Coastal Adaptation and Resilience Planning Component

Effective Mechanisms for Climate Change Mainstreaming in Sub-National Planning

January

2014

Cambodia Climate Change Alliance (CCCA)

Implemented by: Ministry of Environment

Supported by: European Union, UNDP Empowered lives Resilient nations, Danida, SWEDEN

UNEP-DHI CENTRE for Water and Environment

Table of Contents

Acknowledgement

This Report was produced under the Coastal Adaptation and Resilience Planning Component, implemented by the CCCA. Its findings are based on lessons learnt from activities implemented under the component.

The Team gratefully acknowledges the support and guidance provided by H.E. Dr. Say Samal, Minister of Environment; H.E. Dr. Mok Mareth, Former Senior Minister and Minister of Environment; H.E. Dr. Lonh Heal, Director General, MOE; Dr. Tin Ponlok, Deputy Director General and Head of the Trust Fund Secretariat, MOE; Mr. Sum Thy, Director of Climate Change Department, MOE, and Dr. Vann Monyneath, National Project Coordinator. Many other people from MOE as well as from other ministries, the Governors' offices, province and district departments and commune councils were also consulted for this report.

The Team sincerely thanks everyone who kindly shared their time, knowledge and suggestions, and is looking forward with enthusiasm and confidence to a continued fruitful dialogue with all stakeholders.

Summary

Climate change planning and mainstreaming is now undertaken at various levels with notable progress achieved at the national level. The Cambodia Climate Change Strategic Plan and Sector Climate Change Strategic Plans have been adopted, which provides a comprehensive policy framework for integration of climate change at national and sub-national levels. Several initiatives and ongoing projects are implemented at provincial levels using both government and international planning practice. The Coastal Adaptation and Climate Resilience Planning component of the CCCA has been implemented since 2012 in eight communes in Prey Nob and Mondol Seima districts in Preah Sihanouk and Koh Kong provinces. The CARP's approach – implementation of demonstration activities and integration of climate change considerations into Commune Development Plans - is based on current government planning procedures and guidelines for sub-national administrations. CARP experience indicates that a clear opportunity exists for mainstreaming climate change into the DP5 and the IP3. However, a lack of formal institutional structures and guidelines will make it difficult to sustain it at the sub-national level. Based on a comprehensive analysis of the current institutional structure for climate change planning at the national level and taking into consideration the parameters of the ongoing D&D reform, the establishment of a Climate Change Coordination Unit as part of the NCCC and the NCDD is proposed. It would benefit from already developed capacity within the TWGs and could recruit additional members using D&D rules and regulations. Its overriding tasks would be to improve planning and budgeting procedures, promote capacity development and establish M&E systems for sub-national climate change planning and implementation. When the improved institutional framework for climate change planning and implementation has been put in place, ongoing activities should be expanded into more coastal areas and in-land provinces.

The CARP is firmly committed to a continuous dialogue, sharing observations, suggestions and recommendations in support of the evolving national mainstreaming processes. NCDD and MOP are seen as key partners in this connection, with NCCC and its secretariat providing important support in many ways, including activation of inter-sector synergies.

The annexes of the report present the demonstration activities implemented in the eight target communes in the format used in the CIPs.

I. Background

1.1 Objective and Approach

The Coastal Adaptation and Resilience Planning Project (CARP) is designed to increase resilience of coastal communities and ecosystems to climate change through adaptation planning, demonstrated targeted local interventions and provision of practical learning exercises under the institutional framework of the National Climate Change Committee (NCCC) and its Climate Change Department. The CARP is one of the components of the project portfolio of the Cambodia Climate Change Alliance (CCCA). The main objectives of CARP include: i) improved climate change knowledge integrated into land use and coastal development plans; ii) increased resilience of coastal communities and coastal system buffers to climate change, and improved livelihoods in the coastal zone. The development of a coordination mechanism for climate change mainstreaming at the sub-national level is part of the assignment on "Integrating Climate Change Considerations for Coastal Areas into Commune Development Plans (CDP) and Commune Investment Programs, and Developed Climate Change Mechanisms". This coordination mechanism is developed based on 1) an analysis of the current institutional structure for climate change planning at national and sub-national levels and 2) the experiences with and progress made by several initiatives taken and projects implemented at various levels, including the implementation of six adaptation demonstration projects and integration of those projects into CDPs and Commune Investment Programs (CIP). The analytical findings and lessons learnt help improve our understanding of the opportunities and challenges associated with climate change planning at national and sub-national levels.

1.2 Commune Investment Plans for the Target Communes

In annexes 1-8, the demonstration activities have been spelled out according to the format used for CIPs, thereby providing the required details. In addition, a specific template has been included which focuses on climate change considerations in relation to the demonstration projects.

CIPs including climate change demonstration actions have been developed for the following communes:

0502: Peam Krasaob Commune, Mondol Seima District
0503: Tuol Kokir Commune, Mondol Seima District
0206: Ou Oknha Heng Commune, Prey Nob District
0207: Prey Nob Commune, Prey Nob District
0209: Sameakki Commune, Prey Nob District
0211: Tuek L'ak Commune, Prey Nob District
0212: Tuek Thla Commune, Prey Nob District
0213: Tuol Totueng Commune, Prey Nob District

II. Overview of Climate Change Mainstreaming at the National Level

2.1 Institutional Structure

Good progress has been achieved in developing an institutional framework for coordination of climate change planning and policy responses to the impacts of climate change since Cambodia ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1996. A National Climate Change Committee was set up in 2006 with the mandate to prepare, coordinate and monitor the implementation of all policies, strategies, legal instruments, plans and programmes of the Royal Government of Cambodia (RGC) which address climate change issues. The NCCC is a high-level inter-ministerial coordination committee headed by the Prime Minister as an Honorary Chair and the Minister of Environment as Permanent Chairman. The NCCC has members representing 20 line ministries and agencies with representatives of MAFF, MIME and MOWRAM serving as Deputy Chairs. To fulfill its mandate, the NCCC is assisted by a Climate Change Department (CDD) established under the Ministry of Environment and a Climate Change Technical Team (CCTT) formed by technical officers from relevant ministries. The Sub-Decree on the Establishment of the NCCC (April 2006) specifies the role of the NCCC as the following:

- Develop draft climate change policies, strategies, legal instruments, plans and programmes, including national greenhouse gas (GHG) mitigation and climate change adaptation plans, for submission to the Royal Government for consideration and approval;
- Promote and encourage broad participation of all stakeholders in the development and the effective implementation of climate change policies, strategies, legal instruments, plans and programmes to ensure they are in line with the national development objectives and priorities;
- Promote and encourage the integration of climate change concerns into relevant policies, strategies, legal instruments, plans and programmes;
- Mobilise resources, in particular grants, for the implementation of these climate change policies, strategies, legal instruments, plans and programmes;
- Promote the transfer of appropriate technologies, renewable technologies, and conservation and enhancement of carbon sinks;
- Determine national positions and strategies for participating in international negotiations on climate change;
- Review and approve national reports that are required to be prepared by the UNFCCC;
- Coordinate activities concerning the implementation of the UNFCCC, its protocols, and other climate change international agreements to which Cambodia is a party;
- Manage and coordinate the Clean Development Mechanism of the Kyoto Protocol in Cambodia;
- Report to the Royal Government on climate change issues, status of UNFCCC implementation and international negotiation processes;

- Promote education, awareness raising, training and information dissemination on climate change for the general public;
- Participate in national, regional and international conferences and workshops on climate change related issues;
- Coordinate and oversee the implementation of climate change projects, programmes and research activities in Cambodia;
- Review and approve work plans and reports of the Climate Change Technical Team (CCTT) to be established in accordance with Article 4 of this Sub-Decree;
- Promote international cooperation in the field of climate change.

The NCCC and its secretariat still lack technical capacity, guidelines, policies, regulations and resources for effective coordination and implementation of climate change projects and programmes and rely heavily on external resources for funding. However, capacity and resources mobilisation has gradually improved through the establishment of the Cambodia Climate Change Alliance (CCCA), a multi-donor initiative funded by the United Nations Development Programme (UNDP), the Swedish International Development Cooperation Agency (SIDA), the Danish International Development Agency (DANIDA), and the European Commission (EC). The development objective of the CCCA programme is: "Climate change activities in Cambodia are nationally owned, led and aligned with Cambodia's development priorities, and are effectively coordinated and implemented". The future of the CCCA programme and its trust fund is unclear, that is, whether it will continue in the same manner after completion of the first phase of the programme or transforms into a more permanent mechanism for mobilisation and allocation of funds.

2.2 The Planning Process

Climate change planning is not considered as a separate planning exercise but rather one built upon and embedded in the National Strategic Development Plans (NSDP) and associated sector development plans. Usually, the planning department of each ministry compiles all sector strategies and plans, get them endorsed by the minister and submit them to the Ministry of Planning for consolidation into the NSDP. Approval of these plans as well as specific public investment programmes (PIP) is coordinated by the MOP and the Council for the Development of Cambodia (CDC). The role of the MEF is to negotiate with line ministries the proposed budgets for their planned activities, which will be consolidated into a budget law to be approved by the Parliament on an annual basis.

The climate change planning process nearly follows the practices and guidelines provided by the Ministry of Planning and the Council of Ministers. The distinction is that climate change planning requires a comprehensive understanding of climate change impacts and risks on the basis of which projections are made and cost-effective policy responses are devised. Although many planning tools and guidelines have been developed by IPCC and various other organisations, it still poses a big challenge to devise the right responses due to the uncertainty inherent in climate change projections and resultant difficulties in risk and impact modeling on

the one hand, and the socio-economic status in the communities and their lack of climate change adaptation capacity on the other hand. A template, tools and guidelines have been developed by the CCD with technical assistance from the CCCA. They are based on government procedures and international best practices on climate change planning but subject to further revision. Limited funding resources and competing development priorities are additional constraints to effective climate change mainstreaming at the national level.

Concerning the approval process, it is not clear if the sector climate change strategies and action plans (or PIP) must get endorsement by the NCCC before submission to the MOP, the CDC and the MEF. What is obvious at this stage is the coordination role that the NCCC can play, which includes promotion of capacity development and awareness raising, provision of guidelines and climate change risk/impacts assessment, GHG inventory and mitigation potential, and mobilisation of funding support from various sources. Initial work was carried out in the form of the preparation of national communications to the UNFCCC and development of a National Adaptation Program of Action (NAPA) in 2006, which function as initial planning and assessment tools and constitute a policy framework for adaptation responses in four priority sectors: agriculture; water resources; health; and coastal areas. A Cambodia Climate Change Strategic Plan (CCCSP) has been completed and approved by the Prime Minister together with Sector Climate Change Strategic Plans (SCCSP) for 10 line ministries, namely Ministry of Environment (MOE), Ministry of Agriculture, Forestry and Fisheries (MAFF), Ministry of Water Resources and Meteorology (MOWRAM), Ministry of Industry, Mines and Energy (MIME), Ministry of Public Works and Transport (MPWT), Ministry of Rural Development (MRD), Ministry of Health (MOH), National Committee for Disaster Management (NCDM), Ministry of Education, Youth and Sports (MOEYS), and Ministry of Women Affairs (MOWA). Line ministries are now in the process of developing Climate Change Action Plans (CCAP) based on guidelines from the Council of Ministers. The CCAPs provide a list of prioritised actions for a period of five years consistent with the timeframe of the NSDP 2014-2018. Altogether, the CCCSP, SCCSPs and CCAPs provide a comprehensive framework for integration of climate change projects and programmes at national and sub-national levels.

In parallel with CCCA's procedures, the RGC, in collaboration with the World Bank (WB) and ADB, has developed the "Strategic Programme for Climate Resilience" (SPCR) aiming to support investments and capacity building activities for mainstreaming climate resilience into development policies, plans and projects. The Pilot Programme for Climate Change Resilience (PPCR) Phase one was developed with the assistance of the Asian Development Bank (ADB), WB and UNDP, and became effective in January 2011 with a grant of USD 1.5 million from the Climate Investment Fund (CIF). Its primary objective was to prepare the necessary ground work for Phase Two investments under the SPCR, which was structured into five components. Planning of the PPCR and the SPCR was based on a series of fact-finding ADB and WB missions which was carried out to identify potential climate resilience projects in consultation with line ministries and other stakeholders. ADB also recognised the role that the NCCC and the CCTT had to play in the consultation process and for endorsement purposes. After endorsement by the NCCC, the MEF played a primary role in negotiations with donors on funding for PPCR projects and in making decisions on project financing portfolios. The Proposals under PPCR

Phase II were prepared and approved by the CIF in June 2011 with a total cost of US$ 86 million. The SPCR is now implemented with a potential funding of nearly US$ 400 million for investment projects, mainly in the water resources, infrastructure and agriculture sectors.

It is understood that the climate change planning and budgeting process will evolve gradually, and that it may take some time before it becomes a routine exercise for government entities at the different levels. Its success will depend on the effective implementation of the evolving national administrative/financial management reforms as well as strong coordination between and clear division of tasks among the MEF, the MOP, the NCCC/MOE, line ministries and the National Committee for Democratic Development (NCDD) at the sub-national Level. Following the recent formation of the RGC of the fifth legislature, a new institutional structure of MEF has been approved by a sub-decree (16 Oct. 2013) leaving it with a total of 12 General Directorates, one of which may involve sub-national financing for climate change issues, i.e. the General Directorate of Finance for Sub-National Administration. Other ministries may be subject to restructuring as well. But most important will be to ensure the ability of consistent and sustainable allocation of government funds and funds from the international donor community to climate change mainstreaming at both national and sub-national levels, the smooth transfer of functions from national ministries to sub-national administrations, and that a sub-national climate change coordination mechanism is adopted as part of the decentralization and de-concentration (D&D) reform.

III. Climate Change Mainstreaming at the Sub-National Level

3.1 Institutional Structure

The current sub-national development planning is undertaken by two main entities: the provincial line departments which are linked to the central line ministries; and the provinces, districts/municipalities and commune/sangkat Councils which are linked to the Ministry of Interior (MOI) and the NCDD. Currently, the provincial departments follow the planning process and procedures as directed by both the central ministries and the provincial authorities, while the provincial, district and commune councils follow the planning process as specified in the Organic Law (May 2008) on “Administrative Management of the Capital, Municipalities, Districts and Khans”, the Law on “the Election of Capital Council, Provincial Councils, District Councils and Khan Councils” (May 2008), the Sub-Decree on the Development Plans and Three Year Rolling Investment Programs for Capital, Provinces, Municipalities, Districts and Khans (Dec 2009), and the Joint Prakas on Development Plans and Three Year Rolling Investment Programs for Capital, Provinces, Municipalities, Districts and Khans (Dec 2010).

As part of the D&D reform and based on Article 200 of the Organic Law, the provincial departments will most likely be transferred to the sub-national administrations. Their planning procedures will thus have to follow the NCDD regulations and guidelines, while the central line ministries will provide only policy advice. A Sub-decree on the Process of Transfer of Functions and Resources to the Sub-National Administrations was enacted in 2012 which stipulates the

general process and timeframe for the transfer of functions and resources of various ministries and institutions to the local administration in accordance with the Organic Law and Law on Commune/ Sangkat Administrative Management (2001). However, only little progress has been made in this regard, perhaps due to the lack of clarity on resources transfer as well as inconsistency between the Organic Law and the Law on Public Financial Management[1] (ADB 2011).

The Organic Law stipulates the establishment of a sub-national institutional framework for development planning, comprising the NCDD, the Sub-National Councils, which include the Provincial Councils, Municipalities Councils, District/Khan Councils, the Technical Facilitation Committee, the Board of Governors, and Commune/Sangkat Councils.

a) National Committee for Democratic Development at Sub-National Level

The NCDD was established by a Royal Decree dated Dec 2008 pursuant to the Organic Law. The NCDD comprises 16 members assigned by key ministries and is chaired by the Minister of MOI. The MOE is not included as a member. The key role of the NCDD is to design and implement the national programme on democratic development at sub-national level in accordance with the Organic Law, the Law on Administrative Management of Communes/Sangkats (2001) and the Law on Public Financial System (PFS), as well as to consult and coordinate with all ministries/institutions in connection with the transfer of functions and responsibilities to sub-national councils which would include:

- Transfer of resources including revenue, finance, personnel, property, and capacity for managing and fulfilling the respective functions;
- Provision of capacity building and empower in order to get access to resources that are necessary for managing and fulfilling each function which includes revenue, finance, personnel, property, and capacity;
- Provision of power and duties to manage and perform all respective functions in line with the principles of local autonomy and local accountability to the maximum level.

