

Climate Change Adaptation, Rural Community Development Grant

Description of situation

Most Cambodian farmers depend on subsistence rain fed rice farming, which is vulnerable to climate hazards such as flood and drought. Crop losses will lead to food shortages and poor health, but there are a number of farming practices available to adapt to climate events. These include direct seeding, minimum tillage, mulching, changing cropping patterns, etc. Furthermore promotion of household integrated farming, which includes multi-cropping, livestock raising and aquaculture, will assist farmers in generating higher incomes, and improve food security and rural livelihoods.

Animal morbidity and mortality tend to increase in periods of floods and drought. During floods, animals are kept in flood safe areas, where high concentration is conducive to disease transmission. During droughts, water shortages and high temperatures, combined with food scarcity, make animals more sensitive to diseases.

Sufficient supply of water remains critical for rural Cambodians, which would enable them to better adapt to changing climate conditions. Approximately 30 percent of the rural population has access to safe water supply for domestic use, while the remaining experiences insufficient supply of water.

The use of these farming practices remains limited in Cambodia as well as farmers' awareness of good animal husbandry practices remains limited. In addition, there is a crucial lack of trained veterinary extension workers in rural areas.

Goals

The climate change program aims to develop rural communities' capacity to adapt to immediate environmental change. The program's broad goals are:

- To establish sustainable aquaculture and agriculture.
- To diversify livelihoods and improve access to natural resources.
- To increase long-term capacity to adapt to climate change.
- To improve preparedness to flood and drought.

The Rural Community Development Grant project intends to enable the target families to become self-sustaining and increase their income generating potential in an environmentally responsible manner. The program's long-term aims are as follows:

- To increase capacity and skill in sustainable agriculture and aquaculture.
- To increase livestock productivity;
- To reduce animal morbidity and mortality under climate stress.
- To increase agricultural productivity;
- To reduce crop damage due to extreme climate events.
- To increase production of the family farms beyond household consumption in order to generate income.
- To provide households with sufficient water to cope with droughts.
- To facilitate the transition from chemical to natural compost-based fertilizer.
- To form producer experience groups to facilitate knowledge sharing between individuals.

Activities

- Raise awareness on the need for adaptation to climate hazards;
- Coordinate with local authorities to identify and select sites for the project;
- Identify villagers most vulnerable to flood and drought;
- Select village veterinary workers and train village veterinary workers on good animal husbandry practices;
- Disseminate good animal husbandry practices, experience and technologies to other areas;
- Improve agricultural extension workers' knowledge of adaptation technologies;
- Educate selected farmers on sustainable farming, livestock and aquaculture technologies;
- Introduce drought and flood resistant crop varieties; and
- Introduce cultivation practices for mitigating and suitable crop management strategies to adapt to drought and floods;
- Educate selected villagers in water resources management including household water treatment and safe storage.

Current Conditions

The proposed Rural Community Development Grant project is the next phase of the Together Addressing Climate Change Initiative Activities in Prey Veng (TACCI-PV) program, whose objective is to implement climate change adaptation in the Prey Veng province using a multi-sectoral approach. Until now, the program has focused its efforts in capacity building and training involving both government and the local communities. We have strengthened communication between different levels of government as well as increased awareness of the effects of climate change and natural resource management techniques within the local community.

Water shortages are a common occurrence in the communities. Only a few families have wells which are deep enough to secure clean water all year round. Most of the wells dry out during the dry season when the groundwater level is more than 30 meter below ground. The poorest families do not own or have access to a well or can afford larger storage tanks. Large cement water tanks can store sufficient rainwater and allow households to better cope with droughts. The only fresh water resources available for these people are rainwater in ponds and streams, which unfortunately dry out in the dry season. Collection of the flowing rainwater is the only way which the poorest people can resort to get potable water. Primitive water tanks where sand and rocks are used as a filter is installed in the communities. The purification is inefficient and contains subsequently still bacteria and chemical fertilizer that are harmful to health.

In the dry season families are struggling to collect water to keep their home garden with crops. Rice farming is only possible in the wet season. In some areas people can only harvest once while areas closer to the lake can extend the production to twice a year. Introduction and teaching farmers in the System of Rice Intensification (SRI) method and implement the method can increase the yield from 2 t/ha to 4-6 t/ha, while using less water.

Health Centers are functioning in the communities but the centers are not open and available 24/7. The centers have lack of supplies which forces people to use the expensive private clinics. The poorest families can not afford to go to the private clinics for treatments.

