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END OF PROJECT EVALUATION COMMUNITY BASED DISASTER RISK REDUCTION (CBDRR)

ENHANCING RESILIENCE OF RURAL COMMUNITIES IN BANTEAY MEAN CHEY, CAMBODIA
TO COPE WITH NATURAL HAZARDS AND CLIMATIC STRESSES.



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MAY 2017

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AIMS	Accelerating Inclusive Markets for Smallholders
AKP	Asia-Pacific Adaptation Network
CAP	Community Action Plans
CARDI	Cambodia Agricultural Research and Development Institute
CBDRR	Community Based Disaster Risk Management
CBDRR	Community Based Disaster Risk Reduction
CBO	Community Based Organization
CC	Commune Council
CCC	Climate Change in Cambodia
CCCSP	Cambodia Climate Change Strategic Plan
CDP	Commune Development Plan
CEDAC	Cambodian Center for Study and Development in Agriculture
CHRD	Cambodia Human Resource and Development
CIP	Commune Investment Plan
CRC	Cambodia Red Cross
DRR	Disaster Risk Reduction
DRRVC	Disaster Risk Reduction Village committee
EPRP	Provincial Emergency Preparedness Response Plan
EWS	Early Warning System
FG	Farmer Group
HH	Household
HVCA	Hazard, Vulnerability and Capacity Assessment
ID Poor	Poor Identification
IDE	Integrated development environment
IEE	Initial Environmental Examination
IFAD	International Fund for Agriculture Development
InnovATE	Innovation for Agricultural Training and Education
KOICA	Korean International Cooperation Agency
LANN	Linking Agriculture to Nutrition and Natural Resource Management
MAFF	Ministry of Agriculture, forestry and fishery
MOC	Ministry of Commerce
MOE	Ministry of Environment
MOEYS	Ministry of Education, youth and Sport
MoWRAM	Ministry of Water Resources and Meteorology
MRD	Ministry of Rural Development
MT	Metric Ton
NRM	Natural Resource Management
NSDP	National Strategic Development Plan
OECD/DAC	Development Assistance Committee of the Economic Cooperation and Development
PDA	Provincial department of Agriculture
PDWRAM	Provincial Department of Water Resources and Meteorology
RACHA	Reproductive and child health alliance
RCEDO	Rural Community and Environment Development Org
RGC	Royal Government of Cambodia
SEADO	Social Environment Agricultural Development Org
SHG	Self Help Group
SSC	School Support Committee

VC	Village Chief
VDC	Village Development Committee
VIP	Village Investment Plan
WRM	Water Resource Management
WUG	Water Usage Group
WVC	World Vision Cambodia

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Executive summary

The Community Based Disaster Risk Reduction (CBDRR) project was implemented from 2014-2017 in four districts of Banteay Meachey province in Cambodia by RCEDO and SEADO, two NGO partners of Caritas-Switzerland. The overall objective of the CBDRR project is to contribute to enhanced resilience of selected rural communities, specifically aimed increased capacity of community members and their village-based organizations to cope with natural hazards and climatic stresses, with five main outcomes. This evaluation of the project was conducted to review progress towards recommending modifications and specific actions as the project goes into a second phase. The evaluation sought feedback from 320 participants, 31 females, through interviews, focus group discussions and a planning workshop.

Relevance and Efficiency

The evaluation found that the project was relevant in its approaches and outcomes since these were consistent with the disaster situation being addressed by national plans and policies, notably Cambodia Climate Change Strategic Plan (CCCSP) 2014-2023 and Caritas Switzerland's Country Programme. The program design was based on consultative processes through a hazard, vulnerability and capacity assessment (HVCA), risk mapping and participatory planning of DRR actions, therefore was relevant to the needs and commitment of disaster affected people.

The project was efficiently implemented in terms of activities leading to the outcomes were achieved on time and the risk of drought in 2016 was appropriately addressed by emergency assistance. Most of targeted project activities were completed and project staffing was stable and backed by local volunteers (DRRVC), all trained in the project's processes. The budget was limited to small-projects and local counterpart was effectively mobilized. The implementation was cost-efficient as proven by a sharing scheme on cost with beneficiaries and a relatively low cost per beneficiary. Financial management was transparent; fund releases were on time and reporting was done regularly. Project supervision by Caritas country office was managed well. One other limitation was that government partners also lacked funding for community DRR actions, thus cannot commit outlays to implement many planned projects. The project monitoring was well developed, but weak in outcome monitoring and in a joint monitoring scheme across all implemented DRR projects from the various Community Action Plans. Use and understanding of new info-technology for process documentation, for example, GPS-in-android cellphones and video-documentation should be encouraged.

Effectiveness

The CBDRR project has appropriately human, natural, social, physical, economic dimensions into its key outcomes as evidenced by the community action plans (CAP). It established village DRR structures, strengthened existent sub-national government DRR structures and had active participation by the people in the community and other stakeholders. Key DRR actions focused on water resource management, improved agricultural income and developed and broader public awareness of disaster, including health, hygiene and environmental concerns. Most targeted outcomes were accomplished. Women participation was quite high at organizations and in community mobilization.

For results on improved awareness of risks and coping measures among communities and key stakeholders, a scoring system rated high both awareness and presence of functional DRR structures. About 22 per cent of targeted household population participated in the HVCA and

action planning. The important outputs were the platform for DRR-response: 36 HVCA, 36 CAPs and 32 water resource assessments.

For results on clear role and better capacity of community-based DRR structures, the project set up 35 DRR Village Committees where 35% of members were females, effectively trained them and made these groups functional in realizing the project's objectives. Furthermore, 19 self-help groups were set up with 400 members, 285 were females, and were trained and mobilized savings for specific DRR actions. However, their operations needs to be enhanced better, as savings went mainly for loans for various purposes. Coordination with government's commune/district committee on disaster management went well such that the CAPs were integrated in government's plans, thus brought in government support in the project's implementation process.

For result 3, the project achieved appropriate partnerships that brought in technical support and fund sharing that eased community mobilization to achieve the desired outputs. However, the limitation was the lack of budgetary outlay of sub-national government for DRR actions and not very firm funding commitments by other NGO's, given their own mandates and defined allocations. Coordination with NGOs working in the areas needs to be enhanced further to back the realization of DRR projects in the CAP platform.

For Result 4, focused on preparedness and coping mechanisms, the 36 CAPs embodied what people needed to mitigate the impact of disaster and reduce their vulnerability. The CAPs exemplified good output from participatory planning but how to fund these was a big gap; therefore, key projects that were implemented relied mainly on Caritas-funding. Nonetheless, there were successful projects that led to improved situation of its beneficiaries. We cite a few here: water resource management through pond improvements with 11,441 beneficiaries; awareness raising on disaster preparedness with 18,406 beneficiaries, improved livelihood through rice banks with 1,976 beneficiaries, various income-earning activities with 436 beneficiaries mostly female and emergency water containers during the drought period with 2,577 beneficiaries, half were females.

Finally, the project enhanced organizational and DRR capacity among partner NGOs. The important set of training was provided staff and their skills, knowledge and efficacy in the project activities showed its positive impact. The most cited impact was on enabling them to understand their roles and the CBDRR process, thus, made their work more relevant and more visible so as to influence positive thinking and more conscious responses among people.

Overall, the project showed its strengths in good cooperation of the communities with authorities, the existent committees doing disaster mitigation work and the CAPs as platform for disaster response. The weakness was that work migration remains the main coping mechanism in the face of disaster and limited funding for mitigation projects constrained action to low-impact projects. This meant that households are not building stock—both financially and in stored food and other assets—that could tide them over when disaster strike.

Impact

The broad impact of the project was on disaster risk reduction awareness with more people knowledgeable about disasters and making conscious effort to prevent its adverse effect on their household. To a certain degree, the project met the objective of increasing capacity of communities and key stakeholders to prepare for and respond to hazards, therefore, reducing vulnerability. However, the implementation of the DRR projects within their CAP has been limited to those that were funded by Caritas, by mandated government agencies (e.g. PDA, PCDM), a few support NGOs and by the people themselves. Since this Caritas-funded project has limited beneficiaries, it does not translate to broad measures of poverty reduction, better

coping capacities and reduced adverse impact of disasters. Among beneficiaries, the most significant was increasing rice production by enabling irrigation, therefore, reduced food shortages and enabling supplemental income for those who went into backyard gardening and livestock raising. Other projects have low-impact, such as water jars and short-term food and water assistance. Since there are several villages covered, the limited funds from Caritas are dispersed to wider areas but low-impact.

The project remains sustainable since the CAPs are now integrated into sub-national plans for disaster response. The national government backs this initiative by law, policies and national action plans while the NCDM started budget outlay for disaster management in selected communes. The high awareness of disasters, including climate change, must translate into preparedness, changed attitudes and adoption of more resilient practices among people, but also among stakeholder working in the area.

Recommendations

The second phase of the CBDRR programme has certain considerations. Two large-scale water resource management projects are on-going: the Mongkol Borey Irrigation Project and the Prasat Pram Irrigation Project, These have irrigation and flood control measures, therefore, address the water-related issues on a broader scale. There may be a need to shift the focus areas to the more vulnerable villages. Secondly, the NCDM has selected key communes with fund allocation for DRR projects, thus, they can implement the CAP using government funding. Since the CAPs remain important platforms to pursue and realize the DRR projects, they should be advocated and marketed for funding by both government and other stakeholders. However, with limited funding, it is also convenient that Caritas concentrate its funding to priority areas so as to have more impact, rather than dispersed it into low-impact project across many areas. The recommendation is to have priority 1 and priority 2 areas where the DRR actions vary—direct high-impact in key areas and indirect low-impact but broad participation in non-key areas.

The project has a sound and appropriate approach, so the process will be replicated in new areas while cooperation with government and other NGOs will be the focus in old areas. The planning framework still hews to the five dimensions: human, social, economic, physical and capacity-building. The strategic projects remains water resource management but linked to improving agricultural production with diversified crops. Several suggestions on the type of these projects are propounded including making operational water-user groups in near irrigation areas; groundwater pit water storage rather than open ponds; possible solar or other efficient water pump technology; integrating water projects with collective gardens; intercropping legumes with rice; more diversified crops not too water-dependent and in consideration of nutrition balance; linking with technical agencies that can advise/train on climate resilient crops and technologies; diverse crop per household towards food exchanges; and, business enterprises for youth groups along needed WASH implements (e.g. culverts), among others.

Suggestions on capacity-building of partnering NGOs and government bodies includes refresher courses for HVCA and CAP as these may change with the new situation and local government mandate; a capacity-building plan including use of info-technology (GPS-GIS in mapping and android phone or video technology in process documentation); training on best practices models in DRR/CCA; a joint monitoring/tracking system on the implementation of the CAPs across stakeholders; and, linking the project to technical services, e.g., CARDI, the Asia-Pacific Adaptation Network (AKP) and Innovation for Agricultural Training and Education (InnovATE).

1. Introduction

Caritas Switzerland is supporting the project “Community Based Disaster Risk Reduction (CBDRR), implemented in four districts of Banteay Meachey province by two local partners working with local government offices. The overall objective of the CBDRR project is to contribute to enhanced resilience of selected rural communities in Banteay Meanchey province. The specific objective was increased capacity of community members and their village-based organizations to cope with natural hazards and climatic stresses, with five main outcomes.