In addition, the NCDD has established three sub-committees by a Sub-decree (Jan 2009), namely the Sub-committee on Functions and Resources; the Sub-committee on Financial and Fiscal Affairs; and the Sub-committee on Sub-national Administration Personnel. It is worth noting that the funding of the district and commune administrations is managed through the NCDD, although a large proportion of the funding is directed towards recurrent costs.

[1] The budgeting, approval and revenues are strongly controlled by MEF at national and sub-national levels. A draft Law on Financial Regime and State Property Management for Sub-national Administration is yet to be approved, which would improve resources allocation for local projects (ADB 2011).

b) Sub-National Councils

The municipal, provincial, district and khan councils are established by indirect elections for a term of five years. They are responsible for formulation and approval of five-year development plans (DP5) to be updated annually as parts of three-year rolling investment programmes (IP3); monitoring and evaluation of DP5 and IP3 implementation, approval of budget and expenditure plans, and management and use of assets. The Board of Governors is appointed by the Prime Minister and the MOI to support the councils in carrying out their functions, including implementation of the DP5 and the IP3, and provide oversight. In comparison with the national structure, the functions of the councils are similar to that of the Parliament, while the Board of Governors serves as an executive body.

c) Commune Councils

A commune council is established in each commune through direct elections every five years. Unlike provincial and district councils, the commune council is responsible for preparation and implementation of five-year development plans (CDP5) and three-year rolling investment programmes (CIP3) to be integrated into the district development plan and three-year rolling district investment programmes.

3.2 Procedures and Process for Sub-National Development Planning

The procedure and process for the development of the five-year provincial and district development plans and the three-year rolling investment programme are specified in a Sub-Decree dated Dec. 2009 and in a joint Prakas between the MOI and the MOP dated Dec 2010. The Planning Working Group (PWG) for the DP5 and the IP3 is composed of representatives of all provincial line departments and is chaired by the Provincial Governor. The chief of the Provincial Planning Department serves as a permanent member. The PWG is directly responsible for preparation of the plans including consultation with stakeholders.

The Planning of the provincial DP5 is a four-step process:

- Step 1: Development of work plan and schedule for implementation, including compilation of necessary documents;
- Step 2: Dissemination of information on the preparation of the DP5 to all stakeholders;
- Step 3: Formulation of the draft DP5 based on policy guidelines and procedures specified in the joint Prakas. Main activities include situation analysis and identification of challenges (socio-economic conditions, land use and environment management, status of disaster management and climate change, and administration and security), preparation of a M&E framework, as well as conducting consultations with stakeholders, Board of Governors and the technical facilitation committee. Step 3 provides a possibility for integrating climate change analysis and adaptation measures in the DP5.

Development partners, NGOs and line departments can be involved in determining which specific projects or programmes should be included in the IP3.

- Step 4: Endorsement of the DP5 a review and revision through meetings of district/khan councils, prior endorsement by capital or provincial council, declaration on implementation of the DP5, and monitoring and evaluation.

The provincial DP5 shall be developed through broad stakeholder consultations involving the following:

- Capital/provincial Council
- Municipality, district or khan council;
- Technical Facilitation Committee and other committees under the district council;
- Board of Provincial, Municipal or District Governor;
- Provincial, municipal/district Planning Working Group;
- Offices or units of the district governor;
- Offices or units of line ministries based in the district and province;
- Commune councils;
- Communities;
- Civil society, NGOs and the private sector

Article 17 of the Joint Prakas stipulates the approval process for the provincial DP5, which requires involvement of the NCDD, the MOI and other concerned ministries. After official endorsement by the provincial council, the Board of Governors shall submit the draft DP5 to the Capital/Provincial Governor to revise accordingly and submit it to the NCDD Secretariat. The NCDD Secretariat will copy the DP5 to the MOI, the MOP and the MEF and coordinate the review and consultation process with these three ministries and other stakeholders to ensure that it is in conformity with government policies, laws, provisions and regulations. After consultations, the NCDD Secretariat will submit a summary report and recommendations to MOI for review and endorsement which must be done within 30 days of the day of submission

Box 1: **Goals of DP5 on Land Use, Environment, Disaster and Climate Change in Koh Kong**

Management of Land and Construction

- Establishing social land concession for poor people, handicap militants, and landless families;
- Development of land use master plan and land use planning according to development needs;
- Raising awareness on Land Law and Construction;
- Elimination of illegal land encroachment and demarcation of state land;

Forest

- Promoting sustainable use of forest resources;

Environment

- Improve solid waste management, sewage and strengthening protected area communities;

Natural Disaster

- Strengthening preparedness, prevention, and rescue measures in response to risk of natural disasters;

Climate Change

- Promoting response and adaptation to climate change.

by capital/provincial governor. This period should be spent on stakeholder consultations including clarifying any outstanding issues with the capital/provincial governor. In case of disagreement on the draft, the MOI must inform and request the NCDD to facilitate a solution. In the event of no response from the MOI within 30 days, it is assumed that the DP5 is endorsed. The next step is to publish and disseminate the DP5. The DP5 provides a general development framework consisting of vision, goals, objectives and strategies addressing four categories of issues: i) economic issues; ii) social issues; iii) land use and management of natural resources, environment, natural disaster and climate change; and iv) administration and security (see an example in Box 1). Since climate change is a cross-cutting issue, climate change projects can be mainstreamed in category i, ii, iii, which would involve many sectors such as water resources, agriculture, land use, forest, environment and health sectors. Box 1 serves as an illustration of the ability of Koh Kong Provincial Council to include climate change related goals in the DP5, although their achievement would depend on other factors such as funding availability and the capacity of the Board of Provincial Governors, the Board of the District Governor, the provincial line departments and the Commune Councils, respectively. This issue will be further elaborated in section IV.

The district DP5 is approved by the provincial governor within a timeframe of 30 days (Article 18) upon endorsement by the district council and submission of the draft by the district governor. In case of disagreement, the provincial governor shall inform and request the NCDD Secretariat to facilitate a solution. In case of no response from the provincial governor within 30 days, the district DP5 is assumed to be endorsed.

The development of the IP3, which is done annually, is a three-step process:

- Step 1: Identification of priority proposals, which involves reviewing the proposed investment projects, estimation of benefits, and conducting consultation;
- Step 2: Formulation of the IP3 including situation analysis; preparation of planning matrix, conducting integration workshop, classification of projects according to funding status, and preparation of recommendations for endorsement by the district council and district facilitation committee. The integration workshop is the most important part of the planning process where line departments, civil society, and NGOs are invited to contribute financial and technical inputs;
- Step 3: Endorsement of the IP3 requiring comments from and prior endorsement by the district council and approval by the provincial governor.

Proposed IP3 projects are grouped into three planning matrices: projects already under implementation, projects with funding commitments, and projects without funding commitments.

Provincial line departments still mainly follow the guidelines, policies, and laws and regulations of the respective central line ministries, but their planning also reflects local needs and challenges. The annual and three-year plans are submitted together with budgets to the central ministries for review and endorsement before the planned budgets will be submitted to the

MEF for approval. The MEF may negotiate with the line ministries for budget adjustments based on the predetermined budget ceilings of the RGC before the approved budgets are transferred to the local departments through the respective ministries. Implementation of specific projects by the sub-national departments is based on the budget threshold of each central line ministry. For example, the threshold for the Provincial Department of Water Resources and Meteorology is fixed at 500-1000 million riels. Above that threshold, project implementation would be carried out by the MOWRAM. These planning, approval and implementation procedures may change after the transfer of functions of line ministries to the sub-national level pursuant to the Organic Law. Currently, the main constraints for effective development planning at provincial line departments are the limited budget and capacity.

Commune development planning is carried out in a five-step process:

- Step 1: Drafting the development framework, which identifies commune needs, goals and strategies, and the estimation of resource expenditures (capital and current) for five years;
- Step 2: Consultations with stakeholders, including local communities, line departments, NGOs, civil society, members of commune council, provincial and district facilitators and planning specialists;
- Step 3: Drafting the Commune Development Plan (CDP);
- Step 4: Endorsement of the CDP;
- Step 5: Monitoring and evaluation.

The commune planning and budgeting Committee (CPBC) is established to prepare the CDP5 and the CIP3. The draft CDP5 is submitted to the provincial governor by the district governor for approval. The review of the plans is conducted with the assistance of the local administration, provincial line departments and the planning department (MOP). The CPBC and the commune clerk will revise the CDP5 according to the Provincial Governor's recommendations, after which the commune council will adopt it. Development of the CIP3 is undertaken annually following almost the same steps, but stakeholder consultation and consolidation of comments is conducted at the District Integration Workshop (DIW) held in October or November. Step 2 and step 3 are critical for NGOs, donors and other funding organisations as they provide opportunities for having their preferred projects included in the CDP5 and the CIP3 and entering into temporary contract agreements with commune councils at the DIW.

3.3 The Process Approach used for Mainstreaming Climate Change

Institutional framework of the CARP

The institutional framework for climate change mainstreaming consists of a National Working Group of Focal Officers (NWG) and Technical Working Groups (TWGs) established in each province under the Governor's Office. The members of the NWG represent several departments (MAFF, EIA/MOE, CCD/MOE, GIS/MOE, NCDM, MOWRAM, MLMUPC, and the NCDD). The role of the NWG is to facilitate cooperation and communication with respective

ministries, participate in climate change implementation, capacity building and integration of climate change adaptation and mitigation into planning and policy, and to provide advice to the TWGs. The TWGs are chaired by deputy governors and have members assigned from key provincial departments, district offices and commune councils. The TWGs participate in ad-hoc meetings, provide comments on demonstration projects and attend training sessions on climate change planning and implementation. It is expected that the TWGs could function as the coordinating unit for climate change actions and planning at the provincial level being capacitated through the training organised by the CARP and the parallel LDCF project.

Approach for Planning and Integration of Climate Change Projects in the Target Communes

As mentioned earlier, one of the CARP outputs is demonstration of six coastal adaptation projects in eight communes of Prey Nob and Mondol Seima districts in Preah Sihanouk Ville and Koh Kong provinces. They are the following:

1. Integrated Farming Training Programme for (a) agricultural extension staff and (b) households/families in multi-scale climate change adaptation strategies and integrated farming (integration of crops, livestock, fish, and water) at eight target communes[1]. This is preceded by agro- ecological analysis as an integral part and includes demonstration in on-farm water management measures. This demonstration activity is implemented in partnership with the Department of Agricultural Extension, MAFF.

2. Community Fisheries project at Peam Krasaob Commune; especially in terms of strengthening regulatory measures and their enforcement as preconditions for making the livelihood of fishing communities more adaptable to climate change. This demonstration activity is implemented in partnership with the Fisheries Administration, MAFF.

3. Promotion and increased availability of shorter duration seeds for rice crops; particularly for wet-season paddy possibly enabling harvest before onset of heavy flooding and sea water surges in the target communes. Such varieties have been tested (at no cost to farmers) in specific localities, where they are likely to be effective. This demonstration activity is implemented in partnership with the Cambodia Agricultural Research and Development Institute, MAFF.

4. Promotion of increased livestock keeping in the target communes; by using a revolving scheme for improved breeds as a response to increased flooding problems. The demonstration activity is implemented in partnership with the Center for Livestock and Agriculture Development (CelAgrid) and the Project Management Unit, MAFF.

5. Climate change awareness building and training on climate change resistant irrigation in the target communes will be conducted applying experience from previous work in Cambodia. The training will be done in all target communes. The demonstration activity is implemented in partnership with a NGO, Department of Environmental Education,

MoE and the Technical Working Groups which are directly responsible for the implementation of climate change awareness building.

6. Adaptation measures integrated in Commune Development Plans in the target communes. Concrete demonstration activities are carried out based on the planned activities in the 2013 commune investment plans which will make local communities more resilient to climate change impacts. The demonstration activities are conducted in cooperation with the commune councils, districts and the TWGs.

Identification, selection and integration of these demonstration projects have followed the steps outlined below while using the established structures at provincial and commune level as described above:

- Situation Analysis: This was based on a review of CARP studies and field consultation with various stakeholders ranging from TWGs, commune councils and villagers as a basis for identification of climate risks and responses. The CARP studies included: Assessment of Coping Strategies in the Coastal Zone of Cambodia, Vulnerability of Existing Agricultural Practices; Assessment of Community Vulnerability and Risk from Climate Change in Coastal Areas; Analysis of Cost and Benefits for modifying Agricultural Practices in the Coast; and Support to CC Education, Awareness Building and FWUC Strengthening.
- Identification of Demonstration Projects: About 20 projects were identified through consultation and prioritisation meetings held in July-November 2012 with cooperation partners, NGOs, TWGs, commune councils and villagers. The number of projects was further reduced to six as shown above based on a ranking and selection process involving both the TWGs and the Commune Councils.
- Integration of Demonstration Projects in the CIP3: The projects have been prepared in the existing commune format and for the Commune Councils to consider and include in the CIP3, which will be reviewed at the District Integration Workshop to be held in November 2013. However, the climate change actions could not be integrated in the current CDP5 since it is only developed every five years. A template for climate change screening of commune investment projects has also been prepared.
- Implementation: The projects are now under implementation for a two-year period (2013-14) in cooperation with the partners at provincial and commune level previously mentioned.

The lessons learnt from this implementation approach are the following:

- The current development planning procedures and guidelines at the sub-national level provide a good opportunity for climate change integration.
- Lack of capacity and funding at the sub-national level is the main obstacle to proper climate change adaptation. The current commune budgets are about US$ 20,000 which

can only finance rehabilitation of small-scale infrastructure such as roads, wells and rain water harvest.

- At present, there is no clear and effective coordination mechanism in place at the sub-national level but the established TWGs could perform this role provided their capacity is continuously strengthened through the training activities undertaken by the CARP and the LDCF.
- There is limited support of and communication between provincial line departments and commune councils during the formulation of the CDP5 and the CIP3 due to an insufficient budget and weak capacity of the line departments. The TWGs would be in a good position to provide the required technical support in the future.
- Integration of climate change projects in the current commune database proves problematic as their names are rejected because they do not conform to specific criteria defined by the MOP and planning departments.
- While the current commune proposal format contains environmental aspects, it does not contain specific climate change related issues. Thus, the CARP has proposed the development of a template on climate change, which could formally be included in future government guidelines.

IV. Proposed Coordination Mechanism for Sub-national Mainstreaming of Climate Change

For the sub-national climate change integration to be effective and sustainable, four main elements must be considered and improved upon, encompassing institutional coordination, planning and budgeting procedures, capacity development, and monitoring and evaluation.

Institutional Coordination: As discussed earlier, the NCCC's role is mainly limited to operating at the national level - it has too few resources and little capacity to influence the sub-national climate change planning. It should be considered to provide the TWGs with a clear mandate for climate change coordination and planning as they already have sufficient capacity to do so. The sub-national planning and institutional structure has become more visible and robust, which will enable the integration of almost all aspects of development, including climate change, in the sub-national DP and IP3. As part of the D&D reform, functions and resources of national ministries will be transferred to sub-national administrations, though it may take a long time before it materialises. Therefore, it would be rational to build on good practices from the implementation of the CARP, as this project has had sufficient time and resources available to build up capacity in a targeted and continuous manner. Other projects such as the PPCR and the Local Government and Climate Change Project (LGCC) have also attempted to develop models for mainstreaming climate change at the sub-national level but without actual implementation in communities or with limited budgets.

Building on NCCC and TWG experience, it is proposed to establish a *Climate Change Coordination Unit (CCCU)* or perhaps a *committee (CCCC)* with a technical secretariat based in the Governor's Office. The current TWGs could be transformed into the CCCU with additional

members representing other sectors, including e.g. health, rural development, fisheries, energy, transport, NGOs, Community Based Organizations (CBO), Farmer Water User Committees (FWUC), and the private sector. In the meantime, the TWGs could invite representatives of other departments or institutions to participate in the targeted training. The chair of the CCCU should be selected from among provincial councilors who would be in a good position to raise climate change issues at regular council meetings. The role of the CCCU would be to provide technical assistance on climate change adaptation, review and endorse climate change projects and plans, promote capacity building, coordinate funding flow, and conduct monitoring and evaluation. Technical backstopping can be secured from the NCCC - perhaps through the CCTT - to guide development of climate change strategies and action plans. A small technical secretariat should be established in the Governor's Office with staff recruited from relevant departments, namely environment, water resources, agriculture, forestry, disaster management, land management and with a GIS/mapping facility. Funding of the CCCU and its secretariat should be part of the provincial budget that flows through the NCDD.