In the communities about 50% of the families have access to latrines (toilets), while the remaining use the fields or dig holes on the family plot. When water is available personal

hygiene is not an issue. People have a basic knowledge, how to avoid contamination of water and food. But during the dry season especially children and other vulnerable persons struggle with diseases relating to poor hygiene.

Livestock are normally grazing on the fields or in the families plot. The animals also receive rice as a normal part of their supplements. Raw material for food supplement production to chickens, pigs, cows and buffaloes etc. is not available in the communities. In the dry season fodder for the animals has to be bought at the market.

Chemical fertilizer is the most used subsidies for crops. Production of natural fertilizer is lacking in the communities. The usage of organic matter (once-living organisms such as plants and animals and their waste products) as farm compost and organic fertilizer can increase crop yields and it is healthier for humans.

According to a vulnerability assessment we conducted in the communities, the two greatest challenges currently facing residents are food security and access to clean water. Our grant program, in conjunction with the training and workshops, would provide an opportunity for families to become self-sustaining and more resilient in the face of changing climatic conditions. As the next part of the program, we plan to give **\$70** one-time grants to eligible families in the province for the purchase of equipment, seeds and livestock for the improvement of family farms and income generation activities such as small business, animal raising and vegetable growing.

Methods of project operation

Due to our continuing efforts in providing training and support in the Prey Veng province, we will be able to leverage our existing relationship with local families to administer and monitor the grant.

We will prioritize grant support for those who fit the following criteria:

- single mothers and widows;
 - those who are adversely affected by flood, drought or other natural disaster.
 - those who are having trouble providing for their families.
 - those who currently live in sub-standard housing.
 - those who have multiple young children.

Complementing our current network in the province, we plan to partner with the Commune Council for Women and Children, a local NGO providing social support for the poor, to help us identify eligible grant recipients as defined above.

After identification of potential recipients, our staff will perform visits to small groups of target recipients to explain the nature of the grant program, the restrictions of fund usage as well as to observe the existing conditions. As part of the approval process, we will interview and visit the candidate's home to verify their needs as well as consider the recommendations of community groups. After a recipient has been approved, their intended use of their funds will be documented and our staff will follow up with individual house visits to verify use of funds.

We will together with the local communities support the recipients to improve their capacity and skill in sustainable agriculture and aquaculture. Furthermore, the villagers are taught the importance of coping with flood and drought including traditional adaptation measures like building elevated enclosures for livestock, increasing the household's foodstock, increasing feedstock for animals, and when to plant their crops.

We are seeking to improve water security in the communities by encouraging the community to take care of their water resources by improving existing sources, building rainwater harvesting ponds and tanks, installing latrines and soak pits to prevent contamination of water sources.

As part of our evaluation process, we will conduct follow-up group interviews with recipients to consider any feedback on the program as well as assess any emerging needs/gaps.

Project location(s)

According to Cambodia National Adaptation Programme of Action (NAPA) to Climate Change: Prey Veng Province was identified as the:

- most vulnerable province to floods and
- second most vulnerable to droughts.

The flooding in Prey Veng during September-October 2011 was at highest levels since 2000, and resulted in large scale losses to the annual rice crop as well as damage to properties and other hardships. In response to the community's vulnerability to climate change, we focused our climate change program in the province.

The target area (the top half of the Boeung Snae Lake in Prey Veng Province is about 10km long and 2 Km wide) It covers 21 villages (with 4 Districts and 5 Communes) and has a total population of approximately 18,910 people. The target Districts are noted in recent vulnerability assessments as highly vulnerable to drought and floods. Many villagers rely on the lake for their livelihoods and in recent years have seen the fish stocks and local environment degenerated. The Lake was suggested by Prey Veng Fisheries Cantonment as a good site for rehabilitation, community fishing promotion and education about sustainable resource management and adapting fishing, farming and land use practices for Climate Change preparedness. The surrounding environment includes a community forest area which is shelter for many bird species, and areas for regeneration of flooded forest.

Project duration and beneficiaries

Through our Climate Change program focused on education and capacity building in the Prey Veng area, we have an existing reach of **200** families. In the first year of operations, we intend to pilot the program with these families, especially targeting those households headed by women and subsist on low income. Upon successful implementation of the project, we plan to roll out the program to the remaining poor families in the area to correspond with our planned expansion of the existing climate change and adaptation program.

Short-term outputs

In the first year of operations, we hope to achieve the following outcomes with the grant program in combination with our existing training and workshops:

- Agricultural productivity improved;
- Sustainable integrated farming introduced and successfully implemented; and
- Public awareness of the significance of adaptation measures increased.