This final evaluation aims to review progress made towards the initial project’s objectives and results; provide an assessment of the efficiency and cost-effectiveness of the past implementation; identify the strengths and weaknesses in project design and implementation, and, provide recommendations as to modifications and specific actions that would increase the effectiveness and impact of future similar initiatives. A second output would be to provide an outline for a potential replication towards a potential subsequent project phase that would be developed jointly with the two implementing NGOs and other relevant stakeholders.

In keeping with OECD/DAP evaluation criteria, the evaluation looked into the aspects of relevance, effectiveness, impact, sustainability and potential for replication, integrating thematic considerations of gender equity, capacity building and advocacy. The output/outcome indicators measured the project’s performance as defined by the project’s Logical Framework.

The evaluation covered a 3 year implementation period (from June 2014 to June 2017) and all 35 villages in six communes of four districts of Banteay Mean Chey. Information was collected from 26 field activities, including village and commune-level focus group discussion, key informant interviews with CCDM, DCDMs, Provincial Disaster Management Committee, supporting NGOs and project staff from SEADO and RCEDO. Case studies were done with beneficiaries of specific DRR projects. Finally, the Consultation on CBDRR project evaluation findings and Strategy Planning Workshop was held on 12 May 2017 at Banteay Mean Chey Province Meeting Hall. Overall, a total of 26 field activities with a total of 320 participants were consulted (see Annex 2. List of Participants).

Table 1. Information-collection Activities and Participants

Method	Participants	Activities	# Respondents	Female
Focus Group Discussion	Households	6	182	75
	DRRVC, CCDM	6		
Interviews	PCDM, 2 DCDM, CCDM	8	20	5
	3 NGO (WVC, CRC, IDE)			4
	SEADO & RCEDO staff			
Case Studies	Water-user groups; resilient crop farming	6	8	3
Consultation on CBDRR project Evaluation findings and Strategy Planning Workshop -12 May	DRRVC, CCDM, PCDM, Red Cross, SEADO, RCEDO	1	110	19

2017				
Total		26	320	31

2. Evaluation Findings

2.1. Relevance

The project approaches and outcomes were consistent with the disaster situation being addressed by national plans and policies. Cambodia is one of the most vulnerable countries to disasters caused by climate change and man-induced development. Major floods with alternate drought caused disrupting effects on people's lives and economy the past years and, in 2016, Banteay Meanchey area registered the hottest temperature yet, impacting strongly on rural agriculture. The RGC upgraded its Strategic National Action Plan for Disaster Risk Reduction (SNAP-DRR 2009-2013), from the Hyogo Framework for Action and the MDGs, to the current Cambodia Climate Change Strategic Plan (CCCSP) 2014-2023 also embedded in the National Strategic Development Plan (NSDP) and in sector development plans of all relevant ministries. Specifically, a Climate Change Action Plan for Disaster Management puts into action the strategic objectives identified under the CCCSP and associate with the Plan of Action for Disaster Risk Reduction in Agriculture 2014-2018.

The CCCSP has eight (8) strategic objectives, as follows:

- 1) Promote climate resilience through improving food, water and energy security;
- 2) Reduce sectoral, regional, gender vulnerability and health risks to climate change impacts;
- 3) Ensure climate resilience of critical ecosystems (Tonle Sap Lake, Mekong River, coastal ecosystems, highlands, etc.), biodiversity, protected areas and cultural heritage sites;
- 4) Promote low-carbon planning and technologies to support sustainable development;
- 5) Improve capacities, knowledge and awareness for climate change responses;
- 6) Promote adaptive social protection and participatory approaches in reducing loss and damage due to climate change;
- 7) Strengthen institutions and coordination frameworks for national climate change responses;
- 8) Strengthen collaboration and active participation in regional and global climate change processes

Similarly, the project's approaches and outcomes align with Caritas Switzerland strategy plan, as embodied in the Country Programme Cambodia 2012 – 2016¹, especially its focus on climate protection and crisis prevention, along with humanitarian aid. This project acknowledges that climate change constitutes an existential threat, especially for poor, marginalized Cambodian communities. Action on climate change commits to an objective of improving poor people's resilience against climate change effects. Specifically, actions are directed towards community disaster preparedness, e.g. enabling community disaster committees, disaster preparedness planning and early warning and response systems to mitigate the effects of natural disaster;

¹ Peter Eppler . (2013). Country Programme Cambodia 2012 – 2016, Caritas Switzerland, Lucerne, Switzerland, updated May 2013

supporting the implementation of disaster management policy at community level and connect them with to sub-national and national plan on emergency response; and promoting and apply disaster resilient livelihood and infrastructure techniques. The HCVA and CAP activities of the project respond to the need for community based adaption and disaster risk reduction connected with national assessments and planning. Community-based disaster preparedness activities serves as an entry point into emergency assistance. The project's Income generation and trainings serves to increase the adaptive capacities of people to cope with losses such as damages in the field of agriculture. This project also enable Caritas Switzerland to work with a locally based, well-accepted partners, notably SEADO and RCEDO. On Humanitarian Aid, the project supported people who became victims of disasters. This survival aid was short-term but mobilized sub-national government to tap into the national government and the Red Cross assistance. Ensuring organization's preparedness for disaster aid efforts served to improve their skills and possibilities to respond quickly and appropriately to challenges

The program design and its outcomes was based on a systematic assessment of the prevalent disasters situation in target area and its overall impact of on human, economic, social and environmental state of the affected people. A hazard, vulnerability and capacity assessment (HVCA) was conducted as initial steps to defining the DRR actions. The HVCA was a participatory process by which the affected people define and commit to the planned DRR actions, therefore, owning the project process at the get-go.

A results framework for this project exists with clear linkages between outputs, outcomes and impacts. However, the quality of the results framework could be enhanced further with proper stakeholder analysis, understanding of problems and needs, specifying the theory of change, identifying critical risks and assumptions and assigning appropriate indicators and data sources, and M&E plans.

2.2. Efficiency

All projects contributing to the outcomes were achieved on time and only minor time delays were seen. However, important outcomes on household economic (food and livelihood) resilience was heavily affected by massive drought that affected the area in 2016, thus requiring emergency assistance efforts, but work migration was the main coping mechanism for poor farmers. This affected project participation during this period. Some technical aspects in multi hazard mapping and emergency disaster response plans and operating procedures were limited by financial and technical constraints at the PCDM, District and Commune levels.

Almost all targeted project activities were completed, the remaining task not yet done related to sustaining the program into the next phase, including a consultation and planning workshop of the next phase (scheduled May 12, 2017) and step-up capacity building for PCDM and NGO partners that includes training courses on mapping using Google map with GPS-GIS; strengthening coordination among the agencies for emergency responses; review-and-exchange event to share learning and best practices; step-up HVCA, CAP and WRM training to NGO partners; and, review and improvement of the M&E system among PCDM and NGO partners.

RCEDO and SEADO have a combined project staff of 11 persons, 4 administrative and 7 field officers. There was minimum staff turn-over for both partners with at least 3 persons left the project and who were replaced with staff from other programs so as to assure continuity. All staff reported having undergone work orientation and training on CBDRR, water resource management, HVCA, self-help group services, emergency assistance, climate change

adaptation and resilience, agriculture techniques and emergency preparedness. Staff was seen to be known to the communities and able to mobilize people's participation well at Commune and village-level. District and provincial coordination were left mainly to senior Project Officer and the Executive Directors. Staff performance assessment by the NGO's administration affirmed the positive skills among staff in community facilitation and coordination.

Staff has several villages-assignments, however, the project built in volunteer staffing through the DRR Village Committee (DRRVC) which is composed of 3-5 persons per village who were trained and helped on the project's processes. Staff also brought in the CCDM and the PCDM to support mobilization and for supervision and monitoring. There is a monthly meeting with DRRVC as a mechanism for support and supervision and both staff and DRRVC members participate in the Village Investment Plans to the Commune Investment Planning, as well as sit in on DRR discussions in Commune Council meetings. Monthly work planning was done at the partner NGO level. Overall, planning, supervision and work activity implementation was streamlined. Management support was seen adequate since both SEADO and RCEDO Directors were active during the participatory processes of planning and specific project implementation. Caritas management support was found to be active through quarterly meetings, periodic monitoring, field visits and staff training.

There were no seen issues on financial resources allocation and releases from Caritas. The main concern was that budget was limited to small-project and bigger, higher-cost projects in the CAP cannot be funded. Generally, expenditures exceeded Caritas and the partner NGOs budget outlay. This was a positive development because some expenditure increased as local counterpart by the community, beneficiaries and contractors. This did not necessarily reflect in RCEDO and SEADO Financial Reporting to Caritas.

Several cases showed effective local counterpart of cost, as shown by enthusiastic sharing of labour and financial cost on specific projects by the beneficiaries: for example, the water pond renovation (122m x 30m x 3m) of an area in Prasat Tapho Pagoda in Prrich Kei village, Tapho commune had meetings that resulted to expatriate American Khmer contributed US\$ 1,700, 18 households, monks and the private contractor contributed US\$1,200; which left Caritas to shoulder merely 1,500 US\$ or 35 per cent of the total cost². SEADO renovated the Kouk Ballaing commune canal in August 2015 at total cost of \$9018, Caritas funding \$4508 while half was contributed by the by community. The 3,250 meters long canal with 7 culverts brought water to 331 hectares during dry season³. Both Caritas NGO partners practiced cost-efficiency by enabling the communities to tap into government funds for several projects listed in their CAP, including Commune Council, PDA and PDRD funds, 50-50% sharing with beneficiaries depending on their financial situation and negotiated lower cost and some free charge on works with the local contractors. Financial management over Caritas partner's managed projects was transparent and with standardized reporting to Caritas and to the beneficiaries at regular intervals.

Overall, a cost-benefit analysis will show efficiency was integral to both NGO's management and relevant to beneficiaries' needs and ownership of the projects.

A sampling of cost-efficiency was made with the Caritas partner NGOs. SEADO's case study of the highest costing project was US\$5,000 to 6,000 (irrigation canal) with 5 villages as beneficiaries, at average of 500 households. The cost per household beneficiary would be about US\$10 for at least 3 years operational period before dredging. The family garden project has a

² Year 2 Annual Report RCEDO

³ Year 2 Annual Report SEADO

cost per beneficiary from training to adoption of alternative livelihood to US \$20 per beneficiary⁴. Similarly RCEDO sample of a 1.7 kilometre irrigation canal at cost US\$4,500 with 58 household beneficiaries in 46 hectares would bring cost per beneficiary at \$15 per household yet with at least 3 year minimum project duration. A community pond cost US\$3,500 has 150 household beneficiaries, thus, a \$4 cost per person.

An issue of efficiency remains with sub-national partners (PCDM and District Offices) since sub-national funding is tied to ministerial budgets. Therefore, outlay to the district-level project (DIP) is not specific, especially for small-to-medium projects, and has to go through the relevant Ministry's budgetary outlay. At the Commune level, the budget outlays are more specific but limited to small projects already brought out as priority by the Commune Development Plan. New projects not earlier submitted to the CDP and integrated with the District, tend to be not budgeted. Nonetheless, most projects were carried out as a result of available funding and interests from development partners and outputs achieved contributed highly to the intended outcome results of the planned results-based framework.