Planning and Budgeting Procedures (PBP): The current planning procedures and guidelines are well designed but there are deficiencies regarding the climate change integration proposal format as it does not include sufficient information, the considerations on adaptation and disaster management are too limited, the participation of line departments in the planning process is irregular, and the general understanding of climate change implications for the sector and livelihoods is weak. The CARP has tried to overcome these deficiencies through capacity building and will continue its efforts in this regard. Nevertheless, adjustments should be made to the existing guidelines based on a review. Another important constraint is the low funding allocation for sub-national planning in general, and climate change in particular. The CCCU can advocate for increased funding for CC as part of the planned transfer of resources from the central government to the sub-national level. But more critical is the question of aligning this aspect of the D&D reform with the Public Financial Management Reform undertaken by the MEF. It is clear that without sufficient funding the integration of climate change would be difficult to achieve. Currently, only 20% of the total budget for CC is financed through sub-national transfers, and prospects for increased funding in the near future look bleak. The NCDD and the NCCC must work together in developing a climate change financing framework which can secure stable funding from the RGC and international funding mechanisms such as the CIF, the Green Climate Fund (GCF), the Global Environmental Facility (GEF) and the Least Developing Country Fund (LDCF), the Adaptation Fund etc.

Capacity Development: It has been confirmed by many studies and reports that institutional capacity and knowledge on CC is weak at all levels, and that it is weakest at the sub-national level. Continued capacity development of the CCCU and its secretariat is needed to enable it to coordinate planning and promote awareness building in an effective manner. The NCCC and the CCCA can assist in scaling-up the ongoing capacity development in the CARP's target communes and expanding it into more coastal areas and other provinces building on past experiences and lessons learnt. The present coastal activities should be expanded and copied for other provinces as a sustainable approach for sub-national climate change mainstreaming and institutional development for selected provinces as a viable approach of interventions.

Monitoring and Evaluation: The existing M&E system for the DP5 covers development and administration aspects well, but contains very few indicators for climate change. Some indicators could be relevant for both economic and climate change categories, for example the length of sea dikes built, areas of mangrove planted, and testing of short-term rice varieties. Current village, commune and district databases do not have sufficient information about climate change factors. The information largely concerns impacts from natural disasters. Moreover, there is no consistency between these databases, e.g. the commune database contains information on areas affected by flooding and drought, while village data only record the number of people affected by flooding. Thus, village information may not be available for monitoring and evaluation at the commune level. Therefore, M&E indicators, based upon data and information collected in a proper manner at village and commune level, should be further developed and then integrated into a provincial database under the auspices of the CCCU.

V. Links between National and Sub-national Climate Adaptation

The CARP is shaped on the particular climate adaptation agenda in the Coastal Zone, with its distinct concerns and opportunities, several of which are shared with the Mekong Basin parts of the country, while others are specific to the coastal area.

Lessons are still being learned (within and beyond the CARP and the LDCF project) about the potential and practicalities of sub-national climate adaptation. Additional lessons and documentation will emerge well after project completion - for example about the full benefits of improved production technology and of functional ecosystems, both of which will no doubt contribute to the over-all national socio-economic development.

Particular interfaces with the national level exist in the following areas:

- Education, awareness-building, and active community participation: The CARP operates at the household/community level, and at the sub-national administrative (province, district and commune) levels, emphasizing the links between sustainable, resource-based livelihoods, poverty alleviation, environmental conservation and climate resilience. The benefits of active community participation have been clearly confirmed already at this stage of CARP implementation. Notably, the CARP can contribute *'ground-truthing'* of the adaptation approaches piloted during the pilot activities at the household, community and commune levels.

- Institutional capacity-building: The CARP is oriented towards the climate-related concerns, opportunities, cause-effect relationships (across social, economic and environmental impacts), and viable management options at the sub-national level.

  Parts of the education and capacity-building efforts are specific to the coastal zone, such as preservation of coastal and marine habitats and ecosystems, and impacts of sea level

rise and saline intrusion. Other parts, equally well received by the participants, are generic, introducing basic concepts and tools for climate resilience and adaptation.

Dissemination is taking place via thematic reporting, production of courseware and guidelines (presently 20 training documents), and active participation in seminars and networking.

The CARP is firmly committed to a continuous dialogue, sharing observations, suggestions and recommendations in support of the evolving national mainstreaming processes. NCDD and MOP are seen as key partners in this connection, with NCCC and its secretariat providing important support in many ways, including activation of inter-sector synergies. The efforts may conveniently include bilateral consultations with bodies involved in national and sub-national climate adaptation, once the initial experience has been documented and conceptualized.

VI. Conclusion

Climate change planning and mainstreaming is now undertaken at various levels with notable progress achieved at the national level. The Cambodia Climate Change Strategic Plan and Sector Climate Change Strategic Plans have been adopted, which provides a comprehensive policy framework for integration of climate change at national and sub-national levels. Several initiatives and ongoing projects are implemented at provincial levels using both government and international planning practice. The Coastal Adaptation and Climate Resilience Planning component of the CCCA has been implemented since 2012 in eight communes in Prey Nob and Mondol Seima districts in Preah Sihanouk and Koh Kong provinces. The CARP's approach – implementation of demonstration activities and integration of climate change considerations into Commune Development Plans - is based on current government planning procedures and guidelines for sub-national administrations. CARP experience indicates that a clear opportunity exists for mainstreaming climate change into the DP5 and the IP3. However, a lack of formal institutional structures and guidelines will make it difficult to sustain it at the sub-national level. Based on a comprehensive analysis of the current institutional structure for climate change planning at the national level and taking into consideration the parameters of the ongoing D&D reform, the establishment of a Climate Change Coordination Unit as part of the NCCC and the NCDD is proposed. It would benefit from already developed capacity within the TWGs and could recruit additional members using D&D rules and regulations. Its overriding tasks would be to improve planning and budgeting procedures, promote capacity development and establish M&E systems for sub-national climate change planning and implementation. When the improved institutional framework for climate change planning and implementation has been put in place, ongoing activities should be expanded into more coastal areas and inland provinces.

References

1. Circular on the Establishment of Project Steering Committee, MOE 2012;
2. Circular on the Establishment of Working Group of Focal Officers, MOE, 2012;
3. Circular on the Establishment of Provincial Working Group for CARP, 2012;
4. DHI, 2012, "Assessment of Coping Strategies in the Coastal Zone of Cambodia";
5. DHI, 2012, "Vulnerability of Existing Agricultural Practices";
6. DHI, 2012 "Assessment of Community Vulnerability and Risk from Climate Change in Coastal Areas";
7. DHI, 2012 "Analysis of Cost and Benefits for Modifying Agricultural Practices in the Coast;
8. DHI, 2012 "Support to CC Education, Awareness Building and FWUC Strengthening";
9. DHI, 2013, "Detailed Implementation Plan for Demonstration Activities at the Coast", MOE/CCCA;
10. Inter-ministerial Joint Prakas, Dec. 2010, "Development of Development Plan and Investment Program", MOI & MOP.
11. Koh Kong Provincial Governor, "Five Year Development Plan of Koh Kong 2011-2015";
12. Law on Administrative Management of Capital/Provinces/Municipalities/Districts, 2008;
13. MOE, WB & ADB, 2013, "Private Sector Scoping Study: Engaging the Private Sector in Climate Change Adaptation Investments";
14. MoE/DHI, 2013 "Guidance on Mainstreaming Climate Resilience and Disaster Risk Reduction into Sub-National Development and Investment Planning";
15. MOI/DHI, 2013 "Case Study: Climate Proofing of Investment Projects in Takeo Province";
16. Royal Decree on the "Establishment of National Committee for Democratic Development at the Sub-National Level, MOI 2008;
17. Royal Decree on the "Establishment of National Committee for Management and Development of Cambodian Coastal Areas", Feb 2012;
18. Sub-Decree on "General Processes of Transfer of Functions and Resources to the Sub-National Administrations", MOI, May 2012;
19. Sub-Decree on the "Establishment of National Climate Change Committee", April 2006;
20. Tariq, H Niazi, 2011, Decentralization and De-concentration Reforms in Cambodia, ADB.

Annexes – Commune Investment Plans & Small Scale Project Proposals

1. Prey Nob Commune, Prey Nob District, Preah Sihanouk Province
2. Tuol Totoeng Commune, Prey Nob District, Preah Sihanouk Province
3. Touk Laak Commune, Prey Nob District, Preah Sihanouk Province
4. Touk Thla Commune, Prey Nob District, Preah Sihanouk Province
5. Okhna Heng Commune, Prey Nob District, Preah Sihanouk Province
6. Samaki Commune, Prey Nob District, Preah Sihanouk Province
7. Peam Krasoab Commune, Mondol Seima District, Koh Kong Province
8. Tuol Kokir Commune, Mondol Seima District, Koh Kong Province

ANNEX 1

Investment Presentation

(Commune Format)

Name: Demonstration of Integrated Farming and Climate Change

Geographical Location: Prey Nob commune, Prey Nob district, Preah Sihanouk province.

Duration of Project Implementation:
The project started in January 2013 and will be completed in January 2014.

Description of Project:
Prey Nob commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Demonstration of Integrated Farming and Climate Change. This investment proposal was developed based on field studies as well as several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises of five main activities, namely farming system assessment and planning, demonstration of rice farming in integration with livestock (pig and chicken), aquaculture (tilapia), and vegetables, on-farm demonstration, farmer field schools, farmer field days and study tour, and training of local extension workers.

Farming System Assessment and Planning: This activity is conducted using agro-ecological system analysis to get an understanding of natural resource conditions including physical, economic and social resources for agricultural production systems and livelihood activities in the commune as well as to get an overview of current status and trend of agriculture/farming systems and livelihood activities and to identify system resilience and climate change adaptation options in the agricultural production system.

Commune and village extension worker training: Training of extension workers is an important step following agro-ecological system analysis to refresh and adapt the training modules to the coastal conditions. A training workshop was organized in Kampong Som to train extension workers and government officers from departments and agencies. These people will pass on training modules and knowledge to farmers through farmer field schools. Attending the workshop will be participants from relevant central and provincial departments, district offices of Preah Sihanouk and Koh Kong provinces as well as 8 commune councils. 12 training modules were presented at the training workshop.

Farmer Field School (FFS): It is a field-based learning process where farmers are given training modules and share experiences on many aspects of agriculture and livestock techniques and management. A FFS consists of 16 sessions encompassing 5 modules (rice farming technique, vegetable farming, pig raising, chicken raising and fish rearing), where each session is conducted every week in each village. About 20-30 families from each village are invited to the FFS. A Farmer Field Day is organized following FFS sessions where farmers can learn about the actual progress and issues by visiting demonstration sites.

Demonstration of integrated farming techniques: This activity demonstrates integration of rice farming with other farming activities such as pig raising, chicken raising, aquaculture, which allows for efficient management of agricultural inputs such as water conservation, energy conservation, and composting of manure in a closed system. As a result, farmers will increase productivity with less cost and improved

environmental quality. 2 families, one from each village of Prey Nob 1 and Prey Nop 3, are selected for demonstration of integrated farming. Besides, on-farm demonstration of individual technique for rice farming, raising pigs, chicken raising, aquaculture etc. is carried out as part of the FFS. 10 families are selected, two from each village, to demonstrate individual activities such as rice farming or pig raising based on farmer's preference.

Farmer Field Day and Study Tour: A Farmer Field Day will be organized at the end of the harvest season to bring together farmers from all villages, government officers from the Prey Nop district and Preah Sihanouk province as well as members of Prey Nob commune council, and NGOs. The aim will be to evaluate the result of the on-farm demonstration of integrated, vegetable and livestock farming. In addition, a few farmers of the Prey Nob commune are selected to join a study tour to learn good practices from integrated farming in other provinces, possibly in Takeo or Kampong Speu province.

Support community micro-project and saving groups: This activity is designed to support farmers to form saving groups that maintain and manage revolving funds for benefit of members. The project has for each saving group provided an initial capital of US$ 4,000. Half of this amount is used to support micro projects such as business or rehabilitation of reservoir that benefits the whole group and of the other half is used as micro-credit on an agreed interest rate to finance activities of individual members. A member of a saving group can be eligible for borrowing money on the condition that the group guarantees the repayment of.

Objective:
The objective is to promote integration of crop, vegetable farming, livestock and fish raising as an option for increasing resilience and adaptive capacity of farmers to the impacts of climate change.

Implementation Agency:
Department of Agricultural Extension (DAE) is responsible for administration and implementation of the demonstration project.

Benefit recipient:
About 150-200 people comprising farmers, commune leaders, district and provincial authorities are expected to benefit directly and indirectly from the field demonstration activities and the learning exercise through farmer field schools.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning of Provincial Governor Office, District Agricultural Office, Commune Council, and the CARP are main partners under this demonstration project.

Management and Sustainability:
DAE and Provincial Department of Agriculture will have direct responsibility for management and supporting this demonstration project until December 2013, after which participating farmers and saving groups will continue application of integrated farming, vegetable farming, animal raising and aquaculture.

Budget: US$ 43,000

Work plan:

Investment Fiche

Investment Information					
Province: Preah Sihanouk			Commune: Prey Nob		
District: Prey Nob			Commune code: 180207		
Section 1: General Information					
Project Name: Demonstration of Integrated Farming and Climate Change					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant: Agricultural Advisor	
Project Objective: The objective is to promote integrated farming techniques which are more adaptable to climate change.					
Sector: Economy			Project Type: Agriculture Technique and Training		
Infrastructure		Service		Material Supply	
Project result: Integrated rice farming with livestock, aquaculture, and vegetables and capacity improvement for farmers.			Design Planning after Study: No change.		
Estimated cost: US$ 43,000			Actual Cost after Study: US$ 43,000		
Year:	2013	2014	2015		
	January-December				

Beneficiary				
Number	Village Name	Beneficiary		Number of Families
		Total	Women	
1	Prey Nop 1	30		30
2	Prey Nop 2	30		30
3	Prey Nop 3	30		30
4	Bot Se Moan	30		30
5	Bek Krang	30		30
Total		150		150

Section 2: Operation and Maintenance	
Who are the users and who is responsible for maintenance of the project?	
Line department	PDA and DAE
Commune Council	Yes
User groups	Farmers
User groups to be set up before project implementation	
Private sector	Yes

Section 3: Environmental Impact	
3.1	Is this commune located in a region vulnerable to environmental impacts? No.
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.
3.3	Does the project cause damage to used water resources? No.
3.4	Is the project result a new road? No.

3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project region vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? Yes it can address impacts from flooding and drought.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? Yes, IFS can build adaptive capacity of farmers through cost saving and increased yields.
4.5	Does the project enhance resilience capacity to cope with climate change impacts? Yes, the farmers are trained on agricultural techniques, including farming, livestock, water conservation, pest management and efficient fertilizer application.
4.6	Does the project contribute to GHG emission? If yes, What measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through higher yields, cost savings and improved livestock production.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the training and direct demonstration activities.
4.9	Is the project likely to lead to changes in the employment structure of the area? Improved rice yields and livestock production enrich employment structure by encouraging more farmers to integrate livestock and vegetables with rice farming, creating job opportunities for extension workers and veterinarians.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No.

Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Study Information (perhaps no standard format)

General Information

Project Name	Integrated Farming and Climate Change
Province	Preah Sihanouk
District	Pery Nob
Commune	Prey Nob
Villages	Prey Nob 1, Prey Nob 2, Prey Nob 3, Bot Se Moan, Bek Krang
Commune code	180207
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	Selected plots in five villages.
Coordinate X from GPS	

Coordinate Y From GPS	

Activities or Construction Requirement

Farming assessment and planning	Assessment of the current resources and opportunity for integrated farming
Training of extension workers	Extension workers, government officers and farmers
Field demonstration of integrated farming	2 plots are selected with a size of 20X20m (Prey Nop 1 and 3)
On-farm demonstration of individual technique	10 on-farm-demonstrations (2 per village) to learn specific elements of integrated farming such as farming, aquaculture, livestock, aquaculture…etc.
Farmer Field Schools	1 per village
Farmer Field Day and study tour	16 FFD and one big FFD event at the end of the demonstration activity
Support micro-project and saving group	One saving group consisting of 20-25 members is set up in each village.