Potential long-term outcomes

- Livestock productivity increased;
- Improved year-on-year livestock survival rates through improved nutrition and caretaking.
- Increased food security to fulfill the target families' consumption throughout the year.

- Rural livelihoods improved;
- Sustainable integrated farming expanded to other areas;
- Sufficient water for household consumption during droughts provided; and
- Poverty reduced.

Nature of the project

No other NGO's are doing preparedness activities regarding farming adaptation. They are all focusing on recovery activities when natural disasters have happened. Governmental authorities are investing in infrastructure including irrigation system for rice farming. The local communities have lack of funds to help vulnerable and poor families to improve their capacity and resources. After our efforts to build capacity and awareness in the local communities in 21 villages, it is the optimal time to roll-out the proposed Rural Community Development Grant project as the next phase of the climate change initiative. The villagers are now ready to undertake additional training and education to improve their skills and knowledge. The communities are already aware of the importance of conservation and resource management in sustainable agriculture and aquaculture. People are eager to participate in courses and workshops and they are willing to travel for them.

List of Attachments

Attachment 1: The larger program Together Addressing Climate Change Initiative Activities in Prey Veng (TACCI-PV).

Attachment 2: Population in the target area.

Attachment 3: Detailed description of the Activities.

Attachment 1: The larger program Together Addressing Climate Change Initiative Prey Veng (TACCI-PV):

Background

The occurrence of drought and flood is widespread in Cambodia, which are recognized as the main contributors of poverty. According to National Adaption Programme of Action (NAPA) to Climate Change for Cambodia, page 1; “Projected changes in climate could have major consequences on hydrology and water resources, agriculture and food security, terrestrial and freshwater ecosystems, coastal zones and marine ecosystems, and human health. Adverse impacts include increased flood and drought magnitude and damages in temperate and tropical Asia, reductions in crop yields, decrease water availability, and increase in the number of people exposed to vector and water-borne diseases.”

Furthermore, the NAPA report stated, page 3, that; “Agriculture (including agro-forestry) and rural development are recognised to be of enormous importance to poverty reduction. Rural livelihoods are marked by wet-dry seasonality and are vulnerable to changing weather patterns.”

Moreover the Prey Veng Province was identified as the most vulnerable province to floods and second most vulnerable to droughts, respectively, page 2 and page 3. On page 4 and 5, it is listed that; “Cambodia has implemented a number of projects to address climate hazards.” and “However, the analysis shows that current national policies and programmes do not integrate global policies on climate change, focusing mainly on post-disaster emergency relief. Programmes for improving community capacity and enhancing community-based initiatives to cope with climate hazards and adapt to climate variability receives little attention. Furthermore, these programmes have limited geographical coverage of areas identified as vulnerable to climate hazards. It also indicates that programmes for developing and disseminating climate forecast are limited and longterm programmes on research and education for addressing climate variability and climate change have not been well developed.”

Purpose of project

Together Addressing Climate Change Initiative Activities in Prey Veng (TACCI-PV) project aims to build a multi-sectoral approach to climate change adaptation in the Prey Veng Province involving Government and Community through strengthening capacity and coordination of sub-national authorities; enhancing National/sub- national relationships and dialogue; and enhancing all stakeholders awareness, participation and management of natural resources and climate change adaptation processes.

The project also has three specific objectives:

1. Strengthen capacity of sub-national authorities through stronger coordination mechanisms, training and study exchanges; and support for demonstrating Climate Change Adaptation (CCA) initiatives;
2. Strengthen relationships and policy dialogue between national and sub-national authorities in CCA through involvement of focal points from key national department;
3. Strengthen community awareness about CCA through outreach and awareness activities, and support for mechanisms that promote community participation and management of national resources and climate change adaptation.

Approach

- Consultative and participatory approaches will be used in orientation of the project and gaining participation of all target groups (participatory approaches to community development, social health and environmental education and behavior change communication principles).
- Continue to use a participatory approach in education at the community level, and working with village, commune, district and provincial authorities.
- The project will work closely with community institutions such as schools and pagodas (especially Wat Tuop Sdach) in terms of sharing messages and in involvement in activities.
- Project activities will include Gender components to ensure women and girls are encouraged to participate in relevant activities- whether it will be in trainings, focus group discussions, community art competition or events.
- Project activities near Boeung Snae will educate community members, especially vulnerable families about the impacts of climate change and what they can do to prepare for extreme weather events.
- This project aims to evolve and build on achievements and experience from previous and ongoing projects. Examples of this include more intense training for relevant government staff that received basic training; expanding community education into new villages and supporting some transitional activities in previous villages such as formation of Community based organizations and eco-tourism group; showcasing achievements as a way to inform and empower authorities and communities to continue cooperating in CC response.
- Continue to build relationships with other NGOs working in CCA such as those in the Cambodian Climate Change Network in order to learn and share experiences.