This evaluation found efficient the project's Monitoring and Evaluation framework and plan. The project has an integral approach of participatory planning that placed the community and people to determine the DRR interventions, advocate their issues with local government and manage the intervention in its budgetary implications, project work activities and its maintenance. Supervision by project staff, the DRRVC, Commune Council and PCDM are built into the work and efficiently conducted. Caritas was involved in the evidence-based process that ensures outputs are appropriately conducted and outcome is foremost in design and implementation.

However, there are needed improvements in the M&E system. There is a need for outcome monitoring to be more efficient, since the CBDRR are essentially linked to reducing food security, water standards, nutrition and income. Since the DRR projects were expected to be funded and specific projects led by an executing agency (besides the Caritas funded), there should be a joint monitoring/tracking of project status and outcomes. It would be important to systematize monitoring of the DRR projects in terms of resource allocation viz. local-counterparting and committed funds by other stakeholders; categorization by project type, i.e., tangible projects (infrastructure); indirect actions (training and awareness-raising); and emergency assistance against the support agencies that directly implement the project.

There is info-technology, for example GPS-GIS, not used in the mapping although most staff already has the android cellphones with this technology. Visual info-technology can also be used for documentation and project monitoring. It will also be important to develop a system for outcome monitoring, such as poverty reduction, health, and nutrition and capacity indicators of the SHG and DRR structures, among others.

2.3. Effectiveness

Assessing community and household's ability to minimize risks from shocks brought by disasters their ability to adapt to emerging trends and uncertainty brought about by calamities is guided by several dimensions.⁵ Among these is livelihood viability and livelihood innovation potential. This looks into the extent that livelihood strategies function in times of current and anticipated future shocks, and the ability to modify livelihood strategies in response to disasters.

⁴ SEADO Staff interview

⁵ Dodman, D., Ayers, J. and Huq, S. (2009), 'Building Resilience', Chapter 5, in World Watch Institute (ed), '2009 State of the World: Into a Warming World', Washington D.C: World Watch Institute, pp. 151-168.

On the other hand is the existent contingency resources and support access. This is also linked to the integrity of natural resources and appropriateness of resources management. Lastly, there is social capability or the effectiveness of community-level leadership and institutions in mobilizing collection action on DRR issues.

Overall, the CBDRR project has appropriately integrated these dimensions into its key outcomes. It focused on establishing village-level and strengthening existent commune structures with active participation by the people in the community. It emphasized increased capacity of communities, local partners and commune, district and provincial government to plan and implement disaster preparedness and mitigation measures. Action plans were inclusive of natural, economic, physical, social, human knowledge dimensions. These were focused primarily on water resource management, improved agricultural production and alternative income sources developed and broader public awareness of disaster, including health, hygiene, environmental concerns, and with strong inclusion of

The evaluation found that most of the targeted outcomes were accomplished and that participatory approach was appropriately implemented within the project processes from local staffing, assessment & mapping, planning and actual implementation of DRR projects with high local counterpart. The project established strong and positive partnership with local authorities (village, Commune, PCDM) and with nine NGO partners. There was a cascade of capacity-building from project staff to village-level skills training and a broad awareness raising of DRR and WASH issues.

Women participation was quite high. At the organization level (groups and committees that were formed, at least one third of representation were women, while community mobilization involved at one half women. Women beneficiaries were targeted for specific projects for livelihood and water management.

The evaluation used a community board scoring during the focus group discussions. It showed that participating households showed awareness and positive behavior to participating, coping with and recovering from extreme disasters and adapting to climatic trends and uncertainty. They scored positive on 'resilience' characteristics, they gained more assets (access to water, income-earning activity, and emergency assistance) during the 2016 drought, thus, less poor. The supported villages were found to be more aware of their villages' DRR plans and participated in DRR meetings.

2.3.1. Result 1: Improved awareness of risks among communities and key stakeholders and enhanced ability to identify appropriate measures to mitigate the impact of these risks through dissemination of DRR information and undertaking HVCA assessments and participatory community action plan

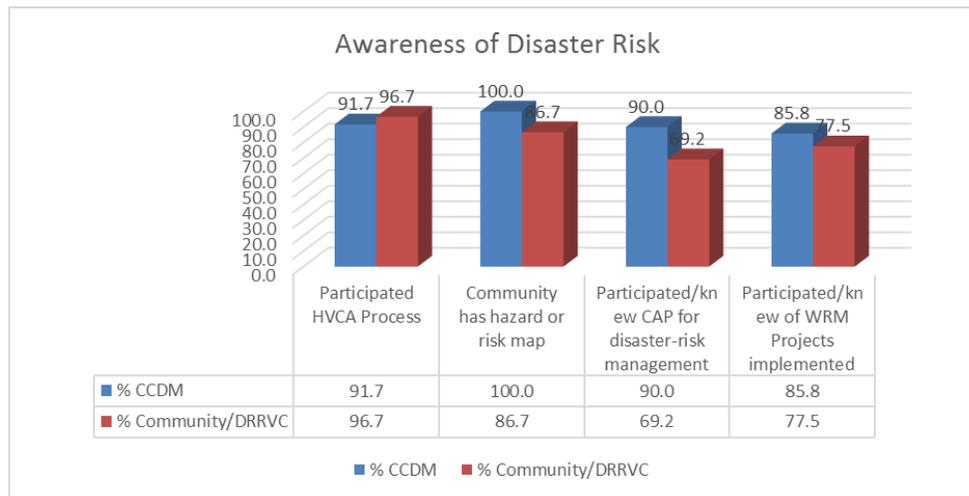
Activity Completed	# Participants	# Female
36 HVCA village profiles and 36 CAP developed	2144	1298
CBDRR project launch at provincial levels	100	NA
6 Multi-Risk Map (commune) developed and finalized	6 (communes)*	NA
Community raising awareness on DRR, WASH, EWS and WRM organized.	9307	5712
Awareness raising on DRR, WASH, Preparedness.		
Update mapping consultations	1046	451
Annual CAP review	1098	637

PCDM Quarterly Meeting	20*	4*
Community meeting for selection DRRVC	330	76
Bilateral meeting with technical support provider	88	17
Refresher/ Review of 22 HVCA and produced 22 CAPs	697	334
32 Water resource assessments (> than target 8 WRA)	2841	1642

The HVCA and formulation of the CAPs involved 2,144 households which comprised about 22 per cent of the household population (total household population 9451). Consultations for water resource assessments and updating the maps are having similar substantial participation. Village meetings of the DRRVC and Commune consultations were regularly done, as well as quarterly meetings at the PCDM level. These activities ensured high people's participation that translates into high level of awareness about the project and about DRR mitigation in general. Key outputs emerged from the consultative process, including 35 HVCA, 35 CAPs, 32 water resource assessments or more than the targeted 8 WRAs, all of which were upgraded through the CAP review and into several water resource management actual projects.

The evaluation rated high participation and functionality of the established DRR structures with 100% rating by FGD participants. The awareness of disaster risks was also quite high at 96.7% at village-level and 91.7% at commune level; knowledge on the availability of community risk map was overwhelming at commune level (100%) but still high at village level (86.7%); and, participation and knowledge of CAP was very high (90% and 69% at commune and village respectively). Though slightly lower yet still high, knowledge and participation in implementation of WRM projects was 86% and 77.5% for commune and village, respectively.

Figure 1. Participation and Awareness of HVCA, risk maps, CAP and implemented WRM projects⁶.



⁶ Collated FGD results at commune and village level

2.3.2. Result 2: Community-based structures and other relevant resource persons' and agencies' role are clear within community action plan and the capacities are strengthened to deliver DRR intervention.

The project set up 35 DRR Village Committees which was comprised of 173 members, 35% of which were females and which were selected through public consultations and participatory selection. The skills of its members were improved on through several training such as the 2-day DRRVC orientation, a refresher course on EWS and WRM awareness and refresher course on DRR/WASH. All DRRVC have functioned well, with regular monthly meetings and their playing key roles in mobilizing the community for decision-making and actions to implement the CAPs, as well as integrating the CAPs into higher level plans and decisions at commune and district level.

Activities Completed	# of participants	# Female
DRRVC members selection and training	173	61
Refresher course EWS& WRM awareness to DRRVCs	2783	1663
Training 2-day course for DRRVC, CC	189	46
Refreshing course-DRR/WASH/WRM	172	49
DRRVC-CCDM monthly meeting	1254	397
DRRVC inter face meeting with CCDM	141	49
Meeting: SHG selection and reform	456	403
19 groups of SHG ^b strengthened & well operating	400	312
15 SHG meetings: bookkeeping, saving principal, group vision, group fund recording, minute's book and small business action plan.	284	226

^b Status needs to be reviewed as no updated data

Overall, the DRRVC in coordination with the CCDM worked well and facilitated the outputs of HCVA, CAPs, WRM plans, and enabled them to be integrated into the Commune Investment Plan (CIP) and into the District Investment Plan (DIP). These worked well with water user groups in implementing several projects, such as the giant water containers, irrigation canals and water ponds, the agriculture training and piloted vegetable gardens and chicken raising, the public awareness raising and emergency assistance activities. This proved that they practiced learned skills and their initiative and commitment was enhanced.

The project set up 19 self-help group with 400 members (183 with SEADO and 217 with RCEDO). *The SHG were mobilized for specific DRR actions that implemented the CAP, such as water resource projects and livelihood training. To build capacity of the SHGs, internal training was conducted on bookkeeping, savings policies, recording as well as planning workshops.* The two NGOs provided start-up capital of \$ 6,450 while member's savings added \$15,005.5. The SHGs with RCEDO were re-forming from the existing SHG, while the SHGs with SEADO were newly set up by phase and they were more active in savings. RCEDO backed SHGs provided lending services to its members comprising 93% of total capital. These SHG are not liquid since they have yet to recover capital and interest. A focused review of the SHG status and its operations is suggested by the evaluation, including what business enterprises can members individually or jointly go into that are viable besides just loan services for whatever purpose the borrower decides.

Table 2. Savings Group/Self-Help Group

District	Commune	#Group	# Members	Project Add-on Capital	Group Savings
Serey Sophorn	Kampong Svay	1	15	\$500	\$ 1,681.25
Mongkul Borey	Kork Balang	5	106	\$2,500	\$ 2,565.00
	Sras Rang	3	62	\$1,500	\$ 2,567.50
Svay Chek	Tapho	3	70	\$900	\$1,782.75
Preah Net	Tean Kam	6	119	\$800	\$4,265.00
Preah	Toeurk Chor	1	28	\$250	\$2,144.00
		19	400	\$6,450	\$15,005.5

2.3.3. Result 3: Relationships between communities and government are strengthened to mainstream DRR measures into community development plans.

The project has an existent Memorandum of Understanding (MoU) with the Provincial Government of Banteay Meanchey. It also set up a partner's forum for disaster risk reduction which brought together both government and NGOs with related programs on DRR in the area. Based on participation in project activities such as workshops, forum, joint awareness-raising activities and regular meetings, key staff involved in disaster-risk management have worked well with the project, were well-informed of project developments and participated in the conduct of project activities. Overall, the project achieved appropriate partnerships that brought in technical support and fund sharing that eased community mobilization to achieve the desired outputs. All the CAPs have been integrated into the sub-national plans at Commune, District and Provincial level. All sub-national DRR management committees were mobilized in the project activities and provided supervisory support. However, there are limitations of funding support, especially at the Commune and District level, as sub-national bodies have limited allocations for their operations and only 20% of all funds are allocated for general activities. Therefore, most communes and districts have no specific funds for DRR activities and only rely on ministry-allocations for disaster-related projects or funds from NGOs.

