photostory, pictures of environment and how to cope with CC?
- Involving youth from urban areas? Children as agents of change?
- Are these best methods? What will happen at end of the project?
- What is clean water – how do you know when water is clean and safe, which organizations can test? – **Answer** With clean water management try to ensure protection of ponds with walls and promote use of filters. In schools, water has been tested by Pasteur institute for disease organisms and chemicals and have tested water from filters by testing before and after filtration. Water supply – working with private water supply company, technical design for construction, water supply benefits for women and children.
- Rehabilitation of mangroves – what are the benefits for climate change? **Answer** After rehabilitation tourists come and visit more, food for fish and shrimps increases, fishing income has increased, and mangroves prevent land erosion. Protection of sea grasses as well.

Open Discussion

Panel discussion was chaired by Jeanne Everett, TL from Plan International. The members of the panel were Mr. Heng Sok ED from SP, Ms Bunthy ED from MIPAD, Mr. Thim ED from KSCF, and Mr. Phallin from BK.

The three questions asked to the panel were:

1. What are the specific roles and opportunities for civil society organizations in helping communities adapt to climate change?

Mr Phallin responded to this question pointing to: i) the role of civil society at National level in providing input, concrete information, and feedback to decision makers and provide input into policies, and ii) the role of CSOs on the ground implementing programs at sub-national level, and playing a role in helping to fill gaps in government services and policy implementation.

Mr Heng Sok added that CSOs are typically less active in urban areas because government services are more readily available. Strategically, CSOs can build on past experience while at the same time keeping up to day with new technologies methods and solutions. For example: local communities today are less active in CSO projects because they are busy tending to their own livelihood activities: CSOs must pay attention and adapt to such changing local conditions and be creative and innovative.

2. What actions can civil society do to make CCA & DRR a core part of their organisations?
Mr. Thim from KSCF responded to this question by referring to actions under 7S dimensions (strategy, management style, staffing, skills, structure, stakeholders, and systems). Explicitly including CCA/DRR into organization strategies is seen as the most important one guiding all others (through appointing focal points, amending terms of references, developing and using knowledge products, building staff skills, joining dedicated CSO networks, pursuing suitable funding opportunities, adopting and promoting climate screening and other specific tools etc.)

3. What are the key challenges faced by communities and CSOs when trying to reduce community vulnerability to climate change and disasters?
Answers provided by the panel were: Human resources, financial budget limitations, insufficient project duration limitations, technical, and planning.

The session chair closed the session by highlighting 3 key takeaway messages:

1. A lot of good and very concrete CBA work is happening on the ground through CSOs
2. CSOs play an important role in complementing government action, and helping to roll out as well as informing policy
3. But there are still challenges that CSOs face because of the typically short time-horizon of CSO projects, which do not allow enough time to measure, learn from, and build on impacts from individual projects in a given area. It also limits them in their ability to plan long term and implement long-term strategies in given target communities as their activity depends on constantly changing donor funding circumstances, schedules, constraints, and objectives.

6.3.2. Session 3.2: Financing CBDRM and CBA: International Experience

i. Financial innovations and their efficacy for risk reduction by Dr. SVRK Prabhakar, Research Manager, IGES, Japan

There is a strong correlation between weather and wealth, particularly in rural economies highly dependent on agriculture. In these cases, access to finance is important. Climate impacts crop production. For example, in India the 2010 drought led to an increase in farm loan defaults, which in turn increased burden on government. Farm loan waivers reached 14.4 billion US ; in comparison the Government of India spent about 163 million USD on insurance in 2008.

Access to Finance increases resilience by reducing the extreme variations in wellbeing and income during disasters and climatic events. There have been three financial tools: Microcredit, Cash transfers (including conditional cash transfers), and Insurance.

Microcredit services are those services designed to provide financial access to the poor and underprivileged who cannot access the formal financial services such as banks. They are operated by small institutions (microfinance institutions) and the delivery mechanism is often group based lending or for individuals. However, it is not an exception to find large microfinance institutions that have a lending portfolio in the range of billions of dollars as in case of Grameen Bank in Bangladesh with an outstanding loan of 1.1 billion USD in 2015. Microcredit often involves capacity building to educate borrowers to manage finances and livelihood activities (e.g. business skills, book keeping, alternative livelihoods etc)

Cash Transfers as a steady stream of financial support has emerged recently when governments realized that the developmental programs are often less efficient in cost-benefit terms (i.e. a very small fraction of the total amount spent on most developmental programs reach and benefit the poor). On the contrary, when cash was put in the hands of the poor, the research has shown that they can do innovative investments bringing them out of poverty much faster and efficiently. Conditional cash transfers are even more a targeted approach where cash is contingent upon meeting an expectation of the participant (e.g. child education, vaccination etc) and is known to increase the public program participation and poverty alleviation - an effective tool for behavioural change.

Risk Insurance acts as a financial access tool as it provides access to loans when made conditional for borrowing as in the case of agricultural loans. Insurance has enabled millions of borrowers to obtain crop loans which they otherwise may not be able to. It also is an access tool soon after disaster when the communities need the finances the most. More and more governments are putting in place agriculture insurance or are studying the possibility of putting in place agriculture insurance with subsidy on premium. If designed well, insurance can provide several benefits

- Emphasis on risk mitigation compared to response
- Provides a cost-effective way of coping financial impacts
- Covers the residual risks uncovered by other risk mitigation mechanisms.
- Provides opportunities for public-private partnerships.
- Helps communities and individuals to quickly renew and restore the livelihood activity.
- Depending on the way the insurance is designed, the insurance mechanism can address a variety of risks of climatic and non-climatic nature.
- Reduced burden on government

High cost of Insurance Premium. Most governments address the insurance costs through subsidy on premium. Advantages include: Easy to implement and High political impact. Disadvantages include: The real cost of risk is not conveyed to farmer; Possibility of high risk seeking behaviour; Disproportionately benefits rich farmers; Overall insurance costs remain same or even higher.

Savings-Linked Insurance has several features: Cheaper premium; Poor households can have quick access to finances (overdraft with withdrawal on premium) and hence will not feel deprived of money for long periods of time; Interest earned on savings can provide additional advantage of promoting savings; Help build assets in the long-term while protection against catastrophic risks; and Innovations in savings-linked insurance include designing insurance products based on interest earned on savings could substantially reduce the premium burden on insurance holders

Combining Insurance with Payment of Ecosystem Services (PES). Payment of ecosystem services and carbon capture and sequestration proceeds could be linked to insurance premiums and or investments made on risk mitigation options that can generate substantial PES proceeds. E.g. certain types of intensive row-cropping systems and ecological farm scapes can promote ecosystem services such as a clean and well-regulated water supply, biodiversity, natural habitats for conservation and recreation, climate stabilization, and aesthetic and cultural amenities such as vibrant farm scapes etc. (Robertson et al. 2014).

Combining insurance with social security programs. 40% of global population is not protected and 75% are inadequately protected; combining social security and insurance can help extend social protection to under-served populations and can reduce the overall costs of insurance for the vulnerable sections of the population while extending financial inclusion benefits

ii. Financing risk reduction in Cambodia: Experiences and outcomes by Mr. Ny Kimsan, NCDD-Secretariat

The NCDM is the main organization in Cambodia responsible for DRM and involves a structure from the national to the local level. Article 38 of the Disaster Management Law states that (i) The expenditure for the functioning of NCDM shall be allocated by the national budget in the budget plan of the Office of the Council of Ministers; and (ii) NCDM shall have the right to receive and utilize funds obtained from other sources for executing its tasks in compliance with the effective procedures.

The project on CDRR funded by ADB in Cambodia states the conditions for use of financial instruments for risk reduction and resilience being promoted in Cambodia: (i) Based on NCDD' guideline indicative manual and sub-degree (DSA and operational cost only); (ii) Agreement between MEF & ADB; (iii) Grant Implementation Manual(GIM); and (iv) Memorandum of understanding (MoU) for using the investment fund at district and commune level.

National DRM funds are utilized according to different components:

1. Component A: Improved Institutional and Technical Capacity of Priority Districts on Disaster Management and Disaster Risk Reduction/Climate Change Adaptation
2. Component B: Enhanced Capacity of Priority Communes on Disaster Management and Disaster Risk Reduction and Climate Change Adaptation
3. Component C: Community-Based Disaster Risk Reduction and Climate Change Adaptation Actions Implemented
4. Component D: Effective Project Management

Subnational DRM funds are utilized for Component C: Community-Based Disaster Risk Reduction and Climate Change Adaptation Actions Implemented.

Achievement of the project on CDRR includes over 17 training courses for 528 officers (15% of which are women) at the local level on procurement guidelines, on Project Implementation Manual.

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CDRR implementation included the completion of road construction for districts and communes; dam construction; canal rehabilitation; community pond rehabilitation, safe areas construction; and water gate construction at commune level.

Issues for scaling up include (i) The budget amount for small scale infrastructure subproject under CDRR project is insufficient to improvement and reduction the DRR& CCA in the target district and commune; and (ii) Lack of operational cost budget to support the target district and commune such as office supply.

Policy measure to improve the financial instruments:

- The financial procedure of CDRR project should be further simplified for sub-national level.
- Delegate appropriate authority to target district and commune to decide on the use of CDRR project investment fund.
- Subprojects with disaster risk reduction aspect is costly. It is recommended the CDRR investment fund at sub-national level should be increased up to 50.000 per commune and 100.000 per district and the ceiling per subproject should be increased.
- Operational cost for district and commune should be allocated to support the CDRR project activity implementation.

The project has been implementing smoothly with active participation from PCDMS, DCDMS and CCDMS in workshop, DRR/CCA training and Developing DRR/CCA plan. Overall progress is 70% against

plan. It is expected that the project will be successful and achieve all intended results. The good practices and achievements under the current CDRR project should be scaled up.

iii. Financing risk reduction in Philippines by Mr. Manuel R. Nivera, Chief, OCD, Philippines

The poor across the world are very vulnerable to disasters such as drought, heavy rains, cyclones, storms, typhoons, earthquakes etc Microfinance has a role to play in disasters. The Typical Microfinance Client is characterized by:

- Low educational level - low financial literacy
- Small scale production or service delivery operations
- Rudimentary or obsolete equipment
- Few employees, mostly temporary unpaid family members
- Basic or no business records
- No marketable collateral to offer
- No access to formal sources of credit or no credit history
- Active participation in informal sources of credit
- Multiple sources of income / income generation activities

Impact of disasters at the household level include (i) loss of livelihood; (ii) severe impact on agriculture; (iii) damage or loss of houses; and (iv) injury/death. Impacts at the community level include (i) no water and electricity; (ii) damage to infrastructure; (iii) outbreaks and sickness; and (iv) lack of access to government services.