Objective

Who does this demonstration benefit?	Village: all villages School Health Center Others

Information on Beneficiaries

Village Name	**Number of People**	**Number of Families**	**Number of beneficiaries**
Prey Nob 1	1,582		30
Prey Nob 2	2,456		30
Prey Nob 3	1,098		30
Bek Krang	998		30
Bot Se Moan	1,331		30
Total			150

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**

Rice farming areas	1,400 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha	UREA, DAP	
Total Productivity	4,060 t	
Percentage of farmers	48 %	

Investment Presentation

(Commune Format)

Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Geographical Location:Prey Nob commune, Prey Nob district, Preah Sihanouk Province.

Duration of Project Implementation:
The project started in February 2013 and will be completed by the end of March 2014.

Description of Project:
Prey Nob Heng commune is one of the target communes selected by the Coastal Adaptation and Planning Resilience Project (CARP) for implementation of Field Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties. This investment proposal was developed based on field studies and several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises four main activities; field demonstration of combined agricultural techniques with shorter duration rice varieties (Phkar Romduol and Phkar Romeat), purification of rice varieties as well as field demonstrations of vegetables and farmer field days. Two field demonstrations for combined techniques and one field demonstration of purification will be conducted.

Field Demonstration of Combined Agricultural Techniques: This is a demonstration of agricultural techniques and rice varieties developed by CARDI. Five rice varieties are introduced including Phkar Romduol, Pkar Romeat, Cholsa, Sen Pidor, and Chan SenSo, of which Phkar Romduol and Phkar Romeat are short term rice varieties with potential yields of about 4-5 t/ha. The others are non-photoperiod varieties that can adapt to any planting season. Rice seeds, either Phkar Romduol or Phkar Romeat, are grown on a farming plot of 10 m wide and 30 m long. The plot is divided into three sections; each section has the area of 10 m by 10 m, where various agricultural techniques are applied. The first section employs the CARDI technique package (land preparation, transplanting, fertilizer application). The second section employs traditional practice with the same rice seeds provided by CARDI and the third sub-plot employs the traditional technique with a local rice variety (Jasmine rice or any). The combined techniques are tested to see if there are differences in yield outcome when traditional agricultural techniques and techniques developed by CARDI are employed and when local rice varieties and those developed by CARDI are used, respectively..

Field Demonstration of Purification of Rice Seed: Purification of rice seeds carried out by observing different stages of the crop growth cycle, namely at vegetative, flowering, and spikelet formation stages. The main principle of purification is that any seedling with abnormal growth, flowering or panicles should be removed entirely from the tested plot until uniform rice growth and pure rice panicles are achieved.

Field Demonstration of Vegetables: This demonstration will be carried out in December-March following the harvest of rice varieties tested. Vegetables are also cash crops that can supplement the income of farmers.

Farmer Field Days (FFDs): This is a field-based learning process, where farmers are brought together for training modules and to share experiences on many aspects of agriculture and livestock techniques and management. Three FFDs will be organized in August for participating farmers and one for larger groups during rice harvest.

Objective:
The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.

Implementation Agency:
CARDI

Benefit recipient:
About 100 people comprising farmers, commune leaders and provincial authorities are expected to benefit from direct and indirect implementation of the demonstration project and learning through FFD.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning, District Agricultural Office and Commune Council as well as the CARP are main partners under this demonstration project.

Management and Sustainability:
CARDI and Provincial Department of Agriculture will have direct responsibility for management and support of this demonstration project until March 2013, after which participating farmers will continue application of CARDI techniques, shorter duration rice varieties and vegetables.

Budget: US$ 5,500

Work plan:

Investment Fiche

<table>
<tr><th colspan="4">Investment Information</th></tr>
<tr><td colspan="2">Province: Preah Sihanouk</td><td colspan="2">Commune: Prey Nob</td></tr>
<tr><td colspan="2">District: Prey Nob</td><td colspan="2">Commune code: 180207</td></tr>
<tr><td colspan="4">Section 1: General Information</td></tr>
<tr><td colspan="4">Project Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties</td></tr>
<tr><td>Date of completion of study: March 2013</td><td colspan="2">Name of Technical Assistant: Mr.</td><td>Role of the Assistant: Deputy Director</td></tr>
<tr><td colspan="4">Project Objective: The objective is to promote shorter season rice varieties of CARDI that have higher yields and are better adapted to coastal conditions compared to local rice varieties.</td></tr>
<tr><td colspan="2">Sector: Economy</td><td colspan="2">Project Type: Agriculture Technique and Training</td></tr>
<tr><td>Infrastructure</td><td colspan="2">Service</td><td>Material Supply</td></tr>
<tr><td colspan="2">Project result: Short-term rice varieties and</td><td colspan="2">Design planning after study: No change.</td></tr>
</table>

capacity improvement.					
Estimated cost: US$ 5,500			Actual cost after study: US$ 5,500		
Year:	2013	2014	2015		
	January	March			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Prey Nop 1		1		1
2	Prey Nop 2		1		1
3	Bot Se Moan		1		1
4	Bek Krang		1		1
Total			4		4
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					CARDI
Commune Council					Yes
User groups					Farmers
User groups to be set up before project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				
3.3	Does the project cause damage to used water resources? No.				
3.4	Is the project result a new road? No.				
3.5	Is the project result a new dam, new canals, or new reservoirs? No.				
3.6	Is the project result a new big channel for navigation or water supply? No.				
Section 4: Climate Change					
4.1	Is the project located in a region vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).				
4.2	Does the project directly address the impacts identified above in 4.1? Yes it addresses the SLR, flooding, saline intrusion and strong winds by providing possibilities for harvesting before such impacts might occur later in the year.				
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).				
4.4	Does the proposed project reduce climate change impacts? The CARDI rice varieties can mature about 10-20 days earlier than the local rice varieties and can thus be harvested before the onset of sea water intrusion in November.				
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes, farmers are trained to apply shorter duration rice varieties and the CARDI technique package which will increase rice yields and reduce vulnerability to sea water intrusion in November.				
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.				
4.7	Does the project potentially contribute to increased income generation amongst				

	participants? Yes, through potential income from sale of vegetables plus higher rice yields.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Not specifically.
4.9	Is the project likely to lead to changes in the employment structure of the area? Improved yields and income could encourage more farmers to plant such rice varieties as well as vegetables, depending on land availability.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.

Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Study Information (perhaps no standard format)

General Information

Project Name	Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties
Province	Kampong Som
District	PeryNob
Commune	Prey Nob
Villages	Prey Nop 1, Prey Nop 2, Bot Se Moan, Bek Krang
Commune code	180207
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	Selected plots in three villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Field Demonstration of combined agricultural techniques in three plots with size of 10X10m	Rice varieties: Phkar Romduol and Phkar Romeat
Field demonstration of rice seed purification	Rice varieties: Phkar Romduol and Phkar Romeat
Farmer Field Days	Number of days: 3 days
Demonstration of Vegetables	

Objective

Who does this demonstration benefit?	Village: all villages. School Health Center Others

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Prey Nop 1	1,582		1
Prey Nop 2	2,456		1
Bot Se Moan	1,331		1
Bek Krang			1
Total			4 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas	1,400 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha	UREA, DAP	
Total Productivity	4,060 t	
Percentage of farmers	48 %	

Investment Presentation

(Commune Format)

Name: Demonstration of Revolving Livestock Scheme

Geographical Location: Prey Nob commune, Prey Nob district, Kampong Som Province.

Duration of Project Implementation:
The project started in March 2013 and will be completed by the end of March 2014.

Description of Project:
Prey Nob commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Demonstration of Revolving Livestock Scheme. This investment proposal was developed based on field studies and several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises four main activities, namely formation and capacity building of the Project Management Committee, farmer field schools, field demonstration of livestock and training of local veterinarians. CelAgrid will implement the project in partnership with the commune council.

*Form*ation *and Capacity Building of Project Management Committee*: A project management committee is formed to assist in family selection, demonstration implementation, revolving funds management, monitoring and evaluating as well as in carrying out activities to release funds for the next cycle of livestock. Capacity building will be carried out for PMC on administration, organization management, monitoring as well as evaluation and funding management.

Farmer Field School (FFS): It is a field-based learning process where farmers are brought together for training modules and to share experiences on many aspects of animal raising techniques and management. FFS comprises 10 sessions covering different topics of training, including animal facility, feeding techniques, local feeding resources, disease control and vaccination, breeding and care of pregnant pigs and piglets as well as recording of expense and income. FFS begins in September in each village, where the sessions are held every week to follow the animal growth cycle until the end of January 2014. About 20 families are invited to each session of FFS.

Demonstration of Livestock: The interested farmers are selected based on their financial capability, availability of land and animal facilities, accountability and commitment to raise the animals until the maturity stage. Domestic animals may include pig, chicken, goat and duck. Interested farmer or household will receive 5 pigs or 100 chickens for stocking with an equivalent cost of about US$300. The revolving scheme obliges the farmers to return the cost of stocking to the PMC or another qualified financial institution agreed and entrusted by the CARP, the Commune Council or other local authorities.

Training of Village Animal Health Workers (VAHWs): Building capacity of local VAHWs is an important part of this demonstration project, as they will provide animal health care services to the farmers on a commercial basis. Follow-up training sessions will be conducted for several VAHWs.

Objective:
The objective is to promote revolving livestock schemes as a viable and sustainable business for income generation and thereby improve the capacity of the commune to cope with climate change.

Implementation Agency:
CelAgrid

Benefit recipient:
About 100 people comprising farmers, commune leaders, provincial authorities, local VAHWs are expected to benefit from direct implementation of the demonstration project and learning through FFS.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning of the Provincial Governor Office, District Agricultural Office and Commune Council, and the CARP are main partners under this demonstration project.

Management and Sustainability:
CelAgrid will have direct responsibility for management and support of this demonstration until March 2014, after which the PMC will continue administration of activities and select another round of farmers who will receive funds to start or continue animal farming.

Budget: US$ 28,860

Work plan: (see the annex)

Investment Fiche

Investment Information					
Province: Kampong Som			Commune: Prey Nob		
District: Prey Nob			Commune code: 180207		
Section 1: General Information					
Project Name: Revolving Livestock Scheme					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant:	
Project Objective: The objective is to promote revolving livestock schemes as a viable and sustainable business for income generation, and as such to improve resilience capacity of the commune to cope with climate change.					
Sector: Economy			Project Type: Livestock and Training		
Infrastructure		Service		Material Supply	
Project result: Capacity improvement and improved livestock production.			Design planning after study: No change.		
Estimated cost: US$ 28,860			Actual cost after study: US$ 28,860		
Year:	2013	2014	2015		
	March	March			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Prey Nob 1		13		13
2	Prey Nob 2		24		24
3					
Total			37		37
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					CelAgrid
Commune Council					Yes
User groups					Farmers
User groups to be set up before project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? Yes, if animal waste is not properly handled. Training will include proper manure handling and enforcement measures will also be included in the contracts.				
3.3	Does the project cause damage to used water sources? Yes, especially those farms located near reservoirs or wells without proper animal manure management. Training will include proper manure handling and measures will also be included in contracts.				
3.4	Is the project result a new road? No.				

3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? No.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? No
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes, by increasing incomes of households and thereby strengthening their resilience.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? Yes, pig farming will emit CH4 as a result of manure fermentation. As part of the farmer field school, composting will be included in the training programme.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, income increases from the sale of pigs or other animals.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the training and demonstration.
4.9	Is the project likely to lead to changes in the employment structure of the area? Yes, if the revolving livestock scheme is successful and expands, additional jobs will be created for poorer community members, VAHWs and other businesses.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.

Demonstration of Revolving Livestock Scheme

Study Information (perhaps no standard format)

General Information

Project Name	Revolving Livestock Scheme
Province	Kampong Som
District	Prey Nob
Commune	Prey Nob
Villages	Prey Nob 1, Prey Nob 2
Commune code	180207
Name of Technical Assistant	
Date of Project Preparation	March 2013

Location

Where is the location of this project?	Selected families in two villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Formation and Capacity Building of PMC	PMC will be trained to manage the revolving fund.
Field demonstration of livestock	5 pigs or 100 chickens are provided.

Farmer Field School	Training modules will be held every week in each village.
Training of VAHWs	To refresh animal health care.

Objective

Who does this demonstration benefit?	Village: Prey Nob 1 and 2 School Health Center Others: local VAHWs

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Prey Nob 1	1,582		13
Prey Nob 2	2,456		24
Total			37

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	PMC and Commune Council

Current Animal Farming Practice (in case of water supply the questions are about existing use and source)

Animal	**Number of families**	**Percentage**	**Number of animals**
Cow	31	2.22	98
Buffalo	42	3.01	185
Pig	222	15.91	504
Chicken	789	56.56	5,889
Duck	211	15.13	8,584

Source: Department of Planning in Preah Sihanouk, 2012

Investment Presentation

(Commune Format)

Name: Climate Change Education and Awareness Building

Geographical Location: Prey Nob commune, Prey Nob district, Preah Sihanouk province.

Duration of Project Implementation:
The project started in January 2013 and will be completed in January 2014.

Description of Project:
Prey Nob commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Climate Change Education and Awareness Building. This investment proposal was developed based on field studies as well as several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises of three main activities, development of teacher training manual and flipcharts, training of trainers, and conducting awareness raising in all villages of the commune. A specific training programme will be conducted in Prey Nob district and Toul Kokir concerning climate resilient irrigation.

Development of Teacher Training Manual and Flipcharts: The training manual is developed for trainers containing five climate change topics: i) introduction to climate change; ii) the causes of climate change; iii) climate change impacts; iv) climate change adaptation; and v) climate change mitigation. The flipcharts consist of 19 drawings illustrating the same five topics with simple descriptions of climate change issues and responses. Save Cambodia Wildlife (SCW) is contracted to design the training manual and flipcharts and deliver the training of trainers.

Training of Trainers: This training is organized aiming to provide general knowledge on climate change adaptation and GHG mitigations using flipcharts as training materials. The trainees are selected from provincial departments of environment, water resources and meteorology, agriculture as well as rural development in Preah Sihanouk and Koh Kong provinces. These trainees will then become extension workers who will conduct awareness building in each village of the target communes.

Awareness Raising: The officers who participate in TOT will conduct awareness raising in each village using the flipcharts.

Climate Resilient Irrigation Training: Under the CARP, a specific module has been developed in climate resilient irrigation and a manual has been prepared in both Khmer and English. Training will be conducted for the Polder User Committee and commune councils in Prey Nob district and also for the commune council and farmers in Toul Kokir commune.

Objective:
The first objective is to build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts. The second objective is to provide training in climate resilient irrigation to these officers and other stakeholders in the target areas.

Implementation Agency:
The SCW and Department of Environmental Education are responsible for administration and implementation of this demonstration project concerning climate change awareness raising. The training in climate change resilient irrigation will be implemented under the CARP and in cooperation with Department of Water Resources and Meteorology.

Benefit recipient: 200 households will learn about climate change and climate resilience irrigation.

Partners and Relevant Stakeholders:
Provincial Environment Department, Commune Councils, Prey Nob Polder User Committee, Provincial Water Resources and Meteorology Department as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
Department of Education will have direct responsibility for management and support of this demonstration project until 2014.