Table 3. Completed Activities Communities, Government and Other Partners Coordination

Completed Activities	# of participants	# Female
NGOs partner's workshop for Sub-National Disaster Risk Reduction Forum	209	49
CHF network members meeting at BTB & BMC	70	32
Provincial DRR Networking Meeting with PCDM	21	04
HVCA Process meetings	1,373	682
Provincial Emergency Preparedness Response Plan (EPRP) workshop	133	34
PCDM's meeting -EPRP development	47	10
Attendance to National Farmer Forum at PNP.	550	N/A
Workshop: National Day promotion of rural sanitation	243	150
Provincial workshop: 3-year rolling plan"	177	18
Coordination meetings – Province (quarterly)	87	8

Coordination with NGOs working in the areas was integral to the project approach. This worked well, especially in capacity-building activities of the project where other organization's staff attended and in several network meetings. However, the budgetary allocation of other NGOs was also limited within their target areas or strictly within programmed activities per their organization's mandate (e.g. education, health, WASH, etc.).

2.3.4. Result 4: Preparedness and coping mechanisms among targeted communities effectively implemented by relevant stakeholders and improved water resource management is strengthening disaster risk reduction approaches at community and commune level

The project activities to improve preparedness and coping mechanisms of households against risks of disasters are embodied in the CAPs prepared and integrated into the CIPs and DIPs. A review of the CAPs showed that several priority projects were identified per village and encompassed many projects addressing the various dimensions of vulnerability. The main focus was on water resource management as part of drought preparedness, but also inclusive of projects for improving the livelihood dimension, building household and community's awareness and disaster management skills, positive WASH behavior, environment and emergency response. As a list of what is to be done, the CAPs were inclusive and prioritized, therefore, they exemplify a good output of participatory planning based on what the communities needed.

However, the question of how the list of project would be achieved was weak on the issue of funding and what agency will lead or implement specific projects. The assumption aspect of the plan remains weak as it did not consider fiscal constraints of Commune and District government and has few funding commitments by other participating NGOs. This limitation resulted to only a few of the targeted CAP projects were implemented. Another issue was that there was no joint monitoring that tracked what other NGO-funded CAP projects were implemented without both Caritas partner NGOs and the PCDM's knowledge.

The following showed what was achieved at the planning level:

- *Priority interventions in each sectors:* natural, economic, physical, social and human knowledge)
- Basic water assessments conducted in 35 communities and detailed water assessments conducted in at least 8 communities
- Technical partnerships formed to ensure high quality water interventions (specifically for rainwater harvesting, irrigation, water filtration/ water conservation interventions)
- Water interventions planned and implemented and co-funded by at least 2 commune councils

The following CAP projects were implemented successfully mainly by Caritas-support, inclusive of local community counterpart:

	Type of project	# of Beneficiaries/ #women
Water-Resource Management CAP Projects Implemented	Renovated community ponds in Sras Rang, Kork Balang, Tapho, Teourk Chor, Tean Kamcommunes, total cost \$ 38,518.00. (SEADO-\$19,618.00 and RCEDO-\$18,900.00) with \$ 20,481.00 community contribution. 10 community ponds (SEADO-5 ponds, RCEDO-5 ponds)	11,441 (6,778 female)
	4 Roads repaired (Char Thmey village- 600 meters long, Kork Balang Village- 400 meters long, Pong Ro village-	4,570 (2,272 female)

	450 meters long and Snay La Or Village-250 meters long), 2,250 meters long (RCEDO=\$1000 and SEADO.....?)	
	Awareness raising on disaster, preparedness and hygiene and sanitation in 35 target villages	18,406 (10,931 female)
	Provided 619 giant water jar and rain water collection,	2,729 (1,453 female)
	Build 18 latrines(11 latrines were built by SEADO(8 for poor families, 1 in school and 2 in the safety place)	581 (390 female)
Livelihood And Environment-Related Projects	Setting up Rice Banks and provided rice seeds in 5 target villages	1,976 (1,030 female)
	Workshop on Farmer Field Schools and livelihood projects on chicken raising, vegetable planting, Fish raising	436 (264 female)
	Exchange visit to Kratie, Takeo, Ratanakiri, Kampong Som, and Siem Reap for project reflection on agriculture	200 (75 female)
	Conducted tree planting events along canal, ponds (3 times in 3 communes)	2,090 (905 female)
Early Warning System And Emergency Assistance During Drought.	Setting up safe evacuation places in 3 places	732 (433 female)
	Provided 20 plastic containers, 5 water pumping machines and 6 plastic bags in 6 target communes	2,577 (1,168 female)
	Conducted two Workshop on first Aid with CCDM and DRRVC	75 (31 female)
	Provided 2 set of sound system and 15 small speakers to 5 communes in 12 villages	4,613 (1,961 female)
	Workshop on early warning and installed 15 water measure poles	146 (45 female)
	Build houses for 2 poor families in Ta On and Kork Balang	10 (5 female)
	Setting up 1 Khmer Traditional music team	53 (21 female)
Open well	150 (94 female)	

2.3.5. Result 5: Implementing NGO's organisational and technical DRR capacity in DRR has been strengthened.

This result area measure staff skills, knowledge and efficacy in implementing the DRR interventions and partially responded to in the Efficiency section. Several activities have been completed by the project to enhance capacity of RCEDO and SEADO staff, as well as other staff of partner NGOs. These activities includes both workshop, training and exposure or actual experience in DRR work, seen in the following activities:

Table 4. Capacity-building training activities (staff and DRRVC)

Activities completed (NGO staff)	# of participants	# Female
CHF network member meeting	11 NGOs	2
Caritas delegation field mission	5	2
Reflection meeting	158	
Training on WASH/WRM and Gender in WASH	4	2
Workshop on Climate Change in Cambodia (CCC)	4	1
SHG and CBO engagement coaching training	24	5
Develop budget allocation plan*	5	2

Training HVCA process and CAPs development	22	3
Multi-Risk map training	7	5
Refreshing course-DRR/WASH/WRM	57	22
Training SHG course	8	4
Activities completed (DRRVC)	# of participants	# Female
Refresher training to SHG group leaders	36	
Trg. SHG formation concepts & process	229	185
Refresher Training	194	45
Training 2-day course for DRRVC, CC	189	46
Refresher course EWS& WRM awareness to DRRVCs	2783	1663

Staff, DRRVC members and key officers in disaster management said the project built capacities at all levels with highest impact on enabling them to understand their roles, the process of disaster planning, and the importance of their work to mitigate disasters and ensure safer conditions during disasters. The PCDM and DCDM cited that their offices are highly committed to develop, build its capacities and reputation through the project. The CCDM and DRRVC made disaster response more visible so as to influence positive thinking and more conscious responses among people. Overall, these actors improved their capacity to disseminate DRR and climate change through IEC (information, education and communication) materials and facilitators.

The outputs of the HVCA and the CAPs served as platforms for collaboration and the provincial workshops were good ways to engage authorities and other stakeholders and ensure coordination and joint projects. Several NGOs used the CAPs as basis to support projects within their own programmes. Caritas partner NGOs staff cited that CAPs as platform can empower people to find solutions by themselves by engaging people to understand the potential in mobilising the community to work together. However, the targeting needs careful consideration to ensure that activities can be conducted and monitored effectively across projects being done by various stakeholders.

The following strengths and challenges were culled from the results of the FGD and interviews during field work in this evaluation:

Table 5. Strengths and Challenges

Strengths	Challenges
<ul style="list-style-type: none"> • Good relations and cooperation with authorities • Village DRR committees set up, trained and worked well from HVCA, planning and implementation of key projects • Communities enabled to bring out their needs and able to accomplish plans to address these needs • Able DRR staff, high commitment with mechanism of support at community 	<ul style="list-style-type: none"> • Work migration remains high • Low prices/weak demand for agriculture products • Drought demand macro-level policies and actions • Limited DRR funding at sub-national level and among NGOs led to micro-actions which has limited impact

As seen in the table, the main constraints to ensure broader people's participation was limited opportunities for livelihood and income during the period of drought and during the dry season even during non-drought years. There are poor communities not reached by irrigation and relies

only on one season crop. Therefore, the main coping mechanism for severe poverty, especially during drought, is to migrate for work. There is also the condition of low productivity against low prices for agricultural products and attached indebtedness. This meant that households are not building stock—both financially and in stored food and other assets—that could tide them over when disaster strike. Drought disasters struck across broad expanse of the area, but addressing its effects demand macro-projects which the current CAP planning cannot propose since it likewise require huge investments. This limitation constrain the planning to only small, low-impact projects. However, there are national policies and strategic action plans now formulated, therefore, community-level plans can harmonize and link to these national programs. This enhances the mandate of government agencies and NGOs to address DRR challenges.

2.4. Impact

The broad impact of the project was on disaster risk reduction awareness with more people knowledgeable about disasters and making conscious effort to prevent its adverse effect on their household. Participating households said there was clearer roles of the community disaster management structures as lead persons and officials were more trained--about 85% of key duty bearers on disaster management. The project has wide social impact since it set up and made functional the DRR structures at village, commune and district level with systematic CAP-DRR Plans and identified priority projects—several of which were implemented. To a certain degree, the project met the objective of increasing capacity of communities and key stakeholders to prepare for and respond to hazards, therefore, reducing vulnerability. However, the implementation of the DRR projects within their CAP has been limited to those that were funded by Caritas, by mandated government agencies (e.g. PDA, PCDM), a few support NGOs and by the people themselves.

Many of the villagers attend to DRR preparedness, but not yet fully prepared. They cited that the community mechanisms have better DRR skills and knowledge from training, planning and project implementation activities and they are quick to act during disasters by coordinating with higher authorities.

Household beneficiaries of income-earning projects, like vegetable gardening reported a slight increase in income—10% to 30%, depending on the intervention. The most significant are in the beneficiaries of irrigation which allow them to plant 3 crops a year, tripling the rice yield (5-6 MT/ha. per year). This translates to better food security (reduced shortages by 1-2 months), better nutrition) and investment in improving their house, however, low production and low price for products were challenges to income.

The following exemplify the impact of the CBDRR at household and community level:

Ms. Mao traditionally plants vegetables and earns 3-4,000 KHR per harvest at least 3 times a week. She was further trained on vegetable gardening by the Provincial Department of Agriculture (PDA) in line with the CAP for DRR mitigation. She planted seedlings that were provided, adopted natural composting and worked with SEADO to dig a pond for rain water harvesting for her garden. She diversified her crops. Her income grew to 10-20,000 KHR per harvest day (4-5 days/week). She spent lesser because she made her own natural fertilizers and uses a drip system to water her plants⁷.

Farmers in O' village lacked water for their rice farm and for home use. They plant rice one time per year with a yield of 2 MT/hectare In 2016, cooperated with RCEDO to renovate a 1,750

⁷ Ms. Yornng Mao, 58 years old resident of Trosor village, Kork Balang, Mongkul Borey District,

meters canal at total cost of USD 3,810 where the community contributed USD 1,010. The canal irrigated 70 hectares of paddy farm in the village., cited that after the renovation of the canal, people have enough water for their farming activities and currently the can plant rice 3 times per year and their rice yields is more increase from the previous time 2 MT/HA to 4 to 5 MT/HA⁸.