Coping mechanisms of the poor include: (i) access to loans; (ii) finding additional work; (iii) assistance from family members; (iv) donations/relief operations; and (v) prayer.

Savings and insurance are low priority coping mechanism but have high effectiveness rating. Scrimping on expenses and alternative medicine have low priority compared to other coping mechanisms but have high effectiveness rating. Selling of assets has good effectiveness rating but is not prioritized because of difficulty in selling in times of disaster.

Savings and insurance are recognized as effective coping mechanisms but during the disaster, these were not prioritized because the respondents were not able to save or buy insurance in preparation for a disaster.

Selling of assets is difficult in times of disaster because of two main reasons. First, there is low market demand because everyone in the community is a victim or is affected. Second, selling of assets in times of emergency such as that of a disaster makes the price of the asset low. Therefore, an asset will be lost at a low price. This is contrary to good asset accumulation practices.

Assistance from village members is a coping mechanism that should be formalized. This is not an immediate priority of the respondents during the disaster but in retrospect, they clarified that helping one another, was a very effective coping mechanism. Stories like pooling together leftover food and communal cooking made them survive the tragedy. If there is adequate education and preparation for disaster, then this practice could be maximized and made more efficient. This coping mechanism could have higher priority if the community is well prepared and well educated on disaster preparedness.

Understanding the role of microfinance in disaster management depends on the cyle of disasters.

Before the disaster. The key measures include: (i) financial education which highlights the importance of savings and insurance in mitigating effect of disasters; (ii) provide safe and compelling place to save; (iii) offer affordable insurance products; (iv) increase in investment climate confidence; (v) help preparing mitigations; and (vi) provide information and encourage alternatives when disaster is predicted.

During the disaster. The key measures include (i) allow access to remittances and savings; (ii) keep points of service open – possible evacuation point; (iii) help channel aid; (iv) support financial flows system; and (v) coordinate with government and aid agencies

After the disaster. The key measures include (i) lend, recapitalize and adjust terms to help restart activities; (ii) provide insurance payouts; (iii) rebuild and repair institutions; (iv) help prevent adverse choices such as asset selling; and (v) financial education.

Recommendations

- Need for Disaster Risk Reduction and Management technical assistance – government support
- Need to coordinate efforts with LGUs and other aid organizations – announcements and relief
- Livelihood support for clients – technical and financial, preferably soft loans during recovery stage
- Availability of soft loans during recovery stage
- Financial education to clients
- Strengthen value chain on agriculture where the poor can participate and benefit the most
- Technical assistance on restructuring and refinancing policies in times of disaster
- Support for microinsurance – disaster, property, capital replacement, loan write off
- Activities that spur local economy during recovery – cash for work; cash transfers
- Disaster Fund at subsidized costs recoverable at long period

iv. Weather index insurance in Thailand: Its effectiveness in risk reduction, limitations and way forward for scale up by Ms. Apiradee Yimlamai, BAAC, Thailand

The range of published evidence indicates that the net damage costs of climate change are likely to be significant and to increase over time.

Insurance relies on effectiveness of loss measurement. In Thailand, Automatic Weather Station (AWS) update weather information every 10 minutes.

Pilot projects to introduce weather index insurance for maize and rice were initiated since 2005 with the support of various organizations including World Bank, JICA, and the participation of various insurers.

BAAC is Thailand's biggest lender to the agriculture sector through its network of more than 1,250 branches. As the majority of its clients are farmers whose production has to rely on climatic conditions conducive to agriculture, natural disaster becomes a major risk factor impacting the client's repayment.

The principle of weather indexed insurance (WII) is based on Climate Change Adoption for small-scale farmers by developing insurance model with effective loss assessment by eliminating the need for field assessment. All policyholders within a defined area will receive payouts, based on same contract and same weather station. The reference station is specified in the contract. The weather

measurement is set (Trigger, Increment and Limit). The period of insurance, coincides with crop cycle. Participants in the scheme include: insurers, national weather services, farmer service providers, agrichain parties, and Government.

Lessons learned:

- Weather stations cannot reflect drought and rainfall from remote farm land effectively
- Unresolved adverse selection and moral hazard problem
- Limited understanding on CCA, DRR, SD concept among professional
- Limited awareness of farmers
- Regulatory environment promote stakeholders to participate
- Premium and □upport b□government reduce farmer'□engagement
- Limited insurer increases premium
- Traditional insurance program imposed a huge financial burden on the insured because of administration cost

Benefits of WII include the coverage of weather hazards to widespread area and close correlation between weather and crop yield. Limitation include: 1) Complex conditions of loss; 2) Localized risk (eg. Hail, pests or disease); and 3) Microclimates exist

Next Step. Currently a Three years research project involving various organizations is trying to design appropriate insurance product

Conclusions:

- There are two parallel insurance platforms: government subsidy & WII.
- Promoting WII help to lowering government budget of subsidy.
- More understanding of interest group led to effectiveness.
- Effective scaling-up by expanding coverage, joining party and seizing of technology transformation.

6.4. SESSION 4 – DISASTER RISK ASSESSMENT, EARLY WARNING SYSTEMS, AND COMMUNICATION

6.4.1. Session 4.1: Assessing Risk and Vulnerability of Community

i. **Assessing climate change and disaster vulnerability in flood and drought prone communities in Cambodia by Dr. Lay Chanthy, Climate Adaptation Specialist, CBDRM component of FDRMMP, Cambodia**

Dr. Lay Chanthy described the experience of assessing the vulnerabilities of rural communities in Pursat province to increasing risks of flood and drought with climate change. The purposes of the Vulnerability Assessment were to assess existing levels of vulnerability of communities to climate change and to identify potential adaptation options and measures that communities can incorporate to respond to climate threats. After describing the area, he summarized the climate change risk profile in the area as having more intense rainfall during wet days; the return period of extreme climate events will be shorter; evaporation and losses of water will substantially increase in both seasons with more risks to fire hazard, pests, disease outbreak during the dry seasons; and increased frequency of high winds which are often associated with storms. This defines the climate change exposure.

The assets in each village were identified with the communities including Roads, Housing and residential land, Water supply and sanitation, Agricultural lands, Water for irrigation, Social assets (pagoda, school, health center, market), Livelihood (livestock, gardening, fishing, NTFP…), Natural asset (forest, lake, river, mountain, stream,..) and Other. The sensitivity of the village in each village was assessed based upon experience of exposure to floods and droughts. The adaptive capacity of the village to reduce their vulnerability was discussed with the villagers and defined in terms of Management capacity, Physical Capacity, Social capacity, Natural capacity and Financial capacity. The Vulnerability Assessment for each of the village assets combines the Exposure, Sensitivity and Adaptive capacity.

The adaptation measures that may be adopted to reduce the risks to the key assets in the village of flood and drought and other impacts of climate change, were then discussed with the villagers as a contribution to the development of Safer Village Plans. Drought is considered the most serious climate threat for communities while flood is not so serious; water supply and sanitation, agricultural land and irrigating water, livelihoods, natural assets, and roads are the most affected assets of communities in the area. The response in structural and non-structural adaptation measures include Increasing water availabilities for agriculture and domestic uses; changing crop/animal, crop/animal variety, and shifting cropping calendar; increasing effective uses of water for agriculture and domestic purposes. Large scale measures require interventions from central government and small-scale measures involve changes in daily livelihood practice. Safer Village Plans on disaster should be prepared based upon CC vulnerability assessment of communities. Climate resilience should be incorporated into the local five-year development plans.

ii. Learning about CB adaptation and DRM from CSO projects supported by SPCR by Dr. Jeanne Everett, Team Leader, Team Leader MCRDP-CSSM at Plan International

Dr. Jeanne Everett provided some of the lessons learnt about CB Adaptation and Disaster Risk Management from the NGO/CSO projects described in session 3.1. These projects were supported under Package 2 of the ADB SPCR programme, managed by Plan International. They have been working in 17 provinces of Cambodia, with 18 local CSO grantees, which received between 42,000-$100,000 for each CSO, implemented between June '16-Dec '17. The Goal of the project was to build safe and resilient communities in which women, men, boys and girls are active participants in managing the risk of a changing climate and the specific objective was to strengthen CSO capacity to implement community based CCA & DRR activities and to mainstream adaptation and DRR into their operations.

The projects identified in the five key themes – urban resilience, climate smart agriculture, Water supply management and sanitation, coastal resilience and child centred CCA. From the wide range of results in the three core areas of capacity building, grants mechanism and knowledge products, some of the key successes and challenges were described from the points of view of Plan International, implementing the programme, and from the CSO partners which had been implementing the different projects. The VRA process was carried out by each project as the principal needs assessment tool and to develop the baseline for both planning and monitoring. A needs-driven approach was used for project design.

Some of the lessons learned include:

1. CSO key role at nexus between Science/ Government/ Development Partners/ Vulnerable people.
2. CSO capacity greatly varies, so importance of collaboration and learning between the different CSOs, especially when working on similar topics
3. It is sometimes a struggle to distinguish between resilience building and development as usual; demand-driven programming is a challenge

4. It is important to translate trainings into concrete, effective & durable project interventions
5. CCA/DRR is too often a single target project objective
6. For many, the best adaptation decisions do not always align with commercial/productivity decisions. Incentives may be required to better align those
7. Climate is unpredictable & data is not localized, so adaptation decisions may be challenging & risky. It is necessary to carefully formulate climate information and services because of potential liability

iii. Experience in CBDRM and CA in Zambia by Zambian Delegate

The Zambian delegate described the situation in the Community-based approaches to adaptation and disaster risk management in Zambia. He noted that Zambia cannot now do "Business as usual" because the annual losses in GDP due to disasters are more than the growth rate in GDP. It has been estimated that 300,000 people in Zambia will fall below the poverty line due to disasters.

The CBDRM approach in Zambia helps to mitigate the impacts and losses of disasters, by building a culture of safety, through empowerment of the communities to make demands to improve their situation and minimise risks. However, based on the costs to implement one CBDRM project in one district, the Zambian agencies estimate that they will require USD 189 million to do CBDRM in all districts in Zambia. Naturally there is competition for these resources from other development initiatives.