Expected outcome

The TACCI-PV project expects to produce the following key results:

- Stronger authorities at Provincial level, linked to national and community level will enhance stronger coordination and cooperation, awareness and knowledge about CCA and participation demonstrations and study exchanges equipping authorities to understand, plan and upscale CCA initiatives.
- Stronger relationships between key National and Sub-national departments, sharing of information and dialogue about policy related to climate change adaptation will benefit both National and sub-national governments cooperation and knowledge exchange.
- Local communities will be more prepared for Climate Change (CC) events through making CCA plans and more involved in local environmental actions. Fishing and Forestry Protection Zones will be managed by community. Overall this creates stronger and more resilient communities.
- Vulnerable families will be supported in livelihood enhancement activities, and in fish raising and tree planting. The project will make a concerted effort to ensure vulnerable people are considered in Government and Community responses to CC.
- DVD and other materials will showcase good practices to the broader community including Government, civil society and community members spreading the messages across Cambodia and beyond, and highlighting involvement of Donors and partners.

Sustainability

The Provincial Technical Working Group (TWG) for Climate Change, made up of Provincial Departments and District Chiefs, is a key mechanism for sustainability. It is hoped that bringing together this committee will enhance knowledge about climate change issues in Prey Veng and act as a catalyst for resource mobilization towards necessary future projects. It is also hoped that the achievements of the TWG will encourage it to be supported on an ongoing basis by the Provincial Government.

Assisting community groups to strengthen management mechanisms will also build the capacity of local human resources in responding to CC events. This includes Fishing Communities, the Natural Resource Management Committees and so forth.

Attachment 3: Population in the target area

Commune	Village	Population Total	Farmland by /ha	Family number Total	Family number Poor	Family number Fishing
Baray	Baray East	1,203	472	418	125	10
P Kandieng	Prey Khla	1,602	419	407	163	407
	P Ankkunh	1,611	504	375	225	100
Damrey Poun	Chamkar Kouy	845	236	170	35	3
	O Kandol	491	251	115	32	4
	Chamkar kouy	1,103	267	221	52	2
	Thbong Kdey	921	265	169	32	6
	Prey Phleang	992	247	204	45	5
	Korm Pradeus	553	205	45	32	4
Samrong	Ta Kort	974	265	185	42	3
	Samrong	1,231	285	238	35	9
	Prey Cheuteal	974	265	185	35	3
	Prey Khnornng	603	282	131	24	1
	Thmey	340	91	79	14	2
	Pro Hout	695	243	177	26	2
	Proleung Meas	595	271	140	32	1
	Trach	560	265	147	22	1
	Kandal	549	270	139	25	4
Theay	Kg Sner	1,214	8	235	89	22
	Kg Sleng	951	147	230	45	30
	Torp Sdach	903	234	217	37	57
TOTAL		18,910	5,492	4,227	1,167	676

Attachment 3: Detailed description of the Activities.

Our staff in Phnom Penh will provide management and technical support and work close together with the staff and volunteers at the Prey Veng department.

We will work in collaboration with stakeholders, village chiefs, and commune council for women and children committee (CCWC) as well as Department of rural development, health and provincial governor in the Prey Veng.

We will conduct quarterly meetings with all stakeholders relevant for the activities (around 30 people). These meetings will benefit the coordination with local authorities and secure the most effective project.

We will collaborate with Department of Agriculture in the selection of village veterinary workers. Village veterinary people will be invited according to the district and provincial veterinary nomination and trainer from those department partnerships to conduct training but we need to support them.

The Department of Agriculture is our partner in teaching and educating agricultural extension workers to improve their knowledge of adaptation technologies.

Our staff worker and community volunteers will teach and educate the farmers on sustainable farming, livestock and aquaculture technologies as well as introducing the farmers to drought and flood resistant crop varieties.

Community volunteer and staff that received training from the Department of Agriculture will introduce the farmers to cultivation practices for mitigating and suitable crop management strategies to adapt to drought and floods.

Our staff, community volunteers and government staff of water resource management will teach and educate the villagers in water resources management including household water treatment and safe storage.

Through Community education session and community events we will disseminate good animal husbandry practices, experience and technologies to other areas.