Mr. Smot has 1.5 hectare rice land for farming and after harvest his family work migrate to Thailand for income since harvest of 1,500 kilos is not enough for his family's needs as he can plant only one time per year. He participated in RCEDO community-based disaster risk reduction project in O' village) since July 2015. He gained knowledge on disaster risk, disaster preparedness and water resource, health and hygiene awareness from the project. He was a beneficiary of vegetable and rice crop seeds, chickens and rain water jar. His family earned income from gardening and chicken-raising of about 1,700,000 Riels (\$450) per year. The water canal renovation in his village enable him to plant rice 2-3 times year increase his rice yield to 4-5 tons per hectare⁹.

CAP projects on water resources have the higher impact. An example within SEADO areas were the renovation of a 5,950 metres long of water irrigation system in Kok balaing and Srash Raing which brought benefits to 4,500 hectares dry season rice farming; also in Srash Raing was the renovation of 1950 meters long with 4 culverts which brought in 50 hectares for dry season rice farming; the renovation of Kouk Ballaing water canal (2500 metre long x 4 metre x 1 meter) which benefited 225 household; and, another One water pond built 97 metre long x 47 metre wide x 4 metres deep built in Srah Rang village which benefited 648 households with 2,489 people 1273 are women in 3 villages (Cham Ka Check, Srah Raing and Ta chan).

The Households and authorities improved on water infrastructure: irrigation canals, water pond, and household water containers, as well as latrines. Beneficiaries of water ponds reported better hygiene practices from both access and practice brought about by the project. At villages where water management projects were implemented, they cited 70% of HH have access to year-round water within the UN standards, more than one third now practice boiling water and half do filtration and two thirds are using safe and clean water containers for rainwater catchment and stockpiling, thus, better environment.

Households that participated in the CBDRR activities reported having gained more knowledge of disaster risks and take precaution during disasters. Training, provision of seeds and brood animals enable them to have alternative sources of food. Beneficiaries cited 10-20% of all households were less affected by disaster. Awareness enabled them to take precaution and prevention. The common DRR measures at household level are stocking on food for safety, monitoring disasters thought TV, radio and cellphones; first aid and emergency action; more discussion among people about how to cope with disaster and better participation in consultations about DRR, they are linked to government and NGOs providing support and know to whom they report during emergencies.

Overall, the CBDRR has initiated community awareness and planning to respond to challenges of disasters. Their CAP has been integrated into local government's plans (CIP and DIP), but while several activities were implemented, most of the planned responses do not have budgetary commitments given the funding constraints at the sub-national level or have not yet been marketed to other support agencies like NGOs or donors. Therefore, concerns about improving income so as to improve coping capacity of households are not yet substantially addressed. The main coping mechanism is to seek work elsewhere, primarily through work migration, during drought when few rural employment is available. The few DRR projects that

⁸ Interview Mr. Sam Seng, 30 year old WUG member

⁹ Interview with Mr Smot Art, 28 years old farmer in O' village

were implemented also tends to be of low-impact since they are for few beneficiaries, e.g., water jars, vegetable gardens or short-term food and water assistance. Since there are several villages covered, the tendency for limited funds from Caritas is to disperse it across all project areas, hence, wider areas but low-impact.

2.5. Sustainability Factors

The evaluation found good basis to sustain the actions of the project. Foremost, the HVCA and CAP processes has been completed, therefore, ensured a disaster-response platform for each of the villages and at Commune and District level. This is an important basis to seek funding and technical support from Provincial departments and various ministries to implement the CAP projects so that it has realistic outcomes. Secondly, the project has made the disaster-response bodies (DRRVC, CCDM, DCDM and PCDM), as well as at least nine NGOs functional and addressing the issues and action plans in the CAP. The CBDRM process has built skills among staff at community, government and non-government stakeholders. This is important as since these staff serves to facilitate services to the community and to disaster-affected household. Education and training-by-doing strengthened their commitment to the work. This commitment was proven in the substantial number of stakeholders mobilized through the various project activities, including actual project implementation. Third, the project has awakened awareness about disaster and needed mitigation and promoted people to discuss and think about how they will respond to disasters better—at household level and as a community. This consciousness has translated into their volunteering and sharing their resources to realize some of the plans they developed. For example, at the community-level, there was found strong beneficiary counterpart funding for the identified projects. There were seen sustained use and maintenance of physical infrastructures set by the project (water ponds, irrigation canals). The CAPS were integrated into the CIP/DIPs, therefore, has sustained sub-national support if the CAPs are reviewed and reintegrated into next-mandated CDPs, CIPs, and DIPs. There are also self-help groups set up by the project which remain functional, although their internal operations needs to be reviews and their plan of operations enhanced by continuous support services. There are several NGOs working in the area whose cooperation were already drawn into the project, but whose next phase commitments should be finalized.

The project continues to be sustained by its link to national support through the NCDM which has planned distribution of CCA-resilient seeds, awareness raising on DRR and tree planting. There are current MoWRAM projects being implemented, including government initiatives for better road and irrigation systems. There is current national budget support for DRR through funding allocations to the Districts for capacity-building and funding and materials support for priority communes, for example, the NCDM funding for priority communes. Finally, disaster response and climate change impact mitigation are backed by laws, policy and Action Plans at the national level and as global concern. The RGC enacted the Law on Disaster Management on June 2015; it has updated the Strategic National Action Plan for Disaster Risk Reduction (SNAP-DRR 2009-2013) as the Cambodia Climate Change Strategic Plan (CCSP 2014-2023) and disaster-risk reduction has been fully integrated into eight ministerial plans¹⁰ e.g., MAFF, MoE, MRD, MoC, MOEYS, etc. At the regional level, there is an existent ASEAN Vision 2025 together with the ASEAN Agreement on Disaster Management and Emergency Response.

¹⁰ https://www.humanitarianresponse.info/system/files/documents/files/adb_drr_in_8_ministries_plan.pdf

3. Conclusions

There is very convincing evidence that the support provided by both SEADO and RCEDO brought about significant benefits. The project reached 18,406 (10,931 female) in disaster-awareness activities. The supported households have a more responsible behavior for reducing risk associated with extreme climactic events and, to a certain extent, adapting better. However, such positive outlook are still overshadowed by vulnerability due to weak livelihood viability, limited livelihood innovation and not strong built up of contingency resources and support. However, social capability was strengthened shown by now existent CAP for DRR within the communities—meaning the vision is clearer but how to realize it now becomes the main question.

There is evidence that several households coped better during the drought that struck Cambodia in 2016. They have advanced warning about the drought, they sought emergency assets through seeds from and loans from the self-help group. The beneficiary households of irrigation canal renovations have ample rice stock as food and those who adopted vegetable gardening had extra income for food and other needs. There is proof that food and water security was better for many households, for example the renovated community ponds benefited 11,441 people enabling them to plant rice two or three times per year, therefore, more than doubling their rice stock as food and to sell and reducing food shortages. Another example, at least 1,976 farmers, one third females, used the rice banks to source both rice to eat and as seed stock for next season rice planting while some 436 female farmers trained on various livelihood projects implemented alternative livelihood for chicken raising, vegetable and fish raising. These definitely improved the sources of food, therefore, led to better nutrition, and earned them income that they can use during the drought period. The project improved access to domestic water to about 5,000 households that benefited from giant water jars installed, water pumps installed and distribution of various water containers, therefore, ensuring water standards in their homes and its related impact on hygiene.

Therefore, there was no substantial evidence that the project's support to CAP projects' implementation promoted livelihood diversification. The high awareness of disasters, including climate change, has not translated to preparedness and changed attitudes for more resilient practices. Even among several NGOs existent in the area, not many had shifted or brought more emphasis on climate change and disaster resilience. Among considerable number of households, their means of coping to disaster remained work migration.

Still, there are important program learning considerations. Given limitations on human resources and funding, a participatory CBDRR approach worked well in developing community social assets, mainly the CBDRR structures and the CAPs as development platforms to pursue further the implementation of DRR projects. The participatory approach proved appropriate and the communities had really adapted the CAPs they themselves were part of formulating by committing their own resources (both money and labour) to counterpart external funds from Caritas. The program also brought in government allocation and technical assistance to specific projects within the relevant agency's mandate, (e.g. agriculture development, WASH projects, awareness raising) which became joint projects with SEADO and RCEDO as linked to the CAPs.

4. Recommendations

The consultation workshop of the CBDRR Project 2017-2020 was conducted in Banteay Meanchey on 12 May 2017. It was attended by 110 people, 19 women, who were representatives of the PCDM, DCDM, CCDM and DRRVC, as well as staff of the Red Cross-Cambodia, SEADO and RCEDO. The activity has a Planning Workshop which formulated the focus of the CBDRM.

4.1. Planning Assumptions

- 4.1.1. Caritas-Switzerland is committed to pursue a second phase of the CBDRR programme together with SEADO and RCEDO as partners. This commitment is limited to funding similar to the implemented 3-year funds.
- 4.1.2. Consultations with sub-national government authorities and several NGOs also affirmed a similar commitment to continue the implementation of the programme and the CAPs. Commune Council funding has yet to be known after the 2017 Commune Elections but there is an on-going lobby for more funding for the sub-national government¹¹. The current Cambodia Climate Change Strategic Plan 2014-2023 would also have a scaling-up funding framework.
 - Per information from the District Governors, the NCDM has allocated funding to priority Communes at risk of disaster (mainly flooding). In the project area, small irrigation repairs and capacity-building of the sub-national DCDM and CCDM capacity has budget at \$32,000 while priority Communes are allocated. For Mongkol Borey district two communes: Rohat Toeurk Commune and Koy Meng commune were selected the priority and each have a budgetary allocation of USD 20,000 and materials each; a third commune, Bort Trong, was selected as pilot commune and will only receive materials support. In Preah Net Preah District, the two commune with allocation of USD 30,000 each are Tean Kam commune and Rohal commune.
 - The selection of the NCDM/PCDM of these 5 communes with budgetary allocation should be optimized by the next phase CBDRR project by the communities that should lobby for funding on their CAP already integrated into the CIP and the DIP. The offshoot is that both SEADO and RCEDO can now focus on communes with no budgetary allocation from the NCDM.
- 4.1.3. Another consideration is two mega-scale water resource management projects funded and being completed in the current target areas.
 - The **Mongkol Borey Dam Development project** is funded through Export-Import Bank of Korea through a US\$19 million loan. It includes a hydro-electricity plant in Battambang province. Its objective is to ensure a stable water supply by establishing new dams and improve existing ones. The irrigation component infrastructure is located at the south of Mongkol Borey River, including several communes in the district. The project is being implemented under MOWRAM and contracted to the Korea's Yooshin Engineering Company.
 - The **Prasat Pram Sub-project in Tapho Commune**, Svay Chek District¹² is a medium scale irrigation system planned for rehabilitation of the dam, reservoir

¹¹ This is being considered in the 3rd phase of Public Financial Management Reforms Program (PFMRP) with new assistance from EU and the government of Sweden. The Cambodia Climate Change Strategic Plan 2014-2023 (CCCSP), including a financing framework for long-term and scaling-up.

¹² www.wrmsdp.org/index.php/assets/Uploads/Resources/IEE-for-Prasat-PramFinal.pdf

embankments, irrigation and drain canals and their related structures to bring water from the existing reservoirs. The gross command area is 1542.31 hectares with 1310.96 hectares covered by irrigation structure. The project beneficiaries are farmers are 441 households in 7 villages in Tapho commune of Svay Chek district. This is funded by the ADB through the RGC Water Resources Management Sector Development Project Loan/Grant. The project has completed the Initial Environmental Examination (IEE) last May 2014. This meant it will proceed into construction works as planned.