The CBDRM process prioritises the hazards, using a variety of participatory tools and techniques to assess the situation, such as transect walks with the communities, Venn diagrams for institutions active within the communities, Asset mapping with risks and resources and Problem tree analysis. The involvement of communities in the process has been met enthusiasm and ownership of those communities, which has also included involving the private sector and Government workers. The process draws on indigenous knowledge, and focuses capacity building on special vulnerable groups e.g. women, children and elderly.

6.4.2. Session 4.2: Early Warning Systems and Communicating to Communities

i. Improvements in flood forecasting and drought prevention in Cambodia by Dr. Tes Sopharith and Dr. Russel Boals, Deputy Team Leader and Team Leader, National Flood Forecasting Center (NFFC) Component of FDRMMP, Cambodia

The objectives of the component on NFFC of the Flood and Drought Risk Management and Mitigration project are: (i) To improve the National Flood Forecasting Centre (NFFC), and (ii) To propose climate resilient design guidelines for structural flood and drought mitigation. Its expected outcomes are: (i) National Flood Forecasting Centre (DOM and DHRW) is strengthened (improved hydrometeorological network providing data in near real-time, a data management system, and improved forecasting tools supporting flood forecasting and drought prediction); and (ii) Climate resilient design guidelines for hydraulic flood and drought control measures in Cambodia are available.

Flood Forecasting. Annual floods have significant benefits, however severe flooding can cause significant damage. Floods are transboundary in nature and require regional cooperation, information sharing, and regional solutions. Flood forecasting provides flood magnitude, flooded area, and flood duration information. Flood forecasting is done through the use of hydrological models HEC-HMS and Regression Models for 8 mainstream stations: 5 days forecasts.

Drought Prediction. Unlike floods, droughts have less apparent benefits. Lower Mekong basin frequently experiences prolonged severe and costly droughts. As the climate warms, the cost of droughts is expected to increase.

Forecast Information Dissemination: Web-portal under development for NFFC. It will provide flood and drought information related in a way that end-users can take action

Results so far include: (i) Improved technologies and tools for flood forecasting and drought prediction; (ii) Improved information on the expected nature and extent of the flood and drought; and (iii) Improved platform for access to flood and drought information

Recommendations:

i. Flood and drought conditions must be communicated in a manner that is understandable at the community level
ii. Need post-project technical support for both the forecast production system as well as the communication of forecast information

ii. Communicating Forecasts to communities; making use of new opportunities by Dr. Rutger-Jan Schoen, Forecast and Warning Dissemination Expert, NFFC, Cambodia

The current system of communication is compared to an optimize system as follows: (i) the current system disseminates information rather communicates in a way that is understandable to the communities; (ii) it is passive rather than looking pro-actively for feedback; (iii) it follows a one channel/cascade approach rather than a multi-channel approach; (iv) it is forecast-centered rather than audience/user centered; and (v) it is not adapted to the drought and flooding cycle rather than following the drought and flooding cycle.

To overcome the limitations of the current system of communicating forecasts, the NFFC Forecast Communication Strategy is working on a Strategy of Communication with the following features.

- Objective: Provide timely and understandable forecasts to stakeholders, which will help them make better decisions
- Target groups: (i) Households, (ii) Officials at Commune, District and Provincial level, and (iii) National level, NCDM, MAFF, MPWT'□Media, NGO'□
- Message/content will include seasonal forecasts (revolving up to 4 months), have localized relevance, and provide General information of flood and droughts
- Channels include (i) NFFC Website, (ii) Social media m (iii) Direct Voice Messaging, (iii) Media (Radio, TV, Print and Internet News agencies), (iv) Meetings, and (v) Educational packages, posters, etc.

Best forecast that is not heard or understood by people who need it, has no value. Multi-channel communication works better than cascade dissemination. Need to move from passive dissemination to active communication. And "Forecaster, □ick to □our la□" that is focus on your target audience.

iii. Need for community-based approaches in strengthening disaster resilience by Dr. Arghya Sinha Roy, Lead Specialist Disaster Risk Management, ADB

Asia-Pacific a region at risk with 400 million poor, 52% of world'□extreme poor; 1.6 billion people affected and 122 million loss/day from disasters (2007-2016); 10% reduction in GDP by 2100 without climate action; and "Pre□ent i□not an indication of t□e future"

Poor and Vulnerable are Disproportionately impacted. There is a Poverty – disaster/climate risk nexus. The poor experience asset losses plus well-being losses; and are subject to invisible shocks and stresses

There is a need for investments (including EWS) that moves beyond disaster preparedness to longer term resilience; strengthens multi-faceted resilience; target the poor and vulnerable; and reaches scale yet be flexible to address local needs

Successful community-based approaches for strengthening resilience (including EWS) enable understanding the local factors shaping risk; shifts focus from vulnerable population to agents of change; allow bundling solutions to manage multiple vulnerabilities; and demonstrate coherence in global frameworks.

Implementing Community-based Approaches to Strengthen Resilience (including in EWS) requires investments to organize communities and strengthen linkages between communities-local government; interventions at all levels – households, community, local government; linkages with large scale development programs that have an explicit focus on poor – e.g. social protection, agriculture, microfinance

Moving forward

- Shift from project –based approaches to more institutionalized approaches
- Shift from standalone CBDRM/CBA projects with EWS components to mainstream in development programs
- Strengthen partnership with community-based organizations that invests in organizing communities

6.5. SESSION 5: WRAP-UP OF DAY 1

i. Concluding Remarks by MOE by Mr. Ou Chanthearith, Deputy Director Department of Science and Technology and SPCR Programme Manager, MOE, Cambodia

Mr. Ou Chanthearith, speaking on behalf of HE Prof. Dr. Sabo Ojano, Secretary of State, MOE and SPCR Program Coordinator, thanked all the participants for their attention, the conference organisers for the successful event so far and the chairs, speakers and panel members for their contributions. Day 1 of conference has been divided into three major sessions: 1) opening session, 2) Learning from the past and the future of disasters, and 3) Community adaptation and Financing of CBDRM and CBA. From these, we have learnt substantial experiences and practices from policy issues and on the ground practices from the local communities, for which you may consider for application in your work and your communities. Three key messages:

1) There is a strong policy level support from government and ministerial level, and from regional organizations, donors and development partners over the practices and adoption of Community based disaster risk management and community based adaptation. There are strong institutional structures and legal frameworks to support the consistent effort of CBDRM and CBA practices.
2) On the ground experience of CBDRM and CBA exist in Cambodia, in the GMS countries, and in Zambia. We have learned about these experiences of implementing soft and hard measures, and can adapt them to our communities and countries.
3) There are many tools and techniques to choose from and apply in order to build the reliable and resilient communities on disaster risk management and adaption to the very changing climate, including Disaster Risk Assessment, Early Warning Systems and Communication; financing CBDRM and CBA with rich experiences from the region and internationally; and the great range of adaptation measures to introduce to local communities.

6.6. SESSION 6: SUSTAINABILITY OF INITIATIVES ON CBDRM AND CBA

i. Key Note Speech on "Water Resources Status and Irrigation Development and its Challenges in Cambodia" by H.E. Ponh Sachak, Project Director of FDRMMP

Agriculture plays an important role in Cambodia's economic development and is one of the Royal Government of Cambodia's (RGC) priority sectors for achieving its economic and social goals. Irrigation contributes significantly to agricultural productivity, but still has substantial potential for improvement. Water availability is a key factor in determining the feasibility of irrigation development. The irrigation sector faces several challenges as detailed below.

Physical Challenges:

- Too much and too little water. Many of the important irrigation areas in the country, especially in the north-west, suffer annually from extremes of too much water with extensive flooding in the wet season and too little water and drought in the dry season. Irrigation schemes that are not protected from flooding suffer adverse impacts on wet season yields, while lack of storage limits dry season cropping. Climate change will likely exacerbate this situation.
- There are different climatic and resource constraints experienced in different parts of the country and between different farming communities. This heterogeneity will require different solutions to suit the differing conditions.
- Poor soils. Soils in many locations are sandy Acrisols which drain rapidly after rainfall, have low water retention capacity, poor texture, and limited nutrients. There are also problems with hard setting of these soils.
- Small landholdings. Landholding sizes are generally small (< 1 ha) resulting in subsistence farming and a need to generate income from other sources

Technical Challenges:

- Inadequate design and poor construction of irrigation systems. Many of the irrigation systems have been constructed in the 1970s without adequate technical input. They can be difficult to operate and costly to maintain.
- Lack of hydraulic connectivity from source to field. In many schemes the main system (primary and secondary) has been constructed, but not the tertiaries and quaternaries, causing significant difficulties for farmers in accessing irrigation water supplies.
- Lack of maintenance. Due to lack of funding, irrigation systems are not being adequately maintained and are falling, or have already fallen, into disrepair, resulting in reduced crop yields, agricultural production, and farmer income.
- Lack of water resources monitoring and assessment. Poor hydro-met networks and incomplete water data records result in a lack of data on water resources available for irrigation and other uses, particularly in time of drought.

Institutional Challenges:

- Inadequate coordination between MOWRAM and MAFF. The Technical Working Group on Agriculture and Water has been established by government to promote a coordinated approach by MOWRAM and MAFF to the implementation of agricultural development programs. Despite this initiative coordination between MOWRAM (for water delivery up to field level) and MAFF (for agricultural service delivery and field water management) at the field level is often weak.
- Lack of sufficient experienced water resources management and irrigation professionals. There are insufficient experienced and skilled water resources and irrigation professionals in

MOWRAM and Provincial Departments of Water Resources and Meteorology (PDWRAM) resulting in limits on what the organization is able to do.

- Lack of adequate staffing for scheme management, operation and maintenance (MOM). PDWRAMs are badly understaffed at the field level, with insufficient staff to plan and schedule irrigation supplies, operate and regulate gates, and monitor and evaluate performance. Irrigation supplies often don't match demand and irrigation is inefficient.
- Lack of engagement of water users in scheme MOM. Government policy is for greater engagement of water users through Farmer Water Users Communities (FWUC) in the MOM of irrigation schemes. Currently neither MOWRAM nor PDWRAMs are sufficiently well resourced to provide adequate support to FWUCs and water users and community engagement in irrigation remains generally low.