Budget: US$ 6,250

Work plan:

Investment Fiche

Investment Information					
Province: Preah Sihanouk			Commune: Prey Nob		
District: Prey Nob			Commune code: 180207		
Section 1: General Information					
Project Name: Climate Change Education, Awareness Building and Climate Resilience Irrigation Training					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant: Agricultural Advisor	
Project Objective: To build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts and provide training for them and other stakeholders in climate resilient irrigation.					
Sector: Climate Change			Project Type: Training		
Infrastructure		Service		Material Supply	
Project result: Capacity building on climate change and climate resilience irrigation.			Design Planning after Study: No change.		
Estimated cost: US$ 6,250			Actual Cost after Study: US$ 6,250		
Year:	2013	2014	2015		
	January-December				
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Prey Nob 1		40		40
2	Prey Nob 2		40		40
3	Prey Nob 3		40		40
4	Bot Se Moan		40		40
5	Bek Krang		40		40
Total			200		200
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					DEE, PDWRAM
Commune Council					
User groups					PWUC
User groups to be set up before project implementation					
Private sector					
Section 3: Environmental Impact					

3.1	Is this commune located in a region vulnerable to environmental impacts? No
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.
3.3	Does the project cause damage to used water resources? No.
3.4	Is the project result a new road? No.
3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4)
4.2	Does the project directly address the impacts identified above in 4.1? No.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? Yes, indirectly by raising awareness of climate change at local level.
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, the climate resilient irrigation training may encourage farmers to grow additional crops and thereby increase their income.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the awareness raising.
4.9	Is the project likely to lead to changes in the employment structure of the area? No.
4.10	Does the project improve access to all year round potable water? No, but it might provide access to water for growing vegetable crops providing an alternative income supplement.
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No.

Climate Change Education, Awareness Building and Climate Resilience Irrigation Training

Study Information (perhaps no standard format)

General Information

Project Name	Climate Change Education, Awareness Building, and Climate Resilience Irrigation Training
Province	Preah Sihanouk
District	Pery Nob
Commune	Prey Nob
Villages	Prey Nob 1, Prey Nob 2, Prey Nob 3, Bot Se Moan, Bek Krang
Commune code	180207
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	All villages.
Coordinate X from GPS	

Coordinate Y From GPS	

Activities or Construction Requirement

Development of Flipcharts	SCW develops the flipcharts and training manual
Training of Trainers	Government officers from four line departments in Preah Sihanouk and Koh Kong
Conducting Awareness	All villages
Climate resilient irrigation	Polder User Committee trained together with provincial staff

Objective

Who does this demonstration benefit?	Village: all villages School Health Center Others: PWUC members

Information on Beneficiaries

Village Name	**Number of People**	**Number of Families**	**Number of Beneficiaries**
Prey Nop 1	1,582		40
Prey Nop 2	2,456		40
Prey Nop 3	1,098		40
Bek Krang	998		40
Bot Se Moan	1,331		40
Total			200 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers, PWUC members

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas	1,400 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha	UREA, DAP	
Total productivity	4,060 t	
Percentage of farmers	48 %	

KINGDOM OF CAMBODIA

NATION RELIGION KING

Commune project proposal 2013

HARVESTING RAINING WATER RESERVOIR

VILLAGE : BEKKRONG

COMMUNE: PREY NOB

DISTRICT: PREY NOB

PROVINCE: PREAH SIHANOUK PROVINCE

CODE:

ACRONYMS AND ABBREVIATION

CC	: Commune Council
HRWR	: Harvesting Raining Water Reservoir
WUG	: Water User's Group

Contents

KINGDOM OF CAMBODIA

NATIONS RELIGION KING

PREY NOB DISTRICT
PREY NOB COMMUNE
N0: PREY NOB, DATE: August 08, 2013

CHIEF OF PREY NOB COMMUNE
HIGHLY REQUEST TO
COASTAL ADAPTATION AND RESILIENCE PLANNING COMPONENT (CARP) UNDER CAMBODIA CLIMATE CHANGE ALLIANCE

Objective: Proposal for construction of a reservoir for harvesting raining water in Bek Krang village, Prey Nob commune, Prey Nob district.

People and students in Bek Krang village, Prey Nob commune face shortage of freshwater every year in dry season from October to April. In addition, the geography of this area is unable to digging well because it is located close to the sea (sea water intrusion). Facing with the shortage of fresh water supply, the villagers and commune council seek to donors for financial support for construction of a reservoir for harvesting raining water in BekKrong School.

As we mentioned above, we respectfully request the Coastal Adaptation and Resilience Planning Component under Cambodia Climate Change Alliance to highly consider our proposal.

We appreciate and highly respect you and your consideration.

Chief of Commune

PROPOSAL

1. PROJECT BACKGROUND

1. Project name: **Construct a reservoir for harvesting raining water.**
2. Project location: **Bek Krong School, Bek Krong village, Prey Nob commune, Prey Nob district, Preah Sihanouk province.**
3. Project term: This project will start on September 10, 2013 to September 17, 2013.
4. Description project: Bek Krong village is located 5 km from Prey Nob office commune and close to the sea. There are 176 families and 996 people face with shortage of fresh water uses because of climate change impact.
5. Objective: Provide fresh water to villagers in dry season.
6. Project implementation: Should construct with private company who has many years of experience in reservoir construction.
7. Beneficiaries: 176 families in BekKrong village will get benefit from this project.
8. Development partners: Donors, provincial department of Rural Development Department, local authority and Water User's Group (WUG);
9. Management: Commune council will establish WUG to maintain these wells.
10. Budgets: Propose budget 4947 USD (four thousand nine hundred forty seven);
11. Action plan: As detailed in the description project

2. LOCATION MAP

The map shows the project location of construction a reservoir for harvesting raining water in BekKrong village, Prey Nob commune, Prey Nob district, Preah Sihanouk province.

3. DESCRIPTION PROJECT

Description Project	
Province: Prey Sihanouk	Commune: Prey Nob
District: Prey Nob	Commune's Code:

Section 1: General Information

Project's Name: Harvesting Raining Water Reservoir (HRWR)			
Date end of survey	Technical assistant:	Position:	
Project Objective: Water supply to villagers for better living condition			
Sector: Economic		Project Type: Rural communication	
Infrastructure Project☐	Service Project☑	Material Supply Project☐	
Outcome: Constructed a Reservoir		Output: Constructed a Raining water reservoir	
Budget Estimate		Budget Estimated: 4300.00 USD	
Year	2013	2014	2015

Project Beneficiaries

N0	Name of Village	People of beneficiaries		Families
		Total	Women	
1	Bek Krong	617		325
2				
3				
4				
5				
Total		617		325

Section 2: Responsibility and maintenance

Who is responsible to manage utilities and maintenance the project?	
Specialize Departments	□
Commune Councils	☑
Existing Utilizers Group	☑
Project Utilizers Group	□
Private Sector	□
	□

Section 3: Environmental Impact

3.1	Is the commune vulnerable of environmental impact?	□
3.2	Is the project impact to natural and social environment?	□
3.3	Is the project impact to villagers' water resources?	□
3.4	Is it new road project outcome?	□
3.5	Is it the project outcome as a dyke, a new canal or a new reservoir?	□
3.6	Is it project outcomes a new canal for water way or a reservoir for water supply?	☑

Section 4: Climate Change

4.1	Is the project located in a region of vulnerable impact of climate change?	☑Yes □NO
4.2	If yes, what is the impact of climate change to the project?	☑Sea level rise☑ Seawater intrusion □ Flooding ☑ Drought ☑ Storm surge
4.3	Does the climate change impact to water supply in your village?	☑ Yes □NO
4.4	Is the proposed project related to adaptation or mitigation of climate change?	☑Adaptation □Mitigation
4.5	Does the project improve access to water supply?	☑Dry season☑ Raining season
4.6	Does the project contribute to improving people's livelihoods?	☑Yes □NO

4. BUDGET ESTIMATE

This is the table of estimated budget for construction a reservoir for harvesting raining water

Located in BekKrong Village, Prey Nob Commune, Prey Nob district, Preah Sihanouk Province

N0	Description	Unit	Quantity	Cost	Total Cost	Contribution	In Charge
1	Site clearing	m^2	57	1.00 USD	57.00 USD		
2	Foundation	m^3	21.50	3.00 USD	65.22 USD		
3	Colum (wooden) installation	Colum	87	5.00 USD	435.00 USD		
4	Compacting & concrete	m^3	25.40	35.00 USD	889.00 USD		
5	Concrete beam & paving	m^3	3.79	220.00 USD	833.80 USD		
6	Pipes installation	Pipe	40.00	45.00 USD	1,800.00 USD		
7	Hose system installation	Set	1	220.00 USD	220.00 USD		
9							
	Total		16 days		4,300.00 USD		

Date: 23/08/2013

Approval: Commune Chief

Date: 23/08/2013

Surveyor: Sok Chantheoun

5. TECHNICAL INFORMATION

1. General Information

Province: Preah Sihanouk	Khan: Prey Nob	Commune: Prey Nob	Code
Name of Project: Harvesting Raining Water Reservoir (HRWR)			
Name of Technical Assistant: Sok Chanthoeun		Date: August 22, 2013	

2. Project Location

Where is the location HRWR?	Description: BekKrong village, Prey Nob commune.
X and Y of reservoir location X: 371282 Y: 1173358	

3. Description Project

What is type of reservoir?	
☑ Concrete reservoir	□House's roof reservoir
□Plastic reservoir	□Huge jug

4. Objective of project

What is the purpose of water supply? ☑in village ☑ at school □Health center □Others

5. Information of Users

If the raining water reservoir is located in village, please answer the question below:

Name of village	Population	Total Families	User families
BekKrong	617	131	325
Total	617	131	325

If the raining water reservoir is located at school, please answer the questions as below:

How many rooms are there in the school?	5
How many students are will use this reservoir?	203

6. Maintenance

Please tick one in the box	
Who are responsible to maintain the raining water reservoir?	School director and villagers
How many families will use raining reservoir?	131 families
Are the water users families agree to establish water user's committee?	□ No ☑ Yes

7. Water resource supply

What is the type of water resources has been used in the village?		
Water resources	Number of users	Distances
□ Natural pond		
☑Raining harvesting	325	
□Stream, River		at home
□Well		
□ Pipe system		
Total	325	

8. Project location information

Who is the land owner of project location?	□Land owner's name ☑ Group of water user

If the raining reservoir location is belonging to private land, please answer question below:

Does the land owner agree?	□disagree □ agree
Is the reservoir location in the flooding area?	□No ☑ Yes

If yes, please answer below:

Maximum of flooded depth:	Minimum of flooded depth:
Reason of flooding	□From river ☑ Heavy raining

Is there any existing well near the project location?	Please tick in the box	Number of wells: No
	□Digging well □Drilling well □Multiple well	

6. TECHNICAL CROSS SECTION OF RESERVOIR

7. USING PLANNING AND MAINTENANCE

Commune: Prey Nob			**Description Project:** HRWR				**Date:** 08/08/2013
Management of Project: Commune council							
Action Plan				**Budget Plan**			
N0	Activities	Number	Implementation	Price		Budget Sources	Other required
				1 time	1 year		
2. Permanence Maintenance							
1	Site Cleaning	All times	WUG	No	No	Contribution	People
2	Drainage	All times		No	No	Contribution	People
3. Annual Maintenance							
1	Cleaning reservoir	1 time	WUG	20$	20$	WUG	
2	Change water tap	1 time	WUG	100$	100$	WUG	
3	Change PVC pipes	1 time	Commune councils	80$	80$	CC	
Total Budget/1year					**200$**		

Chief commune: PEN Sombo Water users: VAN Sarin Surveyor: Sok Chantheoun

8. WORK PLAN

Work plan for construction a reservoir for harvesting water in BekKrong village, Prey Nob commune, Prey Nob district.

N0	Description	Quantity	Week 1							Monitors
			day 1	day 2	day 3	day 4	day 5	day 6	day 7	CC/School director
1	Site clearing	57 m^3								CC/School director
2	Foundation	22 m^3								CC/School director
3	Colum (wooden) installation	87 colum								CC/School director
4	Compacting & concrete	26 m^3								CC/School director
5	Concrete beam & paving	4 m^3								CC/School director
6	Pipes Installation	50 pipes								CC/School director
7	Hose system installation	1 set								CC/School director

Date: 23/08/2013

Name: Sok Chantheoun

ANNEX 2

Investment Presentation

(Commune Format)

Name: Demonstration of Integrated Farming and Climate Change

Geographical Location: Tuol Totoeng commune, Prey Nob district, Preah Sihanouk province.

Duration of Project Implementation:
The project started in January 2013 and will be completed in January 2014.

Description of Project:
Tuol Totoeng commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Demonstration of Integrated Farming and Climate Change. This investment proposal was developed based on field studies as well as several consultation and prioritisation meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises six main activities; farming system assessment and planning, demonstration of rice farming in integration with livestock (pig and chicken), aquaculture (tilapia), vegetables, on-farm demonstration, farmer field schools, farmer field days and study tours, training of local extension workers, and supporting micro-projects and saving groups. Department of Agricultural Extension of MAFF will implement the demonstration project in cooperation with Preah Sihanouk Provincial Department of Agriculture.

Farming System Assessment and Planning: This activity is conducted using agro-ecological system analysis to get an understanding of natural resource conditions including physical, economic and social resources for agricultural production systems and livelihood activities in the commune as well as to get an overview of current status and trend of agriculture/farming systems and livelihood activities and identify system resilience and climate change adaptation options in the agricultural production system.

Commune and village extension worker training: Training of extension workers is an important step following agro-ecological system analysis in order to refresh and adapt the training modules to the coastal conditions. A training workshop was organized in Kampong Som to train extension workers and government officers from relevant departments and agencies. These people will pass on training modules and knowledge to farmers through farmer filed schools. Attending the workshop will be participants from central and provincial departments, district offices of Preah Sihanouk and Koh Kong provinces as well as 8 commune councils. 12 training modules were presented at the training workshop.

Farmer Field School (FFS): It is a field-based learning process where farmers are given training modules and share experiences on many aspects of agriculture and livestock techniques and management. A FFS consists of 16 sessions encompassing 5 modules (rice farming technique, vegetable farming, pig raising, chicken raising and fish rearing), where each session is conducted every week in each village. About 20-30 families from each village are invited to the FFS. A Farmer Field Day is organized following FFS sessions where farmers can learn about the actual progress and issues by visiting demonstration sites.

Demonstration of integrated farming techniques: This activity demonstrates integration of rice farming with other farming activities such as pig raising, chicken raising and aquaculture which allows for

efficient management of agricultural inputs such as water conservation, energy conservation, and composting of manure in a closed system. As a result, farmers will increase productivity with less cost and improved environmental quality. 2 families, one from each village of Tuol Totoeng 3 and Chumpou Khmao, are selected for demonstration of integrated farming. Besides, on-farm demonstration of individual techniques for rice farming, raising pigs, chicken raising, aquaculture…etc. is carried out as part of the FFS. 10 families are selected, two from each village, to demonstrate individual activities, such as rice farming or pig raising, based on the farmer's preference.

Farmer Field Day and Study Tour: A Farmer Field Day will be organized at the end of the harvest season to bring together farmers from all villages, government officers from the Prey Nop district and Preah Sihanouk province as well as members of the commune council and NGOs. The aim will be to evaluate the result of the on-farm demonstration of integrated, vegetable and livestock farming. In addition, a few farmers of the Tuol Totoeng commune are selected to join a study tour to learn good practices from integrated farming in other provinces, possibly in Takeo or Kampong Speu province.

Support community micro-project and saving groups: This activity is designed to support farmers to form saving groups that maintain and manage revolving funds for benefit of members. The project has for each saving group provided an initial capital of US$ 4,000. Half of this amount is used to support micro projects such as business or rehabilitation of reservoirs that benefits the whole group and the other half is used as micro-credit on an agreed interest rate to finance activities of individual members. A member of a saving group can be eligible for borrowing money on the condition that the group guarantees the repayment.

Objective:
The objective is to promote integration of crop, vegetable farming, livestock and fish raising as an option for increasing resilience and adaptive capacity of farmers to the impacts of climate change.

Implementation Agency:
Department of Agricultural Extension (DAE) is responsible for administration and implementation of the demonstration project.

Benefit recipient:
About 120-150 people comprising farmers, commune leaders, district and provincial authorities are expected to benefit directly and indirectly from implementation of the field demonstration activities and the learning exercise through farmer field schools.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning of Provincial Governor Office, District Agricultural Office, Commune Council as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
DAE and Provincial Department of Agriculture will have direct responsibility for management and support of this demonstration project until end of December 2013, after which participating farmers and saving groups will continue application of integrated farming, vegetable farming, animal raising and aquaculture.