- These two projects when finished will have implications on water resource management in the target area. Connecting canals to the large infrastructure will effectively bring water to the communities for irrigated production, while the flood and water control aspects should be integral to the design (as water storage and regulated water supply through its system of gates and weirs). The Mongkol Borey Dam has flood-control objectives; therefore, it should mitigate previous flooding hazards seen in the HVCA and risk maps.
- Therefore, it is important for the Caritas CBDRR project and its partners (PCDM, DCDM and the communities with CAP) to learn more about the objectives, design and benefits from these mega-projects so as not to duplicate works already integral to the mega-project design (e.g., canal renovation may in fact be already integral to the mega-project) or so that appropriate targeting of beneficiaries or DRR project can be done, i.e., priority areas are those outside of the mega-project's service areas or instead of irrigation canals. Specific CAP DRR projects may shift to water management using water user groups to regulate and appropriately distribute water while water pumping may be feasible for those farther from the project's structures.

4.2. There are developments which should also be considered. The IFAD project, Accelerating Inclusive Markets for Smallholders (AIMS) Project includes Banteay Meanchey in the northwest hub to develop value-chain for five flagship commodities vegetables, backyard chicken, quality assured rice, cassava and raw silk. Farmer cooperatives need to engage with this project on developing market access to agricultural products. The Ministry of Commerce is the lead agency but would likely coordinate with the Provincial Department of Agriculture.

4.3. Proposed Prioritisation of Areas

The project has achieved an important output through the HVCA, CAP and water resource assessments. This has been integrated into the Commune Investment Plan (CIP) and the District Investment Plan (DIP) and therefore into the Provincial Plans for DRR and Climate Change. These outputs are important platforms which development agencies, at sub-national, national, among NGOs and other development agencies to support—since its basis are people's needs as defined and planned in a participatory manner. The outputs should be marketed for funding by various agencies so that they can be implemented, thereby transforming the plans into realities. For this reason and in consideration of the assumption above, the current areas where the CAPs originated should remain as Caritas areas with SEADO and RCEDO.

However, given the limitation of Caritas resources, there should be a prioritisation of what areas where key CAP projects will be funded and what areas where indirect projects will be supported. The large dam infrastructure may lessen flood and drought hazard in its service areas. Access

to water will require that water management committees shift to optimizing the distribution of the resources so that more household can benefit. For example, water gate and weir management may be needed so that all canals have water well-distributed (and able to retain water rather than a natural flow back to the main river). At the same time that farms further from water should look into water pumping or have retention wells that store water during high water flow.

We do not equate **CBDRRM** to mainly water resource management, although the main hazards identified in the HVCA are floods and drought. Planning for CAP based on the HVCA and risk maps developed by the communities looks into how vulnerability to disaster is addressed across the human, social, economic, infrastructural and capacity-development dimensions. Therefore, where water infrastructure may not be the focus, there remain dimensions which would be the main concern, e.g., resilient agriculture as improved coping measure. Cutting across all type of vulnerable communities is the human dimension, specifically knowledge, attitudes and skills towards mitigating the impact of disasters and climate change and functional community mechanism that addresses disaster management such as the DRRVC and Disaster Management Committee.

This evaluation proposes the following categories:

Priority Rank	Description	Focus DRR Actions
2	Areas selected for DRR funding by NCDM ; service areas of Mongkol Borey irrigation and Prasat Pram irrigation); Areas with committed funding support by other NGO or donor agency stakeholders; areas already undertaken HVCA, Mapping and CAP-WRM Plan; areas where Caritas funded DRR projects already implemented and only need maintenance and sustaining the initiative	<ul style="list-style-type: none"> • Coordination with relevant agency (MoWRAM) to engage Water User Groups in design and support to construction of irrigation canals and for water management; • Engaging NCDM/PCDM to use CAP as platform for DRR project support • Coordination with Stakeholders to use and implement the CAP • Joint monitoring (inter-agency) on status of CAP, and outcome indicators • Joint projects on DRR/CCA awareness raising • Sustaining projects with existing DRR groups (DRRVC, SHG, Farmers Groups) through technical training and business development services
1	Areas not in proximity to large irrigation structures; prone to effects of prolonged drought; areas that strongly demand Caritas support as they have few support agencies ; new areas without HVCA, risk maps and CAP; areas without previous Caritas-funded DRR projects	<ul style="list-style-type: none"> • High-impact DRR projects on WRM and diversified resilient livelihood • HVCA, risk mapping, CAP activities using DRRVC, CCDM and integrated as CIP/DIP • DRR/CCA education and awareness raising • Emergency assistance

- On what category of priority the villages will fall in should be carefully designated by SEADO, RCEDO with the PCDM and DCDM after coordinating with MOWRAM on the targeted service areas of both the Mongkol Borey and Prasat Pram Dam infrastructure projects.

- The Priority 2 areas already have HVCA, risk maps and CAP. Some CAP projects have been funded by Caritas through RCEDO and SEADO and should be sustained by the community or beneficiaries themselves. However, there are a substantial number of CAP projects with no definite fund sources. The main work of Caritas partners would be to market the CAP of these villages and Communes to prospective donors among both government (NCDM/PCDM, MOWRAM and the donors to the two mega-infrastructure) and to participating NGOs. It is suggested that the Caritas project will support advocacy activities of the DRRVC and the CCDM to the MOWRAM, ADB, KOICA (as the implementing agencies) to integrate support to their CAP into the current project design, especially for water resource management projects. [We assume here that water user groups are vital to managing effectively the irrigation facilities]. These areas also remain beneficiaries of awareness-raising and non-infrastructure projects.
- For priority 1 areas, the new areas will require that they go through the **CBDRRM** process: from HVCA, risk mapping, CAP along with promotion of DRR awareness, setting up the DRRVC and coordinating with the Commune and District DRR bodies.
- The CAP for Priority 1 as retained areas should be reviewed. The planning process for CAP in new areas should select projects that address holistically the human, social, economic, physical infrastructures and capacity-building dimensions. DRR projects shall likewise be integral on water-resource and sanitation management, climate-resilient livelihood, DRR and CCA education towards positive behaviour and emergency assistance during actual disaster events. These projects may be integrated so as to optimise the potential of WRM towards diversified crop production or enabling DRR structures such as rice bank, water user groups and self-help groups to invest and promote viable enterprise (e.g., diversified backyard gardening, youth business projects).
- RCEDO proposed to continue the next phase in the same 3 communes (Tapho, Tean Kam and Toeurk Chhor) but expand villages and also add one new commune Phnom Leap, Preah Net Preah district.
- SEADO proposed to phasing out from Kompong Svay commune, Sereysophon district and continue the next phase areas in the same 2 communes (Kouk ballang, Srah Reang) and expand one commune (Rohat Toeurk) in Mongkol Borey district and Somrong commune, O chrove district,.

4.4. Planning Framework

The planning workshop emphasized that food security projects relating to water management and resilient agriculture were seen as high impact and should continue to be the focus. However, emergency assistance and training/education activities were also seen to add value to these high-impact projects.

The proposed strategic actions continue to address the five elements where people's vulnerability would require mitigation measures, to wit: human, social, economic, physical and capacity-building.

Table 6. DRR Sectors and Type of DRR Actions

Sectors	Description	Type of DRR Actions
Human	Relating to knowledge, skills, health, characteristic of human, etc.	CCA/DRR/WASH education and awareness
Social	Relating to interaction of humans in society (solidarity, policies, leadership, traditions,	Set up/Strengthening on DRR Committee, community

	relational behavior)	groups (SG, SHG, WUG, rice banks, seed banks etc.)
Economic	Relating to livelihood activities, commodity and fiscal relations, etc.)	Improving and diversifying livelihood: climate resilient crops, commodity enterprise, skills training, etc.
Natural	Relating to weather, water, land, forest, plants, and the entire environment.	Improving environment: tree-planting, soil management, etc.
Infrastructure	Relating to physical structures such as roads, irrigation, technology, schools, health facilities, etc. vital to human existence and development	Improving infrastructure: water embankment, irrigation canals, road improvement, pond and water wells, water storage, etc.

Correspondingly, the proposed strategic actions align to 5 Key Result Areas of the project. The processes established by Caritas CBDRM project remains appropriate as a step-by-step process that reiterates broad public participation from needs analysis to DRR projects implementation, then lesson learning; it likewise work with established structures from village to the sub-national government bodies that are linked and working together; and, it links the community initiative to other external stakeholders among national government bodies and NGOs. Given the good practice, the key activities remain the following against the new and previous areas.

Table 7. Activities per Key Result Areas

Key Results	Activities	Descriptions
1-Improved awareness of risks among communities and key stakeholders and enhanced ability to identify appropriate measures to mitigate the impact of these risks through dissemination of DRR information and undertaking HVCA assessments and participatory community action plan.	1.1.	<ul style="list-style-type: none"> Carry-out a comprehensive HVCA and risk mapping in new target areas; Update the HVCA/risk map in service areas of the irrigation projects after the completion of Mongkol Borey and Prasat Pram infrastructures whether they are still subject to flooding and drought Conduct broad information campaign on DRR/CCA
	1.4	<ul style="list-style-type: none"> Develop CAP in new areas through participatory and consultative process Update the CAPs based on what projects were completed and new projects Integrate CAPs into the new mandated CDP and into annual CIP/DIP
	1.5	<ul style="list-style-type: none"> Conduct inter-agency DRR-response Planning Workshop to agree on funding of CAPs or priority areas/project per stakeholder Conduct community consultation with PDoWRAM, project contractors, donors re: Mongkol Borey & Prasat Pram projects Follow up meeting with technical support agencies
2-Community-based	2.1	<ul style="list-style-type: none"> Set up/train DRRVC in new areas

structures and other relevant resource persons' and agencies' role are clear within community action plan and the capacities are strengthened to deliver DRR intervention.	2.2	<ul style="list-style-type: none"> Follow-up planning with DRRVC Refresher Training of DRRVC on updated role and responsibilities, CBDRRM processes and cross-cutting themes
	2.3	<ul style="list-style-type: none"> Conduct coordinating meetings of DRRVC, CCDM with Stakeholders (government, NGOs)
	2.4	<ul style="list-style-type: none"> Facilitate WUG formation and training (jointly with PDoWRAM) on roles and WRM Internal review with Saving Groups to improve operational guidelines Business Management and Skills training with SHG (rice bank, SG, youth groups) towards Business Plan Development and plan for Business Development Services support
3-The relationships between communities and government are strengthened to mainstream DRR measures into community development plans.	3.1	Engaging government in HVCA, CAPs, activity supervision, and technical support
	3.2	Coordination meeting and information sharing
	3.3	Participation in Village Development Planning process and Village Investment Planning Process (new areas)
	3.4	Participation CDP and Investment Planning process, reflections and preparation of participants (all areas)
	3.5	Participation in Reflection/ review workshops integration workshop and preparation of participants before meetings
	3.6	Coordination with PCDM and NGO partners for DRR activities, contingency emergency assessment and responses.
	3.7	Organize a "Review and Exchange Event" to share leanings and best practices among governmental bodies and the communities
4-Preparedness and coping mechanisms (natural, economic, physical, social, human knowledge) among targeted communities are effectively implemented by relevant stakeholders and improved water resource management is strengthening disaster risk reduction approaches at community and commune level	4.1	Update CAP work plan at community level for implementing action/ DRR intervention (previous areas) Develop CAP Work Plan (new areas)
	4.2	Staff meeting for budget allocation
	4.3	Implementation of key DRR projects as implementation of the CAP (diverse projects based on priority, agreed funding, etc.)
	4.4	Coordination meeting with potential technical support partners and contractors and external workshop for support to community and commune interventions
	4.5	M&E consultation meeting and direct supervision
	4.6	Distribute emergency assistance to disaster affected families
	4.7	Undertake water assessments (new areas)
	4.8	Develop water resource management plans (WUG with PDoWRAM in old areas; new areas)
	4.9	Establishment of Water Management Committees
	4.10	Implementation of Water management plans (indirect in PDoWRAM areas; direct in new areas)