Financial and Economic Challenges:

- Constrained recurrent budget for management, operation and maintenance. There are insufficient funds to adequately manage, operate, and maintain irrigation schemes. Budgets for O&M staffing are constrained, as are budgets for system maintenance, leading to deterioration of irrigation systems and reduced levels of agricultural production.
- Uneconomic irrigation schemes. A number of existing irrigation schemes will be uneconomic for various reasons such as unmanageable flooding conditions, unavailability of water, poor soil conditions, or close to urban centers.

Social Challenges:

- Movement of young people out of agriculture. Young people are leaving the agricultural sector to find employment elsewhere. This may limit labor supply for irrigated agriculture

PROPOSED ACTIONS AND RECOMMENDATIONS

The number and extent of the challenges and constraints in irrigated agriculture in Cambodia are a matter of concern. It is well recognized that simply constructing irrigation infrastructure is not sufficient. The built system needs to be managed on a day-to-day basis in order to provide a reliable, adequate, and timely water supply to crops. Some of the constraints are deep rooted and will take time to resolve, such as the shortage of experienced and skilled O&M personnel. Others, such as building the capacity of water users to manage, operate, and maintain small and medium scale irrigation systems are potentially more manageable in the short to medium term.

An 8-point Framework is proposed to address the challenges facing the irrigation sector in Cambodia. The proposed vision is to build and sustain a productive, efficient, inclusive, and sustainable irrigation sector producing agricultural products which serve the needs of the nation and the irrigated farming community. The Framework is taken to be implemented over a 15-year time frame.

The core focus of the Framework is to improve the area and production value of irrigated land. Two levels of investment have been considered, continuing over the next 15 years at current funding levels (Scenario 1) and funding required to improve all viable schemes (Scenario 2), i.e. the base case scenario, continuing with current financing levels and the maximum funding scenario that will address the infrastructure issues in all viable schemes.

PLAN AND MANAGE WATER RESOURCES

Basin-wide water resources assessments will be prepared for priority river basins/sub-basins to assess the availability, reliability, and sustainability of irrigation water supply. These assessments will look at

the overall water resources picture (surface and groundwater, water storage options, flooding, droughts, etc.), including assessing projected water availability and current and

Future water demands in all sectors, as well as taking account of predictions on climate change. Water allocation rules will be prepared together with annual reporting on water resources. If the Sub-decree on water licensing is approved then measures will be taken to establish water rights for fully functioning irrigation schemes together with the establishment of an annually updated National Water Accounts register.

LOCATE AND ALLOCATE FINANCES

Finances to build new or rehabilitate existing irrigation systems need to be secured and may be available from a variety of sources, including government, donors, international financing institutions, the private sector, and water users. The funds available will control the degree and pace of implementation of the Framework. Once targets and priorities for irrigation development and financing requirements are defined, the investment plan will be prepared to guide development partners.

Discussion

- Arghya Sinha Roy
    - For sustainability emphasize the designing of the project correctly – need to spend time in doing this.
    - During initial stages take time to organize the communities, working with community based organizations, local government, local university, extension agencies
    - Good to train people, but they will need upfront resources to put training into practice, otherwise skills could be lost
- Ancha Srinivasan – questions
    - Climate smart water management and agriculture – what is the role of communities?
    - What is progress in FWUCs – in theory they are good, but often fail in practice on the ground. What can be done better?
    - Capacity building is seen as essential, but capacity is not being retained – Capacity building seen as a bottomless pit
- CRC response for sustainability
    - Train people to work directly, use the village chief and council and volunteers
    - Pursat flash flooding - CB Flood mitigation project, but where is the budget to come from – funds are never enough
    - Ownership and awareness raising

6.7. SESSION 7 – PREPAREDNESS AND RESPONSE OF COMMUNITIES TO DISASTERS

6.7.1. Session 7.1: Share Experience from Capacity Building of Communities in Adaptation and Preparedness (infrastructure, institutions, technology, human resource development)

i. Building resilience and preparedness – sharing experiences of capacity building – FDRMMP by Chem Phalla from CBDRM-FWUC Team

Cambodia faces high level of risks associated with multiple natural hazards, with flooding and drought occurring almost every year. Ketsana in Sep 2009 resulted in damage and losses estimated at 131 million. Recent drought in 2015 had affected 185,451 ha of rice crops within 13 provinces.

The experience of the CBDRM component of the FDRMMP with communities in Pursat province of Caambodia has highlighted a number of findings.

Successful methods in capacity building of community for preparedness include (i) Interactive lecture and flipcharts relevant to topic/session; (ii) Brainstorming; (iii) Group discussion; (iv) Showing real disaster hazards poster; (v) Story telling by both master trainers & villager participants; and (v) training games

Through an intense program of training for capacity building, communities have learned the DRM terminologies; got familiar with approaches and practices for DRM mitigation; gender mainstreaming; community disaster risk assessment focusing on frequency, length/duration, margin of safety; risk level (1-5), responsive capacity; preparedness measures; responses during emergency; and post-emergency responses

Emergency Responses were discussed at length with communities. The responses include a number of activities such as (i) Evacuation and evacuation center management; (ii) Search and rescue; (iii) First Aid and Medical Assistance; (iv) Damage and Needs Capacity Assessment; (v) Relief delivery (food and drinking water; non-food items such as clothing, blankets, kitchen utensils, ...); (vi) Psycho-social counseling (comforting, critical stress debriefing); (vii) Repair of critical facilities and services; and (viii) Emergency Operations Center (for major disaster)

Risk Reduction Measures were discussed with communities. Non-Structural measures include (i) Educate people how to prepare for floods; and (ii) Educate communities on Water Saving Practices... Structural measures include (i) Construction of safe sites (e.g. elevated land areas); (ii) Construction of a crossing bridge to escape a flood; and (iii) Digging ponds to have water during drought

(CBDRM) Village Safer Plan (VSP) revealed to be a powerful tool in CBDRM capacity building. Before the capacity building was started, most communities did not have a Village Safer Plan. The Plan is useful to be integrated into local development process such as CIP/CDP; is useful for a community to find support from NGOs or other donors. Communities know what they really need to prevent their community from any disaster impact. The Village Safer Plans were developed with facilitation from CBDRM Specialists. The resulting VSP was shared with CBDRM Advisory Group (CAG) members in quarterly CAG meetings, and the members discussed to gain idea on how to integrate the plan into CIP/CDP.

New knowledge, as a result of the capacity building of communities in CBDRM, was gained and shared with other within/outside community. The communities identified activities related to preparedness, during and after emergency or any disaster hazards. The communities developed Village safer plan (VSP) to mitigate any disaster risks occurring in their community in the future. The VSP is being used for demands and advocacy of Commune Councils to consider and integrate priorities into Commune Investment Program (CIP) during annual commune planning process. VSP was also used to look for more support from other NGOs, Government institutions, development Partmers, and private sector to get structural and non-structural measures for their community.

In conclusion, CBDRM component of the GMS-FDRMMP has improved the capacity of communities to manage disaster risk. Each community has now a number of well-trained community members who understand CBDRM and are able to prepare Village Safer Plans. Although communities have improved their capacity in DRM, the lack of resources is refraining the sustainability of capacity building activities. However, Safer Plans provide an opportunity for mainstreaming CBDRM in commune/local government development planning processes and therefore could contribute to their sustainability.

ii. Insights on the development and implementation of Myanmar's National Framework for Community Disaster Resilience by Dr. Aung Thurein, Relief and Resettlement Department, Ministry of Social Welfare and Relief, Myanmar

Communities in Myanmar, especially poor and most vulnerable face a high disaster risk – extreme event and 'ever da di ater Disaster risk is influenced by inadequate development practices and existing socioeconomic vulnerabilities. It is expected that climate change will further increase disaster risk in Myanmar.

Projects to strengthen community disaster resilience are usually (i) designed in isolation from community/local development projects, (ii) lack in cale ('pilot'), and (iii) fail to tackle the root causes of disaster risk.
A National Framework is needed to (i) promote a common under anding of 're ient communit ;(ii) propose a coherent approach for strengthening community resilience; and (iii) identify opportunities for strengthening community resilience through different sectors and themes.

The National Framework in Myanmar is ba ed on Government' Reform aimed at "Promoting People-centered, Inclu e, and Su ainable Development". It supports Myanmar commitments to international frameworks such as Sustainable Development Goals, Sendai Framework for Disaster Risk Reduction, Paris Agreement on Climate Change, and ASEAN Agreement on Disaster Management and Emergency Response- AADMER.

A Disaster Resilient Community is a community that

- Is accurately informed about the natural hazards and disaster risk;
- Utilizes disaster risk information in day-to-day decision making;
- Adopts inclusive planning processes to identify risk reduction measures;
- Implements measures to reduce disaster risk;
- Is better prepared for disaster events; and
- Is able to quickly recover from disaster events

Strengthening community disaster resilience requires following a coherent approach that includes (i) Community Engagement; (ii) Disaster Risk Information; and (iii) Disaster Risk Governance

Examples of Opportunities in Rural Development include (i) Village Development Planning - support identification of resilience–building investments; (ii) Community-driven Development Programs - support resilience infrastructure; (iii) Local Development Funds - prioritize funding resilient investments; and (iv) Agriculture Programs - Climate Resilient Technology and Practices

Examples of Opportunities in Financial Inclusion include (i) Saving Groups - encourage resilience-building investments / economic safety nets; (ii) Strengthening risk management capability of microfinance institutions; (iii) Myanmar Agriculture Development Bank to support resilient rural livelihoods; and (iv) Strengthen and expand disaster risk insurance for at-risk communities

Examples of Opportunities in Social Protection include (i) Cash Transfer Programs - support disaster affected communities; (ii) Cash for Work Programs – support communities to cope and recover from disasters; (iii) Social Security Systems – include provisions to reduce disaster impacts; and (iv) Social Protection Service Centers - provide post-disaster counselling

Implementation of the National Framework requires (i) Strengthening Vertical and Horizontal Coordination at all levels of administration – between governments agencies, government agencies, development partners, and civil society organizations; and (ii) Enhancing Capacity of Communities of understanding risk and measures to strengthen resilience, of village tract/ward administrators, of officials at township, state/region and union level.