Budget: US$ 35,500

Work plan:

Investment Fiche

Investment Information					
Province: Preah Sihanouk			Commune: Tuol Totoeng		
District: Prey Nob			Commune code: 180213		
Section 1: General Information					
Project Name: Demonstration of Integrated Farming and Climate Change					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant: Agricultural Advisor	
Project Objective: The objective is to promote integrated farming techniques which are more adaptable to climate change.					
Sector: Economy			Project Type: Agriculture Technique and Training		
Infrastructure		Service		Material Supply	
Project result: integrated rice farming with livestock, aquaculture, and vegetables and capacity improvement for farmers.			Design Planning after Study: No change.		
Estimated cost: US$ 35,500			Actual Cost after Study: US$ 35,500		
Year:	2013	2014	2015		
	January-December				
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Tuol Totoeng 1		30		30
2	Tuol Totoeng 2		30		30
3	Tuol Totoeng 3		30		30
4	Chumpou Khmao		30		30
Total			120		120
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					PDA and DAE
Commune Council					Yes
User groups					Farmers
User groups to be set up before project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				
3.3	Does the project cause damage to used water sources? No.				
3.4	Is the project result a new road? No.				
3.5	Is the project result a new dam, new canals, or new reservoirs? No.				

3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? Yes, it can address the impacts from flooding and drought.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? Yes, IFS can build adaptive capacity of farmers through cost saving and increased yields.
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes, farmers are trained on agricultural techniques, including farming, livestock, water conservation, pest management and efficient fertilizer application.
4.6	Does the project contribute to GHG emission? If yes, What measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through higher yields, cost savings and improved livestock production.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the training and direct demonstration activities.
4.9	Is the project likely to lead to changes in the employment structure of the area? Improved rice yields and livestock production enrich employment structure by encouraging more farmers to integrate livestock and vegetables with rice farming, creating job opportunities for extension workers and veterinarians.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No

Demonstration of Integrated Farming and Climate Change

Study Information (perhaps no standard format)

General Information

Project Name	Demonstration of Integrated Farming and Climate Change
Province	Preah Sihanouk
District	Prey Nob
Commune	Tuol Totoeng
Villages	Tuol Totoeng 1, Tuol Totoeng 2, Tuol Totoeng 3, Chumpou Khmao
Commune code	180213
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	Selected plots in 4 villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Farming system assessment and planning	Assessment of the current resources and opportunity for integrated farming
Training of extension workers	Extension workers, government officers and farmers
Field demonstration of integrated farming	2 plots are selected with size of 20X20m
On-farm demonstration of individual technique	10 on-farm-demonstrations (2 per village) to learn specific element of integrated farming such as rice farming, aquaculture, livestock, aquaculture…etc.
Farmer Field Schools	1 per village
Farmer Field Day and study tour	16 FFD and one big FDD after the end of the demonstration activity
Supporting micro-project and saving group	One saving group consisting of 20-25 members is set up in each village.

Objective

Who does this demonstration benefit?	Village: all villages School Health Center Others

Information on Beneficiaries

Village Name	**Number of People**	**Number of Families**	**Number of Beneficiaries**
Tuol Totoeng 1	1,705		30
Tuol Totoeng 2	852		30
Tuol Totoeng 3	1,426		30
Chumpou Khmao	625		30
Total			120(families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas	872 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha		

Total productivity	2,616 t	
Percentage of farmers	53.87 %	

Investment Presentation

(Commune Format)

Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Geographical Location:Tuol Totoeng commune, Prey Nob district, Preah Sihanouk Province.

Duration of Project Implementation:
The project started in February 2013 and will completed by the end of March 2014.

Description of Project:
Tuol Totoeng commune is one of the target communes selected by the Coastal Adaptation and Planning Resilience Project (CARP) for implementation of Field Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties. This investment proposal was developed based on field studies and several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises four main activities; field demonstration of combined agricultural techniques with shorter duration rice varieties (Phkar Romduol and Phkar Romeat), purification of rice varieties as well as field demonstrations of vegetables and farmer field days. Two field demonstrations for combined techniques and one field demonstration of purification will be conducted.

Field Demonstration of Combined Agricultural Techniques: This is a demonstration of agricultural techniques and rice varieties developed by CARDI. Five rice varieties are introduced including Phkar Romduol, Pkar Romeat, Cholsa, Sen Pidor, and Chan SenSo, of which Phkar Romduol and Phkar Romeat are short term rice varieties with potential yields of about 4-5 t/ha. The others are non-photoperiod varieties that can adapt to any planting season. Rice seeds, either Phkar Romduol or Phkar Romeat, are grown on a farming plot of 10 m wide and 30 m long. The plot is divided into three sections; each section has the area of 10 m by 10 m, where various agricultural techniques are applied. The first section employs the CARDI technique package (land preparation, transplanting, fertilizer application). The second section employs traditional practice with the same rice seeds provided by CARDI and the third sub-plot employs the traditional technique with a local rice variety (Jasmine rice or any). The combined techniques are tested to see if there are differences in yield outcome when traditional agricultural techniques and techniques developed by CARDI are employed and when local rice varieties and those developed by CARDI are used, respectively.

Field Demonstration of Purification of Rice Seed: Purification of rice seeds carried out by observing different stages of the crop growth cycle, namely at vegetative, flowering, and spikelet formation stages. The main principle of purification is that any seedling with abnormal growth, flowering or panicles should be removed entirely from the tested plot until uniform rice growth and pure rice panicles are achieved.

Field Demonstration of Vegetables: This demonstration activity will be carried out in December-March following the harvest of rice varieties tested. Vegetables are also cash crops that can supplement the income of farmers.

Farmer Field Days (FFDs): This is a field-based learning process, where farmers are brought together for training modules and to share experiences on many aspects of agriculture and livestock techniques and management. Three FFDs will be organized in August for participating farmers and one for larger groups during the rice harvest.

Objective:
The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.

Implementation Agency:
CARDI

Benefit recipient:
About 100 people, comprising farmers, commune leaders and provincial authorities, are expected to benefit directly and indirectly from implementation of the demonstration activities and the learning exercise through FFD.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning, District Agricultural Office and Commune Council as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
CARDI and Provincial Department of Agriculture will have direct responsibility for management and support of this demonstration project until March 2014, after which the participating farmers will continue application of CARDI techniques, shorter duration rice varieties and vegetables.

Budget: US$ 5,500

Work plan:

Investment Fiche

<table>
<tr><th colspan="4">Investment Information</th></tr>
<tr><td colspan="2">Province: Preah Sihanouk</td><td colspan="2">Commune: Tuol Totoeng</td></tr>
<tr><td colspan="2">District: Prey Nob</td><td colspan="2">Commune code: 180213</td></tr>
<tr><td colspan="4">Section 1: General Information</td></tr>
<tr><td colspan="4">Project Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties</td></tr>
<tr><td>Date of completion of study: March 2013</td><td colspan="2">Name of Technical Assistant: Mr.</td><td>Role of the Assistant: Deputy Director</td></tr>
<tr><td colspan="4">Project Objective: The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.</td></tr>
<tr><td colspan="2">Sector: Economy</td><td colspan="2">Project Type: Agriculture Technique and Training</td></tr>
<tr><td>Infrastructure</td><td colspan="2">Service</td><td>Material Supply</td></tr>
<tr><td colspan="2">Project result: Short-term rice varieties and capacity improvement.</td><td colspan="2">Design Planning after Study: No change.</td></tr>
<tr><td colspan="2">Estimated cost: US$ 5,500</td><td colspan="2">Actual Cost after Study: US$ 5,500</td></tr>
</table>

Year:	2013	2014	2015		
	January	March			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Tuol Totoeng 1		2		2
3	Tuol Totoeng 3		2		2
Total			4		4

Section 2: Operation and Maintenance	
Who are the users and who is responsible for maintenance of the project?	
Line department	CARDI
Commune Council	Yes
User groups	Farmers
User groups to be set up before project implementation	
Private sector	Yes

Section 3: Environmental Impact	
3.1	Is this commune located in a region vulnerable to environmental impacts? No.
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.
3.3	Does the project cause damage to used water sources? No.
3.4	Is the project result a new road? No.
3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? Yes, it addresses the SLR, flooding, saline intrusion and strong winds by providing possibilities for harvesting before such impacts might occur later in the year.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? The CARDI rice varieties can mature about 10-20 days earlier than the local rice varieties, and can thus be harvested before the onset of sea water intrusion in November.
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes, farmers are trained to apply shorter duration rice varieties and the CARDI technique package which will increase rice yields and reduce vulnerability to sea water intrusion in November.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through potential income from the sale of vegetables plus higher rice yields.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Not specifically.
4.9	Is the project likely to lead to changes in the employment structure of the area?

	Improved yields and income could encourage more persons to farm and plant such rice varieties as well as vegetables, depending on their land availability.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.

Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Study Information (perhaps no standard format)

General Information

Project Name	Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties
Province	Kampong Som
District	Pery Nob
Commune	Tuol Totoeng
Villages	Tuol Totoeng 1 and 3
Commune code	180213
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	Selected plots in three villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Field Demonstration of combined agricultural techniques in three plots with size of 10X10m	Rice varieties: Phkar Romduol and Phkar Romeat
Field demonstration of rice seed purification	Rice varieties: Phkar Romduol and Phkar Romeat
Farmer Field Days	Number of days: 3 days
Demonstration of Vegetables	Tomato

Objective

Who does this demonstration benefit?	Village: Tuol Totoeng 1 and 3 School Health Center Others

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Tuol Totoeng 1	1,705		2
Tuol Totoeng 2	852		0
Tuol Totoeng 3	1,426		2
Chumpou Khmao	625		0

Total			4 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas	872 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha		
Total productivity	2,616 t	
Percentage of farmers	53.87 %	

Investment Presentation

(Commune Format)

Name: Demonstration of Revolving Livestock Scheme

Geographical Location: Tuol Totoeng commune, Prey Nob district, Preah Sihanouk province.

Duration of Project Implementation:
The project started in March 2013 and will be completed by the end of March 2014.

Description of Project:
Tuol Totoeng commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Demonstration of Revolving Livestock Scheme. This investment proposal was developed based on field studies and several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises four main activities, namely formation and capacity building of the Project Management Committee, farmer field schools, field demonstration of livestock and training of local veterinarians. CelAgrid will implement the project in partnership with the commune council.

Formation and Capacity Building of Project Management Committee: A project management committee is formed to assist in family selection, demonstration implementation, revolving funds management, monitoring and evaluating as well as in carrying out activities to release funds for the next cycle of livestock. Capacity building will be carried out for PMC on administration, organization management, monitoring as well as evaluation and funding management.

Farmer Field School (FFS): It is a field-based learning process where farmers are brought together for training modules and to share experiences on many aspects of animal raising techniques and management. A FFS comprises 10 sessions covering different topics of training, including animal facility, feeding techniques, local feeding resources, disease control and vaccination, breeding and care of pregnant pigs and piglets as well as recording of expense and income. The FFS begins in September in each village, where the sessions are held every week to follow the animal growth cycle until the end of January 2014. About 20 families are invited to each session of the FFS.

Demonstration of Livestock: The interested farmers are selected based on their financial capability, availability of land and animal facilities, accountability and commitment to raise the animals until the maturity stage. Domestic animals may include pig, chicken, goat and duck. The interested farmer or household will receive 5 pigs or 100 chickens for stocking with an equivalent cost of about US$ 300. The revolving scheme obliges the farmers to return the cost of stocking to the PMC or another qualified financial institution agreed and entrusted by the CARP, the Commune Council or other local authorities.

Training of Village Animal Health Workers (VAHWs): Building capacity of local VAHWs is an important part of this demonstration project, as they will provide animal health care services to the farmers on a commercial basis. Follow-up training sessions will be conducted for several VAHWs.

Objective:
The objective is to promote revolving livestock schemes as a viable and sustainable business for income generation and as such to improve the capacity of the commune to cope with climate change.

Implementation Agency:
CelAgrid

Benefit recipient:
About 100 people comprising farmers, commune leaders, provincial authorities, local VAHWs are expected to benefit directly from implementation of the demonstration activities and the learning exercise through FFS.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning of the Provincial Governor Office, District Agricultural Office and Commune Council, and the CARP are the main partners under this demonstration project.

Management and Sustainability:
CelAgrid will have direct responsibility for management and support of this demonstration project until March 2014, after which the PMC will continue administration of activities and select another round of farmers who will receive funds to start or continue animal farming.

Budget: US$ 35,880

Work plan: (see the annex)

Investment Fiche

Investment Information

Province: Preah Sihanouk			Commune: Tuol Totoeng		
District: Prey Nob			Commune code: 180213		
Section 1: General Information					
Project Name: Revolving Livestock Scheme					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant:	
Project Objective: The objective is to promote revolving livestock schemes as a viable and sustainable business for income generation and thereby improve the capacity of the commune to cope with climate change.					
Sector: Economy			Project Type: Livestock and Training		
Infrastructure		Service		Material Supply	
Project result: Capacity improvement and improved livestock productivity.			Design Planning after Study: No change.		
Estimated cost: US$ 35,880			Actual Cost after Study: US$ 35,880		
Year:	2013	2014	2015		
	March	March			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Tuol Totoeng 1		22		22
2	Tuol Totoeng 2		24		24
Total			46		46

Section 2: Operation and Maintenance	
Who are the users and who is responsible for maintenance of the project?	
Line department	CelAgrid
Commune Council	Yes
Users groups	Farmers
User groups to be set up before project implementation	
Private sector	Yes
Section 3: Environmental Impact	
3.1	Is this commune located in a region vulnerable to environmental impacts? No.
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? Yes, if animal waste is not properly handled. Training will include proper manure handling and enforcement measures will also be included in the contracts.
3.3	Does the project cause damage to used water sources? Yes, especially those farms located near reservoirs or wells without proper animal manure management. Training will include proper manure handling and measures will also be included in contracts.
3.4	Is the project result a new road? No.
3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? No.

4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? No.
4.5	Does the project build the capacity to cope with climate change impacts? Yes, by increasing incomes of households and thereby strengthening their resilience.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? Yes, pig farming will emit CH_4 as a result of pig manure fermentation. As part of the farmer field school, composting will be included in the training programme.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through potential income from the sale of pigs or other animals.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in training and demonstration.
4.9	Is the project likely to lead to changes in the employment structure of the area? If the revolving livestock scheme is successful and expands, additional jobs will be created for poorer community members, local VAHWs and other businesses.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.

Demonstration of Revolving Livestock Scheme

Study Information (perhaps no standard format)

General Information

Project Name	Revolving Livestock Scheme
Province	Preah Sihanouk
District	Prey Nob
Commune	Tuol Totoeng
Villages	Tuol Totoeng 1 and 2
Commune code	180213
Name of Technical Assistant	
Date of Project Preparation	March 2013

Location

Where is the location of this project?	Selected families in two villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Formation and Capacity Building of PMC	PMC will be trained to manage the revolving fund.
Field demonstration of livestock	5 pigs or 100 chickens are provided.
Farmer Field School	Training modules will be delivered every week for each village.
Training of VAHWs	To refresh animal health care.

Objective

Who does this demonstration benefit?	Village: Tuol Totoeng 1 and 2 School

	Health Center Others: local VAHWs

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Tuol Totoeng 1	1705		22
Tuol Totoeng 2	852		24
Total			46 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	PMC and Commune Council

Current Animal Farming Practice (in case of water supply the questions are about existing use and source)

Animal	**Number of family**	**Percentage**	**Number of animals**
Cow	47	5.43	103
Buffalo	25	2.89	56
Pig	169	19.54	560
Chicken	694	80.23	3,590
Duck	313	36.18	2,307

Source: Commune Database, 2012

Investment Presentation
(Commune Format)

Name: Climate Change Education, Awareness Building and Climate Resilience Irrigation Training

Geographical Location: Tuol Totoeng commune, Prey Nob district, Preah Sihanouk province.

Duration of Project Implementation:
The project started in January 2013 and will be completed in January 2014.

Description of Project:
Tuol Totoeng commune is one of the target communes selected by the Coastal Adaptation and Planning Resilience Project (CARP) for implementation of Climate Change Education and Awareness Building. This investment proposal was developed based on field studies as well as several consultation and prioritization meetings held during September-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises of three main activities, development of a teacher training manual and flipcharts, training of trainers, and conducting awareness raising in all villages of the commune. A specific training programme will be conducted in Prey Nob district and Toul Kokir concerning climate resilient irrigation.