	4.11	Development of technical support partnerships
	4.12	Join with communes council to develop community level water management plans/ conduct water interventions
5- Organisational and technical capacity in DRR among PCDM, DCDM and participating NGOs has been strengthened.	5.1	Refresher course on HVCA, CAP and WRM, including CCA
	5.2	Training/Workshop on Joint Monitoring & Evaluation Plan and use of CAP Activity and Outcome Monitoring
	5.3	Develop budget allocation plan at organization level
	5.4	DRR staff training on Project Cycle Management, including project proposal development
	5.5	DRR staff training on technical skills: GPS-GIS mapping; computer-and-video-assisted project process documentation
	5.6.	DRR Staff training on Resilient and Diversified Agriculture
	5.7.	DRR staff training/exposure to DRR/CCA best practices (innovative projects)
	5.8.	Link to Technical Training support such as CARDI ¹³ , Asia-Pacific Adaptation Network (AKP), ¹⁴ InnovATE ¹⁵

4.5. Suggestions on some key DRR Project in the CAP

Result 4 of the Key Areas dealt mainly with CAP and key DRR projects that will be implemented. The following

- The service areas of the Mongkol Borey and Prasat Pram water resources projects. May shift towards enabling Water-user Groups (WUG) engaged with MoWRAM in water-resource management through training and technical assistance, rather than WRM projects like canal renovation. The design of these big projects may already include canal construction works and their focus should be more on efficient operation and management of the irrigation facility distribution and diversify crops besides using water for rice.
- Villages far from the irrigation system should consider other types of WRM besides open canal construction. Some alternatives include pipe connection and water pumping (including possible pilot of solar water pump or windmill pumps after a feasibility study).
- The availability of water during rainy season by ground storage, such as dug water pits rather than water ponds which tend to have faster water evaporation rate during dry months (this may require a soil porosity study)
- Water resource projects should integrate with alternative livelihood-related projects. For example, collective gardens around water ponds or tree nursery around water ponds; intercropping legumes with rice before the rice harvest when the ground is still moist¹⁶.
- Diversification to climate resilient crops needs technical support. Many crops in the previous vegetable gardens tend to be water-dependent crops (e.g., broad leaf vegetables). There is need to mix less-water dependent crops (e.g. string beans and vegetable vines, root crops, tree-vegetables with deep roots). The project should coordinate with the Cambodia Agricultural Research and Development Institute (CARDI)

¹³ <http://www.cardi.org.kh/>

¹⁴ <http://www.asiapacificadapt.net/about-us/akp>

¹⁵ <http://www.oired.vt.edu/innovate/>

¹⁶ For example mung bean intercropping with rice was intensively done by the Australian Centre for Agricultural Research (ACIAR) in Cambodia, see link: http://aciar.gov.au/files/mungbean_06_lr.pdf

which has a technology training program and climate-resilient seeds that can diversify crop production.

- There are models like allocated gardens or the community kitchen where one household focus on key crop, second household on second key crop, etc., then a food exchange follows. Providing the same seed/crop to all households tends to glut the market and does not diversify the skills on crop growing. Another model select the crops to be planted based on the nutritional value of the crop (e.g. Linking Agriculture to Nutrition and Natural Resource Management (LANN) or the Community Hearth concept).
- Business enterprise can be developed to enable households to have alternative livelihoods in the community, not resorting to migrant work. One idea proposed during the workshop was for producing cemented culverts which may have high demand (as bridge to irrigation canals and material for dug wells) instead of buying these materials from outside-the-community producers. For example, IDE trained youth groups and provided start-up capital to produce rounded culverts used for latrine pits in Svay Rieng which were sold to households engaging in the WASH project.

4.6. Recommendations on Capacity-Building

Updating is needed for the HVCA and CAPs given the 2017 Commune Council and the 2018 National Elections that will bring new mandate into the sub-national and national government structure and that may require re-planning.

- PCDM, DCDM, SEADO, RCEDO and the NGO network review of the CAPs status of finished and non-finished projects, validity and viability against funding commitments towards updating the said CAPs and re-integrating them into new CDP and CIPs, later into new DIPs.
- HVCA update or new HVCA if new project areas are opened. There may be changes to the hazard risk situation if the large irrigation canals become operational.

A capacity-building plan should be developed. This includes training on the following:

- Applications that uses android phone technology on GPS-GIS that can integrate into the Community Maps, including updated WRM projects completed or planned and the large irrigation infrastructures so that it can show better the water assets, safe place areas, etc., in the community.
- CBDRR and Climate Change Adaption Project planning and monitoring
- Participatory methodologies for planning and monitoring such as computer-assisted personal interviews and for process documentation, such as using visual documentation (video) and mapping.
- Improving the Project Monitoring actions should be done. The project already brought in a tracking system on the CAPs but not yet fully used by key planners (PCDM, SEADO, RCEDO and other NGO support partners). The CAP should track which of the projects are now funded, implemented, beneficiaries and their status of operations. If the CAPS are jointly funded, then a joint monitoring system should be adopted so that the gains are seen across different actors.
- Capacity-building also involves linking the project to other support agencies that provides technical services like training and DRR/CCA information-and-training materials. This includes linking to regional service network like the Asia-Pacific Adaptation Network (AKP) and Innovation for Agricultural Training and Education (InnovATE).

**ANNEX:
Annex 1: Case Study:**

CBDRR-Case Study:



Ms. Yorng mao, 58 years old originally live in Trosor village, Kork Balang Commune, Mongkul Borey District, Banteay Mean Chey Province. Currently she is living with her 2 grandchildren (boy age 6 years old and girl age 3 years old) while their parents went to work at Thailand as construction workers.

She just moved to her present house in 2016 while previously she stayed with her relatives nearby village.

She did not own paddy rice farm or Chankar beside of small plot of land (19mx25m) for vegetables planting. At the start she plant many kinds of vegetables as traditional ways and she can earn around 3,000 to 4,000 KHR per harvest day (3-4 days/week).

Until 2016, she was known by SEADO through their community staffs, and she was selected as beneficiary due to poverty condition and she is committed with her gardening activities.

She was participated in training on vegetables planting, seedling, natural composting, and rain water harvesting and water management for her garden. Besides training she also got support from SEADO as following: vegetables seeds (cucumbers, potatoes, string bean, squash, toilet, water jar and trip system for watering garden).

Since she start new technologies on gardening, she can plant many kind of vegetables and she earned 10,000 to 20,000 KHR per harvest day (4-5 days/week) and she spend very small capital because she can make her own natural fertilizers (composting) and enough water for planting (trip system) and pond.

She mentioned that her living condition is much better than before because she has own vegetables for household consumption, less spend on food and medicines.



Water User Group:



O villagers had experiences in lacking of water for their rice farm and household consumption because the canal is very shallow and dried up during dry season. Villagers can access water from the community lack with very limit water. In 2016, RCEADO start project in O village by setting up saving group, training on basic agricultures, rain harvesting, provided vegetable seeds, water jar and setting water user group in the village.

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In 2016, RCEADO with cooperation of communities had renovated the canal long 1,750 meters in O village costly 3,810 USD with community contribution 1,010 USD. This canal can irrigate water to 70 HA of paddy farm in the village. After the repair, they selected the water user group and there are 7 people in water user group (1 Leader, 1 Deputy Leader, 1 Secretary and 4 members). The WUG committee were trained on their role and responsibility, maintain the canal, repair and water management.

SAM SENG, age 30, is WUG member who live in O village, Tean Kam commune, Preah Net Preah district, Banteay Mean Chey Province, cited that after the renovation of the canal, people have enough water for their farming activities and currently they can plant rice 3 times per year and their rice yields is more increase from the previous time 2 MT/HA to 4 to 5 MT/HA.

Beside of that people plant vegetable for their household consumption and selling for family income. People can save or borrow their money with saving group with low interest (2%) rate in urgent cases.

He mentioned that his village is much better than before because there is good road, school, water sources for household consumption and agricultures activities and less sickness from water born disease.



Home Gardening:

Mr Smot Art, a 28-years old farmer, was born in O' village, Teankam commune, Preah Net Preah district, Banteay Meanchey province. Recently, He is living together with his parent's house in the same village above. Mr. Smot Art has married with Ms. Yort Layheout-27 years old. They got daughter which was 3 years old. Since he got married, he never leave from his parent



because of the poor and unable build the house for his wife and his kid. He said that he has small rice land (1.50 ha) for rice farming which have many people rely on it.

He said that "since he was married, we are both (my wife and I) living with my parent's house in the village above. We both did rice farming in the small lands (1.50 ha) but it was never got enough yield for consumption, and it has done only one time for year. After rice harvest collection, we were both migrated to Thailand in 3 months period for generated others income", and my parents have worked on vegetable

and raising a chicken for sell. However, all the vegetable products and chicken raising of my parent did not reach their full potential due to the lack of knowledge on the proper skills and farming techniques. Therefore, our family situation faced many difficulties, and has worsened from day to day and faced of food and other expenses for his children to school.

Due to the CBDRR project was organized the several times of meeting organized by RCEDO staffs to encourage and mobilize voluntary farmers to participate in the project like Farmer Field School (FFS) activities on vegetable and chicken raising. He said "I think it was good participate in CBDRR project get understanding on climate change, DRR mitigation and farming adaptation technique on vegetable growing and chicken raising. He said that all activities are good source of household incomes to help my family".



to

In July 2015, under with the support of CARITAS Switzerland, Rural Community and Environment Development Organization (RCEDO) was implemented the Community-Base Disaster Risk Reduction (CBDRR) in my village (O's village) in Teankam commune of Preah Net Preah district, in order to present and improve an understanding on Disaster Risk Reduction, Preparedness and disaster mitigation.



The project organized several meetings to select appropriate participants to participants in Self-help Group (SHG) and the livelihood activities through the Farmer Field School on Vegetable and livestock production activities. After several meeting organized, he has strong believe that only agricultural product is a major factor that helps his family have a better life and have save times with the families. He decided to participate as the project beneficiaries on SHG formulation, on vegetable growing and chickens raising through FFS and also volunteered to perform a demonstration farm on home gardening and

chicken raising at his household. After joined the project beneficiary, my family received vegetable seed/crop, chickens, rain water jar, and other knowledge on disaster risk, disaster preparedness, DRR/ WRM/WASH awareness from the project. Which supported of CBDRR project, my family grow the vegetable, raised the chickens for sell. My family earned income from vegetable growing,chickens amount 1,700,000 Riels (\$450) per yearly. Through water cannel built by the project, my family did the rice farming 2-3 times cycle/year which has a good yield (4-5 tons /ha), if compared before cannel built that I got 1 ton/ hecta, he said. Through this result of rice production, my family has enough rice for consumption and have some for sell.