Monitoring and Evaluation of the National Framework is to be led by respective line ministry, and state or regional government. It is undertaken as part of monitoring of wider development programs; it requires establishing baseline through the disaster loss database and documenting and sharing outcomes

In summary, Disaster losses in Myanmar can be reduced for communities to become resilient. Resilience building measures identified, implemented and managed by communities are likely to address underlying causes of disaster risk, be cost-effective, and bring wider development gains. Investments – public, private and by development partners, in different sectors and themes provide opportunities for undertaking resilience-building measures at the community level. Successful implementation requires whole-of-government approach, leveraging with civil society organization, private sector, and development partners. Community-level measures to strengthen disaster resilience are critical for achieving inclusive and sustainable socioeconomic development of Myanmar

The way forward envisages submitting the Framework to NDMC for its endorsement. Secretariat of NDMC, MoSWRR will circulate the final version to all the line Ministries. Once it is launched, dissemination work will be done at the State/Region Levels. Coordination amongst Ministries to jointly implement the entry program with the support of ADB and other potential partners. Finally, the issues of financial sustainability, information sharing and technical transfer should be addressed.

iii. CBDRM Approach in the Context of Thailand by Ms. Amornthip PAKSUCHON, Department of Disaster Prevention and Mitigation (DDDM), Thailand

A sequence of typhoons and tropical storms affected Thailand in 2011 and caused widespread flooding. It affected 65 of 76 provinces including Bangkok. Thailand suffered from flooding of historic proportions. Economic losses are estimated to have exceeded 328 billion baht. Factories were forced to shut down. Crops were devastated. The country's industrial sector took a major hit. And tens of thousands of people had no choice but to evacuate their homes.

Thai communities today are well aware of the need for disaster preparedness knowledge and information including flooding preparedness education program. The lessons of the past are

considered in the wider context of community-based disaster risk reduction work carried out by DDPM' over the past 10 year

It is important for all Thai to have a clearer understanding of how the different sectors in the Thai society can better employ their own resources and expertise to prepare people in flood-prone areas to cope with disasters similar to the one that paralysed much of the country in 2011. Each person and organization has a part to play. Everyone must work together to set down basic principles and identity long-term goal for living in harmon wit water. The question "Will it flood again?" i ultimatel le important than "How we can prepare ourselve in the long term to live wit water?"

Thailand alr managed to incorporate His Majesty the King Bhumibol Adulyadej' philosophy of Sufficiency Economics, highlighting the importance of a people-centered development model that could "reduce the impact of uncertainties and increase the self-immunity of local communities." The principles of sufficiency economy are moderation, reasonableness, and prudence.

Flooding preparedness is carried out prior to an actual disaster occurring with an intention to increase the knowledge of disasters and disaster risk management of general public or communities and relevant agencies and well as strengthening their capacities and skills to effectively anticipate, respond to next flood and recover from the previous severe flood.
Since the great Flood 2011, the importantly lessons are considered in the wider context of previous community-based disaster risk reduction work carried out by DDPM whilst considering the future directions of community resilience for the country.

What have communities learned from capacity building in disaster preparedness? Firstly, Understanding the risk, the surrounding of community. Come up with disaster preparedness plan and participatory disaster risk assessment; helping each other to look out for neighbors during crisis; organized of disaster prevention and mitigation committee and its functions, contact lists. Be consider as least dependent as possible. Do these activities; Disaster preparedness plan continually as usual. Everyone has to be prepared themselves first. Learning by evacuation role play, prepare route map, and safe places. Finally, Review and Report Plan for improvement.

The impact of capacity building of communities for preparedness has been self- help or help - themselves before the external agency reach in community. Sufficiency economy places sustainability at the very core of its thinking, advancing a different approach from that of short-term, shareholder value-centered ideas of economic development. The take-up of this philosophy has also placed the country at the forefront of studies in sustainability, while also providing the world with some remarkable blueprints and success stories. In addition, it recommended the inclusion of volunteer and community-based networks and strengthening the role of women as a force in local level resilience building. The need for strong accountability measures in partnerships between the community and local governments.

Lessons that can be learned from the event and activities. In Thailand, sufficiency economy has meanwhile become part of the constitution, as well as a philosophy adopted by governments, businesses and individuals. The National Economic and Social Development Board (NESDB) is key to these, and thus to the national implementation of the principles of sufficiency economy. Significantly, DDPM has placed a focus on empowering communities to develop their capacity and ability to take the initiative in view of disaster preparedness efforts. By considering the lessons learned from CBDRM activities, the process of Community Based Disaster Risk Management; can help, guide to direction of future action at the local level to further strengthen the disaster resilience of at risk communities throughout Thailand.
DDPM look forward to enhancing the community based work and maintaining the strong partnerships, which have been the foundation of success in Thailand.

6.7.2. Session 7.2: Disaster Response of Communities: Emergency and Recovery during Flood, Drought, and Storm

i. Community response to ensure shelter and health security during and after disasters by H.E. Uy Sam Art, Director of Disaster Management Department, Cambodian Red Cross (CRC)

CRC activities on Community-based DRM were started in 1998, with Community based flood mitigation programme; then they were developed into CBD Preparedness and later further developed into Risk reduction.

Everything happens in the community, so all efforts have to be centered on the community.

Coordination and collaboration is needed among different levels – community actors, district, province. At the national level, there is a need to synthesize ideas for participation in designing projects and strategy for implementation.

The national strategies are based on strategies at regional and international levels – ASEAN , Sendai Framework.

What has been done – needs of beneficiaries to be identified by VCA – many things appear and priorities result from VCA.

Integrated approach – He brings all five managers to do cross training in Disaster management, so that all his colleagues are capable

Need a mechanism for sustainability of those groups who are the most vulnerable and also women groups.

Climate Adaptation needs to keep in mind "4A – Auxiliary role of CRC – cannot replace government, Awareness raising, Advocacy for adaptation, Adaptation.

RR Field practice includes Early warning – the first to be there, coordination, conservation, microprojects in CBDRR, emphasize ownership for beneficiaries, Dialogue – these will contribute to sustainability and increased resilience

Preparation for emergency response: CRC has established NDRT + 50p, PDRT + 50p, DDRT + 50p, CDRT – trained and implemented.

ii. Recovery from Flood in Cambodia in 2011 by Mr. Khim Channy, Access Innovation and Market (AIM) Manager, Oxfam Cambodia

i. 2011 flood – 361 villages in Kampong Thom – 71 out of 73 communes affected
ii. Oxfam response lasted for the period of flood recovery – 19,332 HH beneficiaries
iii. Provide
    a. Food security – Cash transfer for elderly who lose livelihoods
    b. Livelihood loss – Cash Voucher to purchase materials, animals chicken and pig
    c. Capital financing
iv. WASH
    a. Water supplies – fix damaged wells (>100)

b. Sanitary facilities for 19,932 HH
c. Hand washing facilities 6,798 HH

v. Awareness
   a. DRR small infrastructure – roads
   b. Commune investment plan
vi. Beneficiary selection – need for transparency and consultation
vii. Procurement = policies in place
viii. Private sector – building of trust
ix. Ownership – participation

iii. Aftermath and recovery, community rehabilitation in Cambodia by H.E. Khun Sokha, H.E. Mr. Khun Sokha, Advisory and Director of Preparedness and Training Department, NCDM

Flooding in 2000 was the biggest in last 70 years – 1/3rd of people in Cambodia were affected. Drought occurred in 2001, 2002, 2004, 2005 and 2015 9 this last was the strongest drought. Typhoon – Cambodia not normally affected, but was in path of Ketsana in 2009.

Disaster management committee is chaired by Prime Minister, and has a structure from national to local levels. Disaster management law passed in July 2015. It promotes a multi sectoral approach with key stakeholders – all ministries involved.

Elements include: health, public information, food security, eco-finance, public safety, border issues, water systems, transport.

Development partners for: capacity building, preparedness, emergency response, sub-national infrastructure, recovery, integration of DRR into development planning.

Global context – frameworks provided by Hyogo HFA resilience of nations and communities, Sendai framework 2015 -2030, ASEAN agreement on DM& ER = AADMER

iv. Climate Change Adaptation Experience in Battambang, Cambodia by H.E. Kol Vathana, Deputy Secretary General, Cambodia National Mekong Committee

Presents the findings from a CNMC project on Building Capacity for local communities in flood and drought prone areas to adapt to climate change. The project was implemented in Prey Veng for Flood adaptation and in Battambang for Drought adaptation. In Battambang focus in drought was upon use of small-scale water infrastructure.

Capacity building included training workshops, field exchange visits, working with farmer groups. (Vulnerability Risk Assessment (VRA) was used to identify climate trends and impacts of drought.

The main barriers to CC adaptation were identified as lack of funds, lack of local suppliers.

Options for adaptation include:
- Dig wells and small infrastructure
- Resilient seeds
- Crops other than rice
- Solar pump trial for 15 households in local community for domestic use, home gardens and livestock

6.8. SESSION 8: PLANNING AND IMPLEMENTATION OF CBDRM

i. Experience in Mainstreaming CBDRM in Planning in Cambodia by Mr. Chhim Sophea from CBDRM-FWUC Team

Mr. Chhim Sophea reported the experiences from supporting communities in 50 villages, 5 communes and 2 districts in Pursat Province in Cambodia, under the implementation of CBDRM component of the GMS Flood and Drought Risk Management and Mitigation Project, Cambodia.

The project beneficiary included 11,250 Household, 56,630 People (29,130 are female), of which the most vulnerable, and the poor numbers 2,550, the elderly 3,670, households with disabled people are 504, and women-headed households are 1,643)

Village Safer Plans (VSP) were prepared through a process consisting of four steps—i. Community Assessment using Hazard, Vulnerability, and Capacity Assessment (HVCA), ii. Risk Profile preparation, iii. Community Consultation for Planning, and iv. Implementation.

Irrigation Canal is the structural measure most planned to response to drought effect in all 50 villages while training on agricultural production (crop production and animal raising) is also found in every village plan. Other structural measures such as ponds and wells are planned in 50% of the communities. These measures also contribute to responding to drought threats. However, sanitation facility like latrine is the less planned since community received considerable support in this area from other projects.

VSP can be implemented with a number of sources of funding including Commune Investment Program (CIP), Fundraising within and from outside the commune, NGOs, Donors, and government projects.

ii. Experience in Mainstreaming CBDRM in Planning in Lao PDR by Mr. Nouanedeny Rajvong, DDG Department of Irrigation, FDM Project, MAF, Lao PDR

The Lao PDR faces mainstream flooding in the Central Region (Vientiane plain). Floods generally occur as a result of a combination of high rainfall. From 1996 to 2008, the flood resulted in 22 deaths and US 341.2 million of damage. In the past, drought caused the highest damage to the national economy that figured to US 40 million in 1988 and US 20 million in 1989.