Development of Teacher Training Manual and Flipcharts: The training manual is developed for trainers containing five climate change topics: i) introduction to climate change; ii) the causes of climate change; iii) climate change impacts; iv) climate change adaptation; and v) climate change mitigation. The flipcharts consist of 19 drawings illustrating the same five topics with simple descriptions of climate change issues and responses. Save Cambodia Wildlife (SCW) is contracted to design the training manual and flipcharts and deliver the training of trainers.

Training of Trainers (TOT): This training is organized aiming to provide general knowledge on climate change adaptation and GHG mitigations using flipcharts as training materials. The trainees are selected from provincial departments of environment, water resources and meteorology, agriculture as well as rural development in Preah Sihanouk and Koh Kong provinces. These trainees will then become extension workers who will conduct awareness building in each village of the target communes.

Awareness Raising: The officers who participate in TOT will conduct awareness raising in each village using the flipcharts.

Climate Resilient Irrigation Training: Under the CARP, a specific module has been developed in climate resilient irrigation and a manual has been prepared in both Khmer and English. Training will be conducted for the Polder User Committee and commune councils in Prey Nob district and also for the commune council and farmers in Toul Kokir commune.

Objective:
The first objective is to build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts. The second objective is to provide training in climate resilient irrigation to these officers and other stakeholders in the target areas.

Implementation Agency:
The SCW and Department of Environmental Education are responsible for administration and implementation of this demonstration project concerning climate change awareness raising. The training in climate change resilient irrigation will be implemented under the CARP and in cooperation with Department of Water Resources and Meteorology.

Benefit recipient: 200 households will learn about climate change and climate resilience irrigation.

Partners and Relevant Stakeholders:
Provincial Environment Department, Commune Councils, Prey Nob Polder User Committee, Provincial Water Resources and Meteorology Department as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
Department of Education will have direct responsibility for management and support of this demonstration project until 2014.

Budget: US$ 6,250

Work plan:

Investment Fiche

Investment Information					
Province: Preah Sihanouk			Commune: Tuol Totoeng		
District: Prey Nob			Commune code: 180213		
Section 1: General Information					
Project Name: Climate Change Education, Awareness Building and Climate Resilience Irrigation Training					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant: Agricultural Advisor	
Project Objective: To build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts and provide training for them and other stakeholders in climate resilient irrigation.					
Sector: Climate Change			Project Type: Training		
Infrastructure		Service		Material Supply	
Project result: Capacity building on climate change and climate resilience irrigation training.			Design Planning after Study: No change.		
Estimated cost: US$ 6,250			Actual Cost after Study: US$ 6,250		
Year:	2013	2014	2015		
	January-	January			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Tuol Totoeng 1		40		40
2	Tuol Totoeng 2		40		40
3	Tuol Totoeng 3		40		40
4	Chumpou Khmao		40		40
Total					160
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					DEE, PDWRAM
Commune Council					
User groups					PWUC
User groups to be set up before project implementation					
Private sector					
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				
3.3	Does the project cause damage to used water sources? No.				
3.4	Is the project result a new road? No.				
3.5	Is the project result a new dam, new canals, or new reservoirs? No.				
3.6	Is the project result a new big channel for navigation or water supply? No.				

Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? No.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? Yes, indirectly by raising awareness of climate change at local level.
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, the climate resilient irrigation training may encourage farmers to grow additional crops and thereby increase their income.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the awareness raising.
4.9	Is the project likely to lead to changes in the employment structure of the area? No.
4.10	Does the project improve access to all year round potable water? No, but it might provide access to water for growing vegetable crops providing an alternative income supplement.
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No.

Climate Change Education, Awareness Building and Climate Resilience Irrigation Training

Study Information (perhaps no standard format)

General Information

Project Name	Climate Change Education, Awareness Building and Climate Resilience Irrigation Training
Province	Preah Sihanouk
District	Prey Nob
Commune	Tuol Totoeng
Villages	All villages
Commune code	180213
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	All villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Development of Flipcharts	SCW develops the flipcharts and teacher training manual
Training of Trainers	Government officers from four line departments in

	Preah Sihanouk and Koh Kong
Conducting Awareness	All villages
Climate resilient irrigation	Polder User Committee trained together with provincial staff

Objective

Who does this demonstration benefit?	Village School Health Center Others

Information on Beneficiaries

Village Name	**Number of People**	**Number of Families**	**Number of Beneficiaries**
Tuol Totoeng 1	1,705		40
Tuol Totoeng 2	852		40
Tuol Totoeng 3	1,426		40
Chumpou Khmao	625		40
Total			160 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers and PWUC

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas	872 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha		
Total productivity	2,616 t	
Percentage of farmers	53.87 %	

KINGDOM OF CAMBODIA

NATION RELIGION KING

Commune project proposal 2013

HARVESTING RAINING WATER RESERVOIR

Village :CHUMPUKHMAO

COMMUNE: TOULTOTEUNG

DISTRICT: PREY NOB

PROVINCE: PREAH SIHANOUK PROVINCE

CODE:

ACRONYMS AND ABBREVIATION

WUG	Water User's Group
HRWR	Harvesting Raining Water Reservoir

Contents

1. PROJECT PROPOSAL

KINGDOM OF CAMBODIA

NATIONS RELIGION KING

PREY NOB DISTRICT
TUOLTOTUENG COMMUNE
N0: TUOLTOTUENG, DATE: August 09, 2013

CHIEF OF TUOLTOTUENG COMMUNE
HIGHLY REQUEST TO
COASTAL ADAPTATION AND RESILIENCE PLANNING COMPONENT (CARP) UNDER CAMBODIA CLIMATE CHANGE ALLIANCE

Objective: Proposal for construction a Reservoir for Harvesting Raining Water (RHRW).

The villagers and students lack of water supply every year because the geography of this area is located close to the sea. Recently, sea water intrusion to the wells and ponds in the village and causes more problems to people with shortage of water supply.

Facing with this issue, the villagers and students seek to donors for financial support for construction a RHRW at ChumpuKhmao school supply freshwater to the villagers.

As we mention above, we respectfully request the the Coastal Adaptation and Resilience Planning Component under Cambodia Climate Change Alliance to highly consider our proposal.

We appreciate and highly respect you and your consideration.

Chief of Commune

2. PROJECT BACKGROUND

1. Project name: Construct a reservoir for harvesting raining water.
2. Project location: Chumpu Khmao village, Tuol Totueng commune, Prey Nob district, Preah Sihanouk province.
3. Project term: This project will start on September 09, 2013 to September 16, 2013.
4. Description project: This project is located at Chumpu Khmao village and it is 10 km from commune office. Most of the year, the villagers face with shortage of water supply especially in dry season.
5. Objective: Provide enough freshwater supply to villagers in Chumpu Khmao village in both seasons (raining and dry).
6. Project implementation: Should contract with private company who has experiences through many years in reservoir construction.
7. Beneficiaries: 617 people (villagers & students) in Chumpu Khmao village will benefit from this project.
8. Development partners: Donors, provincial department of Rural Development Department, local authority and Water User's Group (WUG);
9. Management: Commune council will establish WUG to maintain the reservoir.
10. Budgets: Proposed budget 4,487.00 USD (four thousand four hundred eighty seven);
11. Action plan: As detailed in the description project

3. LOCATION MAP

The map shows the project location for construction a reservoir for harvesting raining water in Chumpu Khmao village, Tuek Thla commune, Prey Nob district, Preah Sihanouk province.

4. DESCRIPTION PROJECT

Description Project	
Province: Preah Sihanouk	Commune: Tuol Totueng
District: Prey Nob	Commune's Code:

Section 1: General Information

Project's Name: Harvesting raining water reservoir			
Date end of survey:	Technical assistant:	Position:	
Project Objective: Supply water to villagers for better health			
Sector: Economic		Project Type: Rural communication	
Infrastructure Project□	Service Project☑	Material Supply Project□	
Outcome: A harvesting raining reservoir		Output: Constructed a harvesting raining reservoir (two lines).	
Budget Estimate		Budget Estimated: 4,500.00 USD	
Year	2013	2014	2015

Project Beneficiaries

N0	Name of Village	People of beneficiaries		Families
		Total	Women	
1	Chumpu Khmao	617	325	131
Total		617	325	131

Section 2: Responsibility and maintenance

Who is responsible to manage utilities and maintenance the project?	
Specialize Departments	□
Commune Councils	☑
Existing Utilizers Group	☑
Project Utilizers Group	□
Private Sector	□
	□

Section 3: Environmental Impact

3.1	Is the commune vulnerable of environmental impact?	□
3.2	Is the project impact to natural and social environment?	□
3.3	Is the project impact to villagers' water resources?	□
3.4	Is it new road project outcome?	□
3.5	Is it the project outcome as a dyke, a new canal or a new reservoir?	□
3.6	Is it project outcomes a new reservoir for water supply?	☑

Section 4: Climate Change

4.1	Is the project located in a region of vulnerable impact of climate change?	☑Yes□NO
4.2	If yes, what is the impact of climate change to the project?	☑Sea level rise☑ Seawater intrusion □Flooding ☑Drought ☑Storm surge
4.3	Does the climate change impact to water supply in your village?	☑Yes□NO
4.4	Is the proposed project related to adaptation or mitigation of climate change?	☑ Adaptation□Mitigation
4.5	Does the project improve access to water supply?	☑Dry season☑ Raining season
4.6	Does the project contribute to improving people's livelihoods?	☑Yes□NO

5. BUDGET ESTIMATE

This is the table of estimated budget for construction a reservoir for harvesting raining water

Located in Chumpu Khmao Village, Toul Totueng Commune, Prey Nob district, Preah Sihanouk Province

N0	Description	Unit	Quantity	Cost	Total Cost	Contribution	In Charge
1	Site clearing	m^2	54	1.00 USD	54.00 USD		
2	Foundation	m^3	21.50	2.50 USD	53.74 USD		
3	Colum (wooden) installation	Colum	40	5.00 USD	200.00 USD		
4	Compacting & concrete	m^3	25.40	35.00 USD	889.00 USD		
5	Concrete beam & paving	m^3	3.79	220.00 USD	833.80 USD		
6	Pipes installation	Pipe	50.00	45.00 USD	2,250.00 USD		
7	Hose system installation	Set	1	220.00 USD	220.00 USD		
9							
	Total		16 days		4,500.00 USD		

Date: 23/08/2013

` Surveyor: Sok Chanthoeun

6. RESERVOIR TECHNICAL INFORMATION

1. General Information

Province: Preah Sihanouk	Khan: Prey Nob	Commune: Tuol Totueng	Code
Name of Project: Harvesting Raining Water Reservoir (HRWR)			
Name of Technical Assistant: Sok Chanthoeun		Date: August 21, 2013	

2. Project Location

Where is the location HRWR?	Description: Chumpu Khmao village, Tuol Totueng commune.
X and Y of reservoir location 1. X:373916 Y: 1174546	

3. Description Project

What is type of reservoir?	
☑Concrete reservoir	□House's roof reservoir
□Plastic reservoir	□Huge jug

4. Objective of project

What is the purpose of water supply? ☑in village☑ at school□Health center□Others

5. Information of Users

If the raining water reservoiris located in village, please answer the question below:

Name of village	Population	Total Families	User families
ChumpuKhmao	617	131	325
Total	617	131	325

If the raining water reservoir is located at school, please answer the questions as below:

How many rooms are there in the school?	5
How many students are will use this well?	203

6. Maintenance

Please tick one in the box	
Who are responsible to maintain the raining water reservoir?	School director and villagers
How many families will use raining reservoir?	131 families
Are the water users families agree to establish water user's committee?	□ No ☑ Yes

7. Water resource supply

What is the type of water resources has been used in the village?		
Water resources	Number of users	Distances
□ Natural pond		
☑Raining harvesting	325	
□Stream, River		at home
□Well		
□ Pipe system		
Total	325	

8. Project location information

Who is the land owner of project location?	□Land owner's name ☑ Group of water user

If the raining reservoir location is belonging to private land, please answer question below:

Does the land owner agree?	□disagree □ agree
Is the reservoir location in the flooding area?	□No ☑ Yes

If yes, please answer below:

Maximum of flooded depth:	Minimum of flooded depth:
Reason of flooding	□From river ☑ Heavy raining

Is there any existing well near the project location?	Please tick in the box	Number of wells: No
	□Digging well □Drilling well □Multiple well	

7. TECHNICALCROSS SECTION OF RESERVOIR

8. USING PLANNING AND MAINTENANCE

Commune: Prey Nob			**Description Project:** Harvesting Raining Reservoir			**Date:** 22/08/2013	
Management of Project: Commune council							
Action Plan				**Budget Plan**			
N0	Activities	Number	Implementation	Price		Budget Sources	Other required
				1 time	1 year		
2. Permanence Maintenance							
1	Cleaning	All times	WUG	No	No		Villagers
2	Excavation	All times		No	No	Contribution	People
3. Annual Maintenance							
1	Cleaning	1 time	WUG	20$	20$	WUG	
2	Change water tap	1 time	WUG	100$	100$	WUG	
3	Change PVC hose	1 time	Commune councils	80$	80$	Commune council	
Total Budget/1year					**200$**		

Date: 22/08/2013 Date: 23/08/2013

Commune

Chief: Soeung Saret Name: Sok Chanthoeun

9. WORK PLAN

N0	Description	Quantity	Week 1							Monitors
			day 1	day 2	day 3	day 4	day 5	day 6	day 7	CC/School director
1	Site clearing	54 m^3								CC/School director
2	Foundation	21.50 m^3								CC/School director
3	Colum (wooden) installation	40 colum								CC/School director
4	Compacting & concrete	26 m^3								CC/School director
5	Concrete beam &paving	4m^3								CC/School director
6	Pipes Installation	50 pipes								CC/School director
7	Hose system installation	1 set								CC/School director

Date: 23/08/2013

Name: Sok Chanthoeun

ANNEX 3

Investment Presentation

(Commune Format)

Name: Demonstration of Integrated Farming and Climate Change

Geographical Location: Tuk Laak commune, Prey Nob district, Preah Sihanouk province.

Duration of Project Implementation:
The project started in January 2013 and will be completed in January 2014.

Description of Project:
Tuk Laak commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Demonstration of Integrated Farming and Climate Change. This investment proposal was developed based on field studies as well as several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises five main activities, namely farming system assessment and planning, demonstration of rice farming in integration with livestock (pig and chicken), aquaculture (tilapia), and vegetables, on-farm demonstration, farmer field schools, farmer field days and study tour, and training of local extension workers. Department of Agricultural Extension of MAFF will implement the demonstration project in cooperation with Kampong Som Provincial Department of Agriculture.

Farming System Assessment and Planning: This activity is conducted using agro-ecological system analysis to get an understanding of natural resource conditions including physical, economic and social resources for agricultural production systems and livelihood activities in the commune as well as to get an overview of current status and trend of agriculture/farming systems and livelihood activities and identify system resilience and climate change adaptation options in the agricultural production system.

Commune and village extension worker training: Training of extension workers is an important step following agro-ecological system analysis in order to refresh and adapt the training modules to coastal conditions. A training workshop was organized in Kampong Som to train extension workers and government officers from departments and agencies. These people will pass on training modules and knowledge to farmers through farmer field schools. Attending the workshop will be participants from relevant central and provincial departments, district offices of Preah Sihanouk and Koh Kong provinces as well as 8 commune councils. 12 training modules were presented at the training workshop.

Farmer Field School (FFS): It is a field-based learning process where farmers are given training modules and share experiences on many aspects of agriculture and livestock techniques and management. A FFS consists of 16 sessions encompassing 5 modules (rice farming technique, vegetable farming, pig raising, chicken raising and fish rearing), where each session is conducted every week in each village. About 20-30 families from each village are invited to the FFS. Farmer Field Day is organized following FFS sessions where farmers can learn about the actual progress and issues by visiting demonstration sites.

Demonstration of integrated farming techniques: This activity demonstrates integration of rice farming with other farming activities such as pig raising, chicken raising and aquaculture which allows for

efficient management of agricultural inputs such as water conservation, energy conservation, and composting of manure in a closed system. As a result, farmers will increase productivity with less cost and improved environmental quality. 2 families, one from each village of Phaav and Chrolong, are selected for demonstration of integrated farming. Besides, on-farm demonstration of individual techniques for rice farming, raising pigs, chicken raising, aquaculture etc. is carried out as part of the FFS. 10 families are selected, two from each village, to demonstrate individual activities, such as rice farming or pig raising, based on the farmer's preference.