Confidently believing in the CBDRR project, the family of Mr. Smot Art began to change their old habits of raising chickens and annual rice farming. Now, new cages are being constructed and new processes are being used. While he was learning from new technique, under the technical assistance of RCEDO staff, he stated that "I would expect to receive income from growing vegetable, raising chickens and rice production through changing the living condition of my family in the next 2-3 years."

Mr Smot Art said that the chicken raising activity can help his family have a better livelihood and earn more income. Finally, he said "even if my family does not yet get much benefit from this project, but I would like to thank the staff of RCEDO and PDA staff for training and providing technical advice to my family to start raising chickens".

Annex 2: List of participants: FINAL EVALUATION OF Community Based Disaster Risk Reduction

Key Informant Interview:

NAME	Sex	Age	Name of Institution	Position in Institution
Long Pun	M		Mong Kul Borey	District governor
Pin Seng Hap	M		Mong Kul Borey	Deputy District governor
Chhiv VanThuong	M		Phreah Net Phreah	Deputy Admin District
Mean Chhenh	M	65	Taphou Commune	Commune Chief
Bun Sab	M	56	Taphou Commune	1 st Deputy Commune chief
Theang Lun	M	58	Tean Kam Commune	Commune Chief
Doung Pek	M	63	Sras Raing Commune	Commune Chief
Mok Chheun	M	68	Kok Balaing Commune	1 st Deputy Commune Chief
Rain Reuk	M	57	Sangkat Kampong Svay	Sangkat Chief
Houl Kimthun		F 60	Commune	Commune Chief
Chhum Chanthou		F	SEADO	CF
Nay Samnang	M		SEADO	Program Officer
Ros Chamroern	M		SEADO	Admin
Kong Samnang	M		SEADO	Director
Seth Ratana		F	SEADO	FC
Chan Phanna	M	24	CRC	Assistant TA
Huot Sakoly	M	45	IDE	CF
Pich Kamsort	M	35	WVC	ISAF consultant
Eng Nayleang	M	30	CRC	TA
Lem LA	M	35	PCDM	Officer
Sak Mom		F	RCEDO	PO
Kem Chroeurng	M		RCEADO	CF
Lam Chem	M		RCEADO	CF
Sam Serey wathana	M		RCEADO	Director

Comment [W1]: RCEDO

Case Study:

NAME	Sex	Age	Name of Institution	Position in Institution
Din Chan	M	51	VC	Village chief
Reth Vanny	M	30	VC	Deputy VC
Oung Bunhuon	M	48	WUG	Deputy leader
Krouch Chheat	M	43	WUG	Member
Pi Chhoeurn	M	68	Farmer	Vegetable
Sean Seng	M	37	WUG	Member
Mao Sokhom		F 46	WUG	Secretary
Lach Pich		F 59	Farmer	Vegetable

Yong Mao		F	58	Farmer	Vegetable
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Focus Group Discussion:

NAME	Sex	Age	Name of CBO	Position in CBO
Nheb Thoul	M	51	DRRVC	Team leader
Pen Lak	M	68	DRRVC	Deputy team leader
Kong Nov	M	71	DRRVC	Leader
Doung Phorm	M	63	DRRVC	Deputy team leader
Pok Lonn	M	71	DRRVC	Leader
Yeuom Sayan	F	35	SHG	Team leader
Khoun Tom	F	47	SHG	member
Chheuoy Chandy	F	36	SHG	member
Eam Ket	F	40	SHG	member
Chhay Chhum	F	41	SHG	Member
Chheom Kimchheang	F	56	SHG	Member
Dung Chhorm	F	57	SHG	Member
Thae Sinoun	F	60	SHG	Member
Kong Lok	M	65	SHG	Member
Kham Soun	M	67	WUG	Team leader
Neb Vicheth	M	48	SHG	Leader
Kaen Nuch	F	68	SHG	Member
Len Pheap	F	59	SHG	Member
Ngoung Pheab	F	42	SHG	Leader
Yeam Bopha	F	31	SHG	Deputy team leader and cashier
Sreb Kimleang	F	33	SHG	Member
Nam Heik	M	61	DRR	Leader
Sin Choab	M	65	SHG	Member
Eok Bunvin	M	35	DRR	Deputy team leader
Tep Yeng	M	66	SHG	Member
Leok Bunthorn	M	69	CC	CCDM
Bin Pao	M	61	Village chief assistance	DRRVC
Sun Yim	M	60	Deputy Village Chief	DRRVC
Mao Chorm Pann	F	45	Saving Group	Leader
Chhin Seourt	M	60	Deputy Village Chief	CCDM
Chhorn Dang	M	51	Pi Village Chief	CCDM
Chann Seur	M	63	Sophi village member	CCDM
Pao Yung	F	53	Deputy Village Chief	CCDM

Rin Vanny		F	42	Deputy Sophi Village Chief	CCDM
Ry Ratha		F	24	Education and promotion group	Leader
Pao Yung		F	53	Sophi village chief	DRRVC
Sin Chackriya		F	30	Kompong Svay Health center governor	CCDM
Sun Yim	M		60	Kompong Svay deputy chief village	DRRVC
Thlang Chanrith	M		48	Kompong Svay assistance chief commune	CCDM
Chhin Seourt	M		60	Thmey deputy chief village	DRRVC
Soy Sorl	M		40	DRR	DRRVC
Chann Seur	M		63	Sophi village member	DRRVC
Sok Thai	M		63	Kompong Svay chief police	CCDM
Nhean Sok	M		37	Pro Lay Chrai Deputy village	CCDM
Seom Khuy Lan		F	48	Leader	CCDM
Kong Tao	M		70	Village chief	DRRVC
Seam Prum Mao	M		54	Pro Lay Chrai Deputy village	DRRVC
Nham Sek	M		48	Phat Sanda village member	DRRVC
Nob Leourn	M		63	Porav Thmey village chief	DRRVC
Soth Seourn	M		61	Porav Thmey deputy village chief	DRRVC
Pen Lak	M		46	Village member	DRRVC
Kong Nao	M		71	Village member	DRRVC
Doung Pek	M		63	CC	CCDM
Meak Uk	M		58	CC	CCDM
Pran Prom	M		59	Kok Krosang deputy village chief	DRRVC
Thouk Thorn	M		60	Sras Reng village chief	DRRVC
Nob Chhum	M		59	Saving group	Leader
Khorn Yong	M		57	Ta In 2 deputy village chief	DRRVC
Kith Phalla	M		53	Deputy Director of Sras Reng Secondary school	CCDM
Norm Thorn	M		55	Chomkar Chek village chief	DRRVC
Chann Narun		F	63	Kok Chrab village chief	DRRVC
Eab Ban	M		66	Ta Chan village chief	DRRVC
Sngoun Kunthear	M		49	Komrong Director	CCDM
Say Yuy	M		54	Kroch village chief	DRRVC
Mouy Nai	M		47	Sras Reng chief police	CCDM
Samrith Chhoum	M		57	Ta Chan village member	DRRVC
Eab Ban	M		72	Ta Chan village chief	DRRVC
Yorng Yat	M		58	Ta Chan village saving group	Leader
Khorn Yong	M		57	Ta In 2 deputy village chief	DRRVC

Pran Prom	M	59	Kok Krosang village member	DRRVC
Nob Chum	M	59	Kok Krosang village saving group	Member
Chan Narun	F	65	Kok Chrab village chief	CCDM
Say Yuy	M	53	Kroch village chief	DRRVC
Nga Bun Chorn	M	31	Saving group	Leader
Nom Suo Tha	F	50	Sras Reng village member	DRRVC
Bom Thida	F	50	Kroch deputy village chief	DRRVC
Yeong Lei	F	65	Kok Krosang deputy village chief	DRRVC
Vann Savong	M	46	Village member	CCDM
Khao Khun	M	60	Kroch village member	CCDM
In Por	M	70	Village member	CCDM
Pei Sao Kin	F	35	Sna village saving group's member	Member
Lout Phos	F	46	Sna village saving group's member	Member
Chab Thourk	F	50	Saving group's member	Member
Horm Tom	F	38	Saving group's member	Member
Phan Sopheab	M	53	DRR	DRRVC member
Chen Chat	F	43	Village health supporter	Member
Tuon Chor Eida	F	30	CCDM	CCDM member
Ab Nhean	F	37	Saving group	Member
Chim Ra	F	48	Saving group	Member
Chok Chann Ry	F	30	Saving group	Member
Leav Blong	F	84	Saving group	Member
Hong Fun	F	57	Saving group	Member
Leang Nan	F	66	Saving group	Member
Heourk Sareourt	F	49	Saving group's member	Member
Eourm Sophal	M	50	DRR	CCDM
Seak Seurt	M	45	Chief police	CCDM
Khun Houn	F	57	Village member	CCDM
Sok Nary	F	30	CC	CCDM
Ros Sopheap	M	56	Chief Komrong hall	CCDM
Ear Channy	F	49	Deputy village chief	CCDM
Chorn Bunreourn	M	60	Educator staff	CCDM
Eourb Ruth	M	50	Member	CCDM
Sreng Heng	M	62	Member	CCDM
Nai Sar	M	57	Kantout deputy village	CCDM
Un Savy	M	64	Ta Bek village chief	CCDM
EP Nao	M	37	Bantot Bos village member	DRRVC
Khan Minh	F	47	Tean Kom Peung village assistance	DRRVC
Bo Sarou	M	45	Member	DRRVC

Sok meng	M	60	Ta Oun deputy village chief	DRRVC
Nom Heok	M	61	O village chief	DRRVC
Neb Romchet	M	48	O deputy village chief	DRRVC
Sean Seng	M	37	O village member	DRRVC
Cheourng Chai ya	M	52	Chief police	DRRVC
Neth Seung	M	50	Village chief	DRRVC
Svay Thoeurn	M	56	CC	CCDM
Phorng Yong	M	48	CC	CCDM
Liv Sarin	M	60	Commission Pongror village	DRRVC
Soun Sros	M	55	Pongror village's member	DRRVC
Prim Kiv	M	59	Pongror village chief	DRRVC
Nork Hean	M	48	Korong Ta Pho 1 director	CCDM
Khorn Thouk	M	43	Thmey village chief	DRRVC
Khun Sahung	F	29	Thmey deputy village chief	DRRVC
Phin Yean	M	50	លេខាធិការ Secretary Thmey village	DRRVC
Seang Samon	M	53	Village chief	DRRVC
Hong Dul	M	43	Deputy village chief	DRRVC
Vath Srei Pich	F	52	Prey Ke village saving group	Leader
Nich Houy	F	59	Saving group	Member
Nich Hout	F	52	Saving group	Member
Yot Savann	F	52	Saving group	Member
Ne Lach	F	51	Kok Ke villagers	Benefiter
Dinh Pann	M	51	Kok Ke village chief	DRRVC
Net Vann Dem	M	30	Kok Ke saving group	Leader
Pok Moeury	M	62	Rice banking group	Leader
Ne Lam	M	53	Deputy village chief	DRRVC
Chuk Nou	M	46	Saving group	DRRVC
Kean Kim Teang	F	43	Rice banking group	Member