CBDRM in Laos covers 18 villages in Pak Ngum, Xaithany and Hathxaifong districts (Conducted in 30 months).

Flood is the most common disaster in the project area, and it is followed by drought, storms and heavy rain.

The implementation of the CBDRM has 5 stages—i. Project Setup, ii. Community participatory assessment, iii. Participatory Planning, iv. Community Managed Implementation, and v. Participatory M&E. 44 village facilitators were selected, 50% were women. 18 Village CBDRM Groups were established, each has an average member of 14 people, 49% were female.

iii. Gender Mainstreaming and Planning for CBA and CBDRM by Dr. Akhteruzzaman Sano, SPCR TA Package 3

CBDRM to CMDRM – systematic approaches for DRM

- Bring everyone on board with their inputs and guidance in risk identification and in risk reduction processes
- Local community leads and local authority supports the processes
- Teachers, students, local police, Monks, people with disabilities, children, elderly people – all are engaged
- Local dialogues for risk reduction and sustainable livelihoods development based on the DRR plan
- Everyone has access to technical and financial resources for their sustainable environmentally friendly livelihoods through DRR processes (innovative financing scheme: community led, community owned, community managed Community Revolving Fund for enhancing local resilience)

Experienced Challenges

- Low education (grade 6 or less) of target beneficiaries
- Live from hand-to-mouth, so limited time to think for DRR
- Drugs etc. (Alcohol, Karaoke, Night Club) are key barriers
- Man-dominated decision-making processes
- Young workforce migrates, elderly people and children put at higher risks
- Very limited surface water during dry season for 4-5 months
- Farmer don't know what to plant as unpredicted, longer dry season and uneven rainfall pattern
- High interest rate from local loan facilities that causes loss of properties and asset etc.
- Limited community coherence for addressing common risks

Lessons Learned

- Community Owned Micro Insurance Facility serves as the Power-House of the community functioning in their DRR processes that instituted the resilience approach (community revolving fund – an innovative financing option)
- Innovative community risk financing option comes first for the villagers
- Community and Commune Council could trustfully bridge while national, provincial and district authority supported
- Gender mainstreamed (sex-disaggregated) defined roles & responsibilities make them accountable at household and community levels
- Allow the community to launch the initiatives in their hands
- Local dialogue platform for facilitating DRR, smooth running of Micro Insurance, Community led monitoring that built community trusts and confidence
- Not fragmented but integrated (adaptation, mitigation, DRM, gender mainstreaming) investments better helps

Recommendation for CMDRM

- Focus on multi-risks for enhancing climate resilience
- Facilitate local Dialogue Platform to address all forms of risks including livelihoods as the regular interaction point for authority, CSOs and community people
- Mainstreaming gender in the DRM investments with defined roles & responsibilities
- Ensure affordable risk financing modality for community livelihoods using DRM processes as a bridge for sustainability

iv. Experiences in CBDRM implementation in Vietnam by Ms. Nguyen Anh Son, Senior Officer, Disaster Management Center, MARD, Vietnam

Vietnam has a very long year experiences in Disaster Risk Management at the community level. Community based approach was introduced in DRM in 2009. 6,000 communes are usually affected by disasters.

CBDRM implementation go through 6 steps—i. Introduction to CBDRM, ii. Preparation iii. Community-based disaster risk assessment, iv. Planning, v. Implementation and vi. Participatory M&E. To date, 1,670 Community implemented CBDRM, including 33,000 members, 40% of which are women.

Mainstreaming CBDRM into other government program is crucial to ensure the sustainability of the CBDRM implementation.

6.9. SESSION 9: CONCLUSIONS

i. Overall Summary by Dr. Francesco Goletti, Team Leader CBDRM, FDRMMP, Cambodia

1. The broader context of our conference in the Asia-Pacific area can be summarized by:

- 400 million poor, 52% of world' extreme poor
- 1.6 billion people affected and 122 million loss/day from disasters (2007-2016)
- 10% reduction in GDP by 2100 without climate action
- The poor are disproportionally impacted by disasters and climate risk

2. **In order to reduce the impact of disasters and climate risk on the poor, we need investment that**
   - Moves beyond disaster preparedness to longer term resilience
   - Strengthens multi-faceted resilience
   - Targets the poor and vulnerable. Do not forget that higher resilience does not necessarily means less vulnerability of the poor.
   - Reaches scale yet be flexible to address local needs

3. Central role of communities in responding to disasters and climate change events.
- All di aster are 'local', appen in t e communitie People in t e communitie are impacted.
- Communitie are often t e 'fir re ponder
- Communitie are t e 'ul tainer of action and initiative in long run.
- Communities can be a source of innovation, volunteerism and main sources of local surveillance.

4. Communities as agents of change. To be effective agents of change, capacity of communities must be improved.

Considerable efforts have been made in capacity building of communities in DRM and Adaptation. Approaches across countries have shown a remarkable similarity. Training programs are similar. They are now available to Governments, NGOs, and organization actively involved in DRM and Adaptation. However, it is important that capacity building does not become bottomless pit. How to retain capacity that is built? If capacity building aims to build human capital, then capacity like any other capital will depreciate and needs maintenance and upgrading.

5. Communication and Awareness

From CC forecast in Cambodia, we know that there is going to be:

- Increasing severity and frequency of extreme storms and flood events
- Increasing intensity and volumes in regular and extreme rainfall events
- Increasing severity and duration in regular and extreme drought events.

But what that mean for communities? How is this understood by people at the community level? We have also learned that multi-channel communication works better than cascade dissemination. All this points to the crucial important of communication and awareness as key element of the success of the CBDRM and CBA approaches.

6. Sustainability of capacity building efforts of communities.

This is a common problem in the region. Projects efforts are not integrated into local government planning and overall development planning. As such the efforts remain isolated and are rarely upscaled and replicated.

7. Solutions to sustainability: integration into the broader development agenda

- Investment in community organization
- Working with CBO is essential
- Building capacity not only of community but also of local government planning
- Integration with local government planning
- Ensure to link capacity with investment implementation
- Ensure CBDRM and CCA are inclusive and part of the development agenda
- Sectoral integration with agriculture, health, water management and water sanitation, education.
- Ensure that communities understand and have a key role in improving climate smart agriculture and green water management
- Identify new methods of finance (microfinance, insurance, cash transfer)
- Integrate with technology (new method of EWS, mobile, drone, …)
- Conduct monitoring and evaluation to ensure that lessons are learned and contribute to higher resilience. In fact, there is a need to know how to measure resilience. If a capacity building is complete, how can we say that the resilience is really higher.
- Reach out to a broader set of stakeholders and ensure that private sector is part of the solution; other stakeholders includes also volunteers, children, and stakeholders that can be reached through social networks.
- Finally, integrate new technologies and approaches with traditional methods such as those related to EWS.

ii. Closing Remarks by H.E. Ponh Sachak, Project Director of FDRMMP, Cambodia

1. Thanks to
   - ADB; the Governor of Siem Reap; the delegations from Zambia, Japan, Laos, Myanmar, Philippines, Thailand, Vietnam.

2. Recognize joint effort of MOWRAM and MOE

3. Although community-based approach through FWUC is already known to MOWRAM, CBDRM new initiative for MOWRAM and we found it could improve the efficiency of both structural and non-structural measures in irrigation and water management, and contribute to resilience.

4. Challenge of coordination among agencies. For CBDRM and CBA to be effective, it needs involvement from different government agencies such as those responsible for Agriculture, Irrigation, Health, Education, … This is well understood at the community level but needs more adjustment at the central level.

5. Communities are increasingly subject to various hazards and climatic risk. Although flooding is the more severe hazards, droughts and storms are becoming costlier to communities and the countries.

6. We have learned that sustainability of community-based approaches requires integration at different levels:
    - Integration of community plans with local government plans
    - inclusion of the poor and vulnerable people;
    - alternative finance methods including microfinance, insurance, and cash transfer
    - Integration with technology (EWS, mobile, drones)

We will compile the contributions into a Proceeding Books and share with you and a broader audience to ensure that the community-approaches can be upscaled and replicated.

7. CONCLUSIONS

The conference outcomes were in line with the objectives set:

- Participants from diverse sectors and countries convened and shared knowledge and experiences for strengthening gender-responsive and inclusive community-based preparedness/responses and building capacities of local communities to reduce risks of natural disasters. Over the two days of the conference, participants have become familiar with a range of community-based disaster risk management and climate change initiatives.
- The sharing of experiences and ideas have stimulated discussion and brainstorming about novel approaches for sustainable management of gender-responsive and inclusive community-based disaster risks. These included new strategies for communicating climate and disaster forecast to community in an effective manner, early warning systems using modeling and ICT, alternative financing approaches (microfinance, weather indexed insurance, cash transfers), safer community planning, self-reliance and sufficiency economy approaches, involvement of youth in climate-smart and disaster risk management initiatives, and water management.
- Agreement on the priorities of sustainability, replicability, and upscaling of local initiatives requiring the integration with local and national planning, and broader development strategies.
- The commitment to communities as agents of change and the need of capacity building of communities is disaster risk management and climate adaptation.
- A wide range of adaptation practices – with emphasis on indigenous practices and practices for climate resilience of women and youth – were collected and documented covering all zones of the country.
- Extensive knowledge and lesson learned on implementation of climate change adaptation and mitigation were shared in presentations as well as through plenary and information discussions among participants.
- Recommendations on scaling up disaster risk management and adaptation initiatives through more concerted programming and financial planning were shared for consideration by key climate change policy makers.

- The SPCR program in particular MCRDP three packages had an opportunity to showcase their progress to date and consult with other stakeholders, receive inputs on the products being developed and future steps.
- CCCA, MCRDP, Plan, UNDP and other participating agencies and departments collaborated with the Department of Climate Change – a starting point for future initiatives.

Next Steps:

The CBDRM TA will undertake the following:

- Circulate the Proceedings of the Conference to the participants and a wider public.
- Undertake a new phase of stepping up from capacity building of communities in Pursat province to implementation of the Safer Plans elaborated by the communities themselves.
- Coordinate with similar initiatives conducted by National Committee for Disaster Management in other provinces and intensify the exchange of approaches and information gained during implementation of capacity building.