Farmer Field Day and Study Tour: A Farmer Field Day will be organized at the end of the harvest season to bring together farmers from all villages, government officers from the Prey Nop district and Preah Sihanouk province as well as members of the commune council and NGOs. The aim will be to evaluate the result of the on-farm demonstration of integrated, vegetable and livestock farming. In addition, a few farmers of the Tuk Laak commune are selected to join a study tour to learn good practices from integrated farming in other provinces, possibly in Takeo or Kampong Speu province.

Support community micro-project and saving groups: This activity is designed to support farmers to form saving groups that maintain and manage revolving funds for benefit of members. The project has for each saving group provided an initial capital of US$ 4,000. Half of this amount is used to support micro projects such as business or rehabilitation of reservoir that benefits the whole group and the other half is used as micro-credit on an agreed interest rate to finance activities of individual members. A member of a saving group can be eligible for borrowing money on the condition that the group guarantees the repayment.

Objective:
The objective is to promote integration of crop, vegetable farming, livestock and fish raising as an option for increasing resilience and adaptive capacity of farmers to the impacts of climate change.

Implementation Agency:
Department of Agricultural Extension (DAE) is responsible for administration and implementation of the demonstration project.

Benefit recipient:
About 120-150 people comprising farmers, commune leaders, district and provincial authorities are expected to benefit directly and indirectly from implementation of the field demonstration activities and the learning exercise through farmer field schools.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning of Provincial Governor Office, District Agricultural Office, Commune Council as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
DAE and Provincial Department of Agriculture will have direct responsibility for management and support of this demonstration project until December 2013, after which participating farmers and saving groups will continue application of integrated farming, vegetable farming, animal raising and aquaculture.
Budget: US$ 35,500
Work plan:

Investment Fiche

Investment Information					
Province: Preah Sihanouk			Commune: Tuk Laak		
District: Prey Nob			Commune code: 180211		
Section 1: General Information					
Project Name: Demonstration of Integrated Farming and Climate Change					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant: Agricultural Advisor	
Project Objective: The objective is to promote integrated farming techniques which are more adaptable to climate change.					
Sector: Economy			Project Type: Agriculture Technique and Training		
Infrastructure		Service		Material Supply	
Project result: Integrated rice farming with livestock, aquaculture, and vegetables and capacity improvement for farmers.			Design Planning after Study: No change.		
Estimated cost: US$ 35,500			Actual Cost after Study: US$ 35,500		
Year:	2013	2014	2015		
	January-December				
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Tuol		30		30
2	Prek Phaav		30		30
3	Kampong Smach Touch		30		30
4	Chrolong		30		30
Total			120		120
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					PDA and DAE
Commune Council					Yes
User groups					Farmers
User groups to be set up before project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				
3.3	Does the project cause damage to used water sources? No.				
3.4	Is the project result a new road? No.				
3.5	Is the project result a new dam, new canals, or new reservoirs? No.				

3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? Yes, it can address the impacts from flooding and drought.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? Yes, IFS can build adaptive capacity of farmers through cost saving and increased yields.
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes, farmers are trained on agricultural techniques, including farming, livestock, water conservation, pest management and efficient fertilizer application.
4.6	Does the project contribute to GHG emission? If yes, What measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through higher yields, cost savings and improved livestock production.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the training and direct demonstration activities.
4.9	Is the project likely to lead to changes in the employment structure of the area? Improved rice yields and livestock production enrich employment structure by encouraging more farmers to integrate livestock and vegetables with rice farming, creating job opportunities for extension workers and veterinarians.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No.

Demonstration of Integrated Farming and Climate Change

Study Information (perhaps no standard format)

General Information

Project Name	Demonstration of Integrated Farming and Climate Change
Province	Preah Sihanouk
District	Prey Nob
Commune	Tuk Laak
Villages	Tuol, Prek Phaav, Kampong Smach Touch, Chrolong
Commune code	180211
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project	Selected plots in 4 villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Farming system assessment and planning	Assessment of the current resources and opportunity for integrated farming
Training of extension workers	Extension workers, government officers and farmers
Field demonstration of integrated farming	2 plots are selected with size of 20X20m (
On-farm demonstration of individual technique	10 on-farm-demonstrations (2 per village) to learn specific element of integrated farming such as farming, aquaculture, livestock, aquaculture…etc.
Farmer Field Schools	1 per village
Farmer Field Day and study tour	16 FFD and one big FFD event at the end of the demonstration activity
Supporting micro-project and saving group	One saving group consisting of 20-25 members is set up in each village.

Objective

Who does this demonstration benefit?	Village: all villages School Health Center Others

Information on Beneficiaries

Village Name	**Number of People**	**Number of Families**	**Number of Beneficiaries**
Tuol	1,830		30
Prek Phaav	766		30
Kampong Smach Touch	1127		30
Chrolong	909		30
Total			120 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas	700 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha		
Total productivity	1,190 t	

Percentage of farmers	66 %	

Investment Presentation

(Commune Format)

Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Geographical Location:Tuk Laak commune, Prey Nob district, Preah Sihanouk Province.

Duration of Project Implementation:
The project started in February 2013 and will be completed by the end of March 2014.

Description of Project:
Tuk Laak commune is one of the target communes selected by the Coastal Adaptation and Planning Resilience Project (CARP) for implementation of Field Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties. This investment proposal was developed based on field studies and several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises four main activities; field demonstration of combined agricultural techniques with shorter duration rice varieties (Phkar Romduol and Phkar Romeat), purification of rice varieties as well as field demonstrations of vegetables and farmer field days. Two field demonstrations for combined techniques and one field demonstration of purification will be conducted.

Field Demonstration of Combined Agricultural Techniques: This is a demonstration of agricultural techniques and rice varieties developed by CARDI. Five rice varieties are introduced including Phkar Romduol, Pkar Romeat, Cholsa, Sen Pidor, and Chan SenSo, of which Phkar Romduol and Phkar Romeat are short term rice varieties with potential yields of about 4-5 t/ha. The others are non-photoperiod varieties that can adapt to any planting season. Rice seeds, either Phkar Romduol or Phkar Romeat, are grown on a farming plot of 10 m wide and 30 m long. The plot is divided into three sections; each section has the area of 10 m by 10 m, where various agricultural techniques are applied. The first section employs the CARDI technique package (land preparation, transplanting, fertilizer application). The second section employs traditional practice with the same rice seeds provided by CARDI and the third sub-plot employs the traditional technique with a local rice variety (Jasmine rice or any). The combined techniques are tested to see if there are differences in yield outcome when traditional agricultural techniques and techniques developed by CARDI are employed and when local rice varieties and those developed by CARDI are used, respectively.

Field Demonstration of Purification of Rice Seed: Purification of rice seeds carried out by observing different stages of the crop growth cycle, namely at vegetative, flowering, and spikelet formation stages. The main principle of purification is that any seedling with abnormal growth, flowering or panicles should be removed entirely from the tested plot until uniform rice growth and pure rice panicles are achieved.

Field Demonstration of Vegetables: This demonstration activity will be carried out in December-March following the harvest of rice varieties tested. Vegetables are also cash crops that can supplement the income of farmers.

Farmer Field Days (FFDs): This is a field-based learning process, where farmers are brought together for training modules and to share experiences on many aspects of agriculture and livestock techniques and management. Three FFDs will be organized in August for participating farmers and one for larger groups during the rice harvest.

Objective:
The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.

Implementation Agency:
CARDI

Benefit recipient:
About 100 people, comprising farmers, commune leaders and provincial authorities, are expected to benefit directly and indirectly from implementation of the demonstration activities and the learning exercise through FFD.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning, District Agricultural Office and Commune Council as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
CARDI and Provincial Department of Agriculture will have direct responsibility for management and support of this demonstration project until March 2014, after which the participating farmers will continue application of CARDI techniques, shorter duration rice varieties and vegetables.

Budget: US$ 5,500

Work plan:

Investment Fiche

<table>
<tr><th colspan="4">Investment Information</th></tr>
<tr><td colspan="2">Province: Preah Sihanouk</td><td colspan="2">Commune: Tuk Laak</td></tr>
<tr><td colspan="2">District: Prey Nob</td><td colspan="2">Commune code: 180211</td></tr>
<tr><td colspan="4">Section 1: General Information</td></tr>
<tr><td colspan="4">Project Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties</td></tr>
<tr><td>Date of completion of study: March 2013</td><td colspan="2">Name of Technical Assistant: Mr.</td><td>Role of the Assistant: Deputy Director</td></tr>
<tr><td colspan="4">Project Objective: The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.</td></tr>
<tr><td colspan="2">Sector: Economy</td><td colspan="2">Project Type: Agriculture Technique and Training</td></tr>
<tr><td>Infrastructure</td><td colspan="2">Service</td><td>Material Supply</td></tr>
</table>

Project result: Short-term rice varieties and capacity improvement.			Design Planning after Study: No change.		
Estimated cost: US$ 5,500			Actual Cost after Study: US$ 5,500		
Year:	2013	2014	2015		
	January	March			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Tuol		1		1
2	Prek Phaav		1		1
3	Kampong Smach Touch		2		2
Total					4

Section 2: Operation and Maintenance	
Who are the users and who is responsible for maintenance of the project?	
Line department	CARDI
Commune Council	Yes
User groups	Farmers
User groups to be set up before project implementation	
Private sector	Yes

Section 3: Environmental Impact	
3.1	Is this commune located in a region vulnerable to environmental impacts? No.
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.
3.3	Does the project cause damage to used water sources? No.
3.4	Is the project result a new road? No.
3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project located in a region vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? Yes, it addresses the SLR, flooding, saline intrusion and strong winds by providing possibilities for harvesting before such impacts might occur later in the year.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? The CARDI rice varieties can mature about 10-20 days earlier than the local rice varieties, and can thus be harvested before the onset of sea water intrusion in November.
4.5	Does the project enhance resilience capacity to cope with climate change impacts? Yes, farmers are trained to apply shorter duration rice varieties and the CARDI technique package which will increase rice yields and reduce vulnerability to sea water intrusion in November.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst

	participants? Yes, through potential income from sale of vegetables plus higher rice yields.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Not specifically.
4.9	Is the project likely to lead to changes in the employment structure of the area? Improved yields and income could encourage more farmers to plant such rice varieties as well as vegetables, depending on land availability.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.

Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Study Information (perhaps no standard format)

General Information

Project Name	Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties
Province	Kampong Som
District	Pery Nob
Commune	Tuk Laak
Villages	Tuol, Prek Phaav, Kampong Smach Touch
Commune code	180211
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	Selected plots in three villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Field Demonstration of combined agricultural techniques in three plots with size of 10X10m	Rice varieties: Phkar Romduol and Phkar Romeat
Field demonstration of rice seed purification	Rice varieties: Phkar Romduol and Phkar Romeat
Farmer Field Days	Number of days: 3 days
Demonstration of Vegetables	Tomato

Objective

Who does this demonstration benefit?	Village: Tuol Prek Phaav, Kampong Smach Touch School Health Center Others

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Tuol	1,830		1
Prek Phaav	766		1
Kampong Smach Touch	1127		2
Chrolong	909		0
Total			4 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas	700 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha		
Total productivity	1,190 t	
Percentage of farmers	66 %	

Investment Presentation

(Commune Format)

Name: Demonstration of Revolving Livestock Scheme

Geographical Location: Tuk Laak commune, Prey Nob district, Preah Sihanouk province.

Duration of Project Implementation:
The project started in March 2013 and will be completed by the end of March 2014.

Description of Project:
Tul Laak commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Demonstration of Revolving Livestock Scheme. This investment proposal was developed based on field studies and several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises four main activities, namely formation and capacity building of the Project Management Committee, farmer field schools, field demonstration of livestock and training of local veterinarians. CelAgrid will implement the project in partnership with the commune council.

Formation and Capacity Building of Project Management Committee: A project management committee is formed to assist in family selection, demonstration implementation, revolving funds management, monitoring and evaluating as well as in carrying out activities to release funds for the next cycle of livestock. Capacity building will be carried out for PMC on administration, organisation management, monitoring as well as evaluation and funding management.

Farmer Field School (FFS): It is a field-based learning process where farmers are brought together for training modules and to share experiences on many aspects of animal raising techniques and management. A FFS comprises 10 sessions covering different topics of training, including animal facility, feeding techniques, local feeding resources, disease control and vaccination, breeding and care of pregnant pigs and piglets as well as recording of expense and income. The FFS begins in September in each village, where the sessions are held every week to follow the animal growth cycle until the end of January 2014. About 20 families are invited to each session of the FFS.

Demonstration of Livestock: The interested farmers are selected based on their financial capability, availability of land and animal facilities, accountability and commitment to raise the animals until the maturity stage. Domestic animals may include pig, chicken, goat and duck. The interested farmer or household will receive 5 pigs or 100 chickens for stocking with an equivalent cost of about US$ 300. The revolving scheme obliges the farmers to return the cost of stocking to the PMC or another qualified financial institution agreed and entrusted by the CARP, the Commune Council or other local authorities.

Training of Village Animal Health Workers (VAHWs): Building capacity of local VAHWs is an important part of this demonstration project, as they will provide animal health care services to the farmers on a commercial basis. Follow-up training sessions will be conducted for several VAHWs.

Objective:
The objective is to promote revolving livestock schemes as a viable and sustainable business for income generation and as such to improve the capacity of the commune to cope with climate change.

Implementation Agency:
CelAgrid

Benefit recipient:
About 100 people comprising farmers, commune leaders, provincial authorities, local VAHWs are expected to benefit directly from implementation of the demonstration activities and the learning exercise through FFS.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning of the Provincial Governor Office, District Agricultural Office and Commune Council, and the CARP are the main partners under this demonstration project.

Management and Sustainability:
CelAgrid will have direct responsibility for management and support of this demonstration project until March 2014, after which the PMC will continue administration of activities and select another round of farmers who will receive funds to start or continue animal farming.

Budget: US$ 41,340

Work plan: (see the annex)

Investment Fiche

Investment Information					
Province: Preah Sihanouk			Commune: Tul Laak		
District: Prey Nob			Commune code: 180211		
Section 1: General Information					
Project Name: Revolving Livestock Scheme					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant:	
Project Objective: The objective is to promote revolving livestock schemes as a viable and sustainable business for income generation and thereby improve the capacity of the commune to cope with climate change.					
Sector: Economy			Project Type: Livestock and Training		
Infrastructure		Service		Material Supply	
Project result: Capacity improvement and improved livestock productivity.			Design Planning after Study: No change.		
Estimated cost: US$ 41,340			Actual Cost after Study: US$ 41,340		
Year:	2013	2014	2015		
	March	March			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Tuol		9		9
3	Phaav		11		11
4	Kampong Smach Touch		9		9
5	Chror Long		24		24
Total			53		53
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					CelAgrid
Commune Council					Yes
User groups					Farmers
User groups to be set up before project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? Yes, if animal waste is not properly handled. Training will include proper manure handling and enforcement measures will also be included in the contracts.				

3.3	Does the project cause damage to used water sources? Yes, especially those farms located near reservoirs or wells without proper animal manure management. Training will include proper manure handling and measures will also be included in the contracts.
3.4	Is the project result a new road? No.
3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? No.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? No
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes, by increasing incomes of households and thereby strengthening their resilience.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? Yes, pig farming will emit CH_4 as a result of pig manure fermentation. As part of the farmer field school, composting will be included in the training programme
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through potential income from the sale of pigs or other animals.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in training and demonstration.
4.9	Is the project likely to lead to changes in the employment structure of the area? If the revolving livestock scheme is successful and expands, additional jobs will be created for poorer community members, VAHWs and other businesses.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.

Demonstration of Revolving Livestock Scheme

Study Information (perhaps no standard format)

General Information

Project Name	Revolving Livestock Scheme
Province	Preah Sihanouk
District	Prey Nop
Commune	Tuk Laak
Villages	Tuol, Prek Phhav, Kampong Smach Touch, and Chror Long
Commune code	180211
Name of Technical Assistant	
Date of Project Preparation	March 2013

Location

Where is the location of this project?	Selected families in two villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Formation and Capacity Building of PMC	PMC will be trained to manage the revolving fund.
Field demonstration of livestock	5 pigs or 100 chickens are provided.
Farmer Field School	Training modules will be held every week in each village.
Training of VAHWs