The MCRDP TA will undertake the following:

- Debrief with DCC, CCCA and Plan International to identify the strengths and lessons learned from the event to improve for future activities.
- Contact participants to receive additional indigenous and gender/youth responsive strategies
- Provide inputs to finalization of official conference proceedings lead by CCCA and share with government counterparts.
- Prepare a publication on Indigenous Adaptation Practices and Climate Resilient Practices that Promote Empowerment of Women and Youth based on the material submitted for the event.

ANNEX 1 CONFERENCE PROGRAM

Date	Time	Event	Venue
3 Oct Tuesday	08:15-09:40	**SESSION 1:** Opening	Royal Grand Ballroom 1st Floor
		Group Photo and Coffee/Tea Break	
	10:00-12:00	**SESSION 2:** Learning from the Past and the Future of Disaster	Royal Grand Ballroom 1st Floor
	12:00-13:30	**Lunch**	L'Amok Restaurant, lobby area
	13:30-15:30	**SESSION 3:** Parallel Sessions	
		Session 3.1: Community Adaptation and Disaster Risk Reduction in Cambodia	Royal Grand Ballroom 1st Floor
		Session 3.2: Financing CBDRM and CBA: International Experience	Champey, 1st Floor
	15:30-15:45	**Coffee/Tea Break**	
	15:45-17:35	**SESSION 4:** Parallel Sessions	
		Session 4.1: Assessing Risk and Vulnerability of Community	Royal Grand Ballroom 1st Floor
		Session 4.2: Early Warning Systems and Communicating to Communities	Champey, 1st Floor
	17:35-18:00	**SESSION 5:** Wrap-up of Day 1	
	19:00-21:00	**Welcome Dinner**	Poolside Terrace

4 Oct (Wednesday)	08:30-09:45	**SESSION 6:** Sustainability of Initiatives on CBDRM and CBA	Royal Grand Ballroom 1st Floor
	09:45-10:00	**Coffee/Tea Break**	
	10:00-12:00	**SESSION 7:** Parallel Sessions	
		Session 7.1: Share Experience from Capacity Building of Communities in Adaptation and Preparedness (infrastructure, institutions, technology, human resource development)	Royal Grand Ballroom 1st Floor
		Session 7.2: Disaster Response of Communities: Emergency and Recovery during Flood, Drought, and Storm	Champey, 1st Floor
	12:00-13:30	Lunch Break	L'Amok Restaurant, lobby area
	13:30-15:30	**SESSION 8:** Planning and Implementation of CBDRM	Royal Grand Ballroom 1st Floor
	15:30-15:50	**Coffee/Tea Break**	
	15:50-16:30	**SESSION 9:** Conclusion	Royal Grand Ballroom 1st Floor

DAY 1 PROGRAM - 3 OCTOBER 2017

SESSION 1 - OPENING

Schedule	Description	Resource Persons
07.30 – 08.15	Registration	
08.15 – 08:25	Welcome Remarks	H.E. Governor of Siem Reap Province
08.25 – 08:30	Welcome Remarks	H.E. Dr. Samiuela Tukkuafu, Country Director, Cambodia Resident Mission, ADB
08.30 – 08:35	Welcome Remarks	Dr. Mafalda Duarte, Climate Investment Fund (CIF) Programme Manager, Washington DC
08.35 – 08:45	Opening Remarks by NCDM	H.E. Secretary General of National Committee for Disaster Management (NCDM)
08:45 – 08:55	Opening Remarks by MOE	H.E. Professor Dr. Sabo Ojano, Secretary of State of MOE and SPCR Programme Coordinator
08:55 – 09:10	**Opening of the Conference by MOWRAM**	H.E. Bun Hean, Secretary of State of MOWRAM
09:10 – 09:15	Briefing on Conference Objectives and Expectations	Dr. Ancha Srinivasan, ADB
09.15 – 09:40	**Keynote Speech** on "CBDRM and CBA in t[illegible] regional context of GMS"	Dr. Atiq Kainan Ahmed, Programme Manager Climate Resilience, ADPC
09.40 – 10.00	***GROUP PHOTO AND COFFEE BREAK***	

SESSION 2 – LEARNING FROM THE PAST AND THE FUTURE OF DISASTERS

Chair: Mr. Ny Kimsan, National Committee for Sub-National Democratic Development Secretariat (NCDDS)

Schedule	Description	Resource Persons
10.00 – 10.20	Hydro-meteorological disasters in Cambodia and GMS Historical Trends	Mr. Oudomsack Philavong, Regional Flood Management and Mitigation Centre, Mekong River Commission (MRC)

10.20 – 10:40	Climate change projection for the GMS and climate induced extreme events in Cambodia	Dr. Peter-John Meynell, ICEM, Team Leader SPCR Cambodia Package 1, TA-8179 CAM
10:40 – 11:00	Stories of two communities affected by flood and drought in Cambodia	Mr. Mey Long, Disaster Management Manager, Caritas Cambodia
11:00 – 11:20	Climate Change Adaptation Experience in Battambang, Cambodia	H.E. Kol Vathana, Deputy Secretary General, Cambodia National Mekong Committee
11.20 - 12.00	**Panel Discussion**	Moderated by the Chair
	Key Questions for Discussion 1. What have communities learned from the history of disasters in the region? 2. How can communities understand the implications of climate change projections? 3. What have communities learned from capacity building in disaster preparedness? 4. What are the key successes of communities in coping with climate induced disasters?	**Panelists:** • H.E. Men Chean Rithy, NCDM-S Project Manager for ADB-JFPR TA • Mr. Hem Chanthou, Senior Project Officer, ADB-CARM • Mr. Khim Channy, Oxfam Cambodia • Mr. Sok Heng, Sovann Phoum

SESSION 3 – COMMUNITY ADAPTATION AND FINANCING OF CBDRM AND CBA

PARALLED SESSION 3.1 – COMMUNITY ADAPTATION AND DISASTER RISK REDUCTION IN CAMBODIA

Chair: Dr. Jeanne Everett, Team Leader, Team Leader MCRDP-CSSM at Plan International

Schedule	Description	Resource Persons
13:30 – 13:45	Introduction to Community Adaptation	Mr. You Sina, Training and Capacity Development Specialist, MCRDP-CSSM Plan International
	Urban Resilience	Mr. Hieng Hoa, ED of CDMP
13:45 – 14:05	Climate Smart Agriculture	Mr. Taing Vanchan, ED of HURREDO
14:05 – 14:20	Water Supply	Mr. Meas Viphou, Programme Manager of CRDT
14:20 – 14:35	Coastal Resilience	Mr. Teng, ED of CWDCC
14:35 – 14:50	Child Centered Climate Change Adaptation	Mr. Chan Tepsamol, Programme Director of CRF
14:50 – 15:30	**Open Discussion** **Key Questions for Discussion:** 1. What are the specific roles and opportunities for civil society organisations in helping communities adapt to climate change? 2. What actions can civil society do to make CCA & DRR a core part of their organisations? 3. What are the key challenges faced by communities and CSOs when trying to reduce community vulnerability to climate change and disasters?	Moderated by the Chair

PARALLEL SESSION 3.2 – FINANCING CBDRM AND CBD: INTERNATIONAL EXPERIENCE

Chair: Dr. Arup Chatterjee, ADB

Schedule	Description	Resource Persons
13:30 – 13:50	Financial innovations and their efficacy for risk reduction	Dr. SVRK Prabhakar, Research Manager, IGES, Japan

13:50 – 14:10	Expenditure tagging policy of Vietnam and how it is helping the financial risk governance as a whole	Dr. Pham Goang Mai, Director General, Ministry of Planning and Investment
14:10 – 14:30	Financing risk reduction in Cambodia: Experiences and outcomes	H.E. Ny Kimsan, NCDD-Secretariat
14:30 – 14:50	Financing risk reduction in Philippines	Mr. Manuel R. Nivera, Chief, OCD, Philippines
14:50 -- 15:10	Weather index insurance in Thailand: Its effectiveness in risk reduction, limitations and way forward for scale up	Ms. Apiradee Yimlamai, BAAC, Thailand
14:10 – 15:30	**Open discussion** **Key Questions for Discussion:** 1.What are the financial innovations for risk reduction and how effective are they? 2. What can we learn from the current cases of financial approaches for enhanced community resilience? 3. What kinds of national policies would help enhance community resilience to disasters and climate change?	Moderated by the Chair

SESSION 4 – DISASTER RISK ASSESSMENT, EARLY WARNING SYSTEMS, AND COMMUNICATION

PARALLEL SESSION 4.1 – ASSESSING RISK AND VULNERABILITY OF COMMUNITIES

Chair: H.E. Secretary of State, MOE

Schedule	Description	Resource Persons
15:45 – 16:05	Assessing climate change and disaster vulnerability in flood and drought prone communities in Cambodia	Dr. Lay Chanthy, Climate Adaptation Specialist, CBDRM component of FDRMMP, Cambodia
16:05 - 16:25	Learning about CB adaptation and DRM from CSO projects supported by SPCR	Dr. Jeanne Everett, Team Leader, Team Leader MCRDP-CSSM at Plan International
16:25 – 16:45	Experience in CBDRM and CA in Zambia	Zambian Delegate

16:45 – 17:35	**Open discussion** **Key Questions for Discussion:** 1. What are the most effective approaches to assess risk and vulnerability of communities to climate-induced disasters 2. What are the results of assessment of risk and vulnerability? 3. How have the assessments been used in planning for DRM and CA?	Moderated by the Chair

PARALLEL SESSION 4.2 – EARLY WARNING SYSTEMS AND COMMUNICATING TO COMMUNITIES

Chair: H.E. Secretary of State, MOWRAM

Schedule	Description	Resource Persons
15:45 – 16:05	Improvements in flood forecasting and drought prevention in Cambodia	Mr. Tes Sopharith and Dr. Russel Boals, Deputy Team Leader and Team Leader, National Flood Forecasting Center (NFFC) Component of FDRMMP, Cambodia
16:05 - 16:25	Communicating Forecasts to communities; making use of new opportunities	Dr. Rutger-Jan Schoen, Forecast and Warning Dissemination Expert, NFFC, Cambodia
16:25 – 16:45	Need for community-based approaches in strengthening disaster resilience	Dr. Arghya Sinha Roy, Lead Specialist Disaster Risk Management, ADB
16:45 – 17:35	**Open discussion** **Key Questions for Discussion:** 1. How can early warning systems be improved to ensure that communities are prepared for future climate events? 2. What have been the most effective EWS to alert communities in the region? 3. What is the reliability of existing forecasting systems?	Moderated by the Chair

SESSION 5 – WRAP-UP OF DAY 1

Schedule	Description	Resource Persons

17:35 – 17:50	Summary of Day 1 Activities and Learning	Mr. Peter-John Meynell, ICEM, Team Leader SPCR Cambodia Package 1, TA-8179 CAM
17:50 – 18:00	Concluding Remarks by MOE	Mr. Ou Chanthearith, Deputy Director Department of Science and Technology and SPCR Programme Manager, MOE, Cambodia

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SESSION 6 – SUSTAINABILITY OF INITIATIVES ON CBDRM AND CBA

Chair: H.E. Pohn Sachak, Project Director of FDRMMP, Cambodia

Schedule	Description	Resource Persons
08:30 – 09:00	**Key Note Speech** on "How to [illegible] capacit[illegible] for CBDRM and CBA?"	H.E. Ponh Sachak, Project Director of FDRMMP
09:00 – 09:45	**Key Questions for Discussion:** 1. What are the factors needed to ensure sustainable capacity building in CBDRM and CBA? 2. What lessons can be derived by successful examples of sustainable capacity building in CBDRM and CBA? 3. What is the impact of capacity building programs?	Panel moderated by Chair Panelists: • H.E. Khun Sokha, Advisory and Director of Preparedness and Training Department, NCDM • H.E. Dr. Uy Sam Art, Director of Disaster Management, CRC • Mr. You Sina, Director of Capacity Building and Training, Plan International • Arghya Sinha Roy, Director of Disaster Risk Management, ADB
09:45 – 10:00	***COFFEE BREAK***	

SESSION 7 – PREPAREDNESS AND RESPONSE OF COMMUNITIES TO DISASTERS

PARALLEL SESSION 7.1 – SHARING EXPERIENCE FROM CAPACITY BUILDING OF COMMUNITIES IN ADAPTATION AND PREPAREDNESS

Chair: Dr. Auxilia Ponga, M&E Permanent Secretary – MNDP, Zambia

Schedule	Description	Resource Persons

10.00 – 10.20	Building resilience and preparedness – sharing experiences of capacity building - FDRMMP	Chem Phalla from CBDRM-FWUC Team
10.20 – 10.40	Insights on the development and implementation of Myanmar's National Framework for Community Disaster Resilience	Dr. Aung Thurein, Relief and Resettlement Department, Ministry of Social Welfare and Relief, Myanmar
10.40 – 11.00	CBDRM Approach in the Context of Thailand	Ms. Amornthip PAKSUCHON, Department of Disaster Prevention and Mitigation (DDDM), Thailand
11.00 – 12.00	**Open discussion** **Key Questions for Discussion:** 1. What are the most successful methods in capacity building of communities for preparedness? 2. What have communities learned from capacity building in disaster preparedness? 3. What has been the impact of capacity building of communities for preparedness?	Moderated by Chair

PARALLEL SESSION 7.2 – DISASTER RESPONSE OF COMMUNITIES: EMERGENCY AND RECOVERY DURING FLOOD, DROUGHT, AND STORM

Chair: Peter-John Meynell, ICEM, Team Leader SPCR Cambodia Package 1, TA-8179 CAM

Schedule	Description	Resource Persons
10.00 – 10.20	Community response to ensure shelter and health security during and after disasters	H.E. Uy Sam Art, Director of Disaster Management Department, Cambodian Red Cross (CRC)
10.20 – 10.40	Recovery from Flood in Cambodia in 2011	Mr. , Programme Manager Resilience Programme, Oxfam Cambodia
10.40 – 11.00	Aftermath and recovery, community rehabilitation in Cambodia (e.g. after Ketsana)	H.E. Khun Sokha, Advisory and Director of Preparedness and Training Department, NCDM
11.20 – 12.00	**Open discussion**	Moderated by Chair

	Key Questions for Discussion: 1. What are the most successful methods in capacity building of communities for emergency and recovery? 2. What have communities learned from capacity building in disaster emergency and recovery? 3. What has been the impact of capacity building of communities for emergency and recovery?	

SESSION 8 – PLANNING AND IMPLEMENTATION OF CBDRM: MAINSTREAMING COMMUNITY PLANNING FOR ADAPTATION AND DISASTER RISK MANAGEMENT

Chair: Dr. Francesco Goletti, Team Leader CBDRM, FDRMMP, Cambodia

Schedule	Description	Resource Persons
13:30 – 13:50	Experience in Mainstreaming CBDRM in Planning in Cambodia	Mr. Chhim Sophea from CBDRM-FWUC Team
13:50 – 14:10	Experience in Mainstreaming CBDRM in Planning in Lao PDR	Mr. Nouanedeny Rajvong, DDG Department of Irrigation, FDM Project, MAF, Lao PDR
14:10 – 14:30	Gender Mainstreaming and Planning for CBA and CBDRM	Dr. Akhteruzzaman Sano, SPCR TA Package 3
14:30 – 14:50	Experiences in CBDRM implementation in Vietnam	Ms. Nguyen Anh Son, Senior Officer, Disaster Management Center, MARD, Vietnam
14:50 – 15:30	**Panel Discussion** **Key Questions for Discussion:** 1. What are the key challenges in mainstreaming CBA and CBDRM into local and national development plans and budget? 2. What are the roles of national and local governments, CSOs, and development partners in building adaptive capacity of communities? 3. What are the priority actions for government, CSOs, development partners, and communities in mainstreaming CBA and DRR into local and national development planning and budget?	Panel discussion moderated by Chair Panelists: • H.E. Ponh Sachak, FDRMMP • Dr. Jeanne Everett, Plan International • Zambian Participant

SESSION 9 – CONCLUSION

Schedule	Description	Resource Persons
15:50 – 16:00	Overall Summary	Dr. Francesco Goletti, Team Leader CBDRM, FDRMMP, Cambodia
16:00 – 16:10	Concluding Remarks	Dr. Ancha Srinivasan, Project Officer SPCR, ADB
16:10 – 16:30	Closing Remarks	H.E. Ponh Sachak, Project Director of FDRMMP, Cambodia

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ANNEX 3 LIST OF PHOTOS

Photo 1. Group Photo taken at the end of the opening session of Day 1 of the Conference

Photo 2. Group photo of all speakers in Session 1, Day 1

Photo 3. H.E. PIN Prakad, Deputy governor of Siem Reap Province (Cambodia) gave his welcome remark

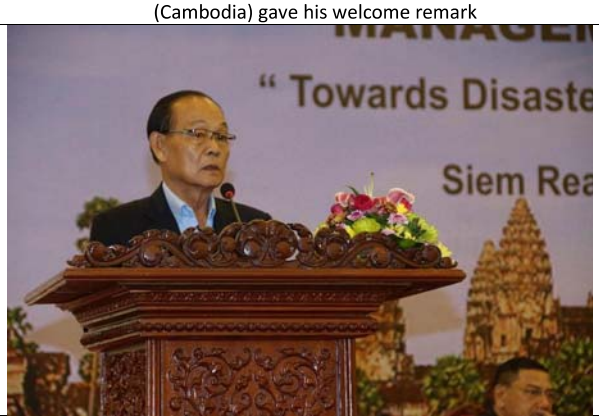

Photo 4. H.E. Dr. Samiuela Tukkuafu, Country Director, Cambodia Resident Mission, ADB	Photo 5. H.E. Dr. Uy Sam Art, Director of Disaster Management Department, Cambodian Red Cross (CRC), gave his Opening Remark
	
Photo 6. H.E. Professor Dr. Sabo Ojano, Secretary of State of MOE and SPCR Programme Coordinator, gave his Opening Remarks	Photo 7. H.E. Bun Hean, Secretary of State of MOWRAM, gave his Openning Remark, gave his Opening Remark

Photo 8. Dr. Ancha Srinivasan, ADB Headquarter, Briefing on Conference Objectives and Expectations

Photo 9. Dr. Atiq Kainan Ahmed, Programme Manager Climate Resilience, ADPC, gave his **Keynote Speech** on "CBDRM and CBA in the regional context of GMS" in Opening session, Day 1

Photo 10. Panelists of a discussion in Session 2, Day1

Photo 11. Panelists of a discussion in Session 3.1, Day 1

Photo 12. Mr. Tes Sopharith, Deputy Team Leader of NFFC Component of GMS FDRMMP, Cambodia, gave his presentation on flood forecasting in Cambodia, Session 3.2, Day 1	Photo 13. Dr. Ancha Srinivassan, ADB Headquarter, facilitated group discussion in Session 3.2, Day 2
	
Photo 14. Khmer Tradition Blessing Day for Welcome Diner, Day 1	Photo 15. Representative of Zambian delegation gave his remarks on the conference, before the welcome diner stared, Day 1.

Photo 16. H.E. Ponh Sachak, Director General of Technical Affair, MOWRAM Cambodia, Director of GMS FDRMMP Project, gave his presentation on general overview water management in Cambodia

Photo 17. Mr. Nouanedeny Rajvong, DDG Department of Irrigation, FDM Project, MAF, Lao PDR, raising his question in Session 6, Day 1

Photo 18. Dr. Aung Thurein, Relief and Resettlement Department, Ministry of Social Welfare and Relief, Myanmar, Insights on the development and implementation of Myanmar's National Framework for Community Disaster Resilience	Photo 19. Ms. Amornthip PAKSUCHON, Department of Disaster Prevention and Mitigation (DDDM), Thailand
	
Photo 20. Mr. Chhim Sophea, Deputy Team Leader of CBDRM Component of GMS FDRMMP (Cambodia), experiences of CBDRM Planning in 50 target communities in Cambodia.	Photo 21. Ms. Nguyen Anh Son, Senior Officer, Disaster Management Center, MARD, Vietnam, present the experience of CBDRM in Vietnam

	
Photo 22. Panelist of panel discussion in Session 8, Day 2	Photo 22. Mr. Hem Chanthou, Senior Project Officer, ADB Cambodia Resident Mission.

	
Photo 24. Dr. Jeanne Everett, Team Leader, Team Leader MCRDP-CSSM at Plan International	Photo 24. Representative from World Food Program Cambodia, raised his question for the panelist in Session 8, Day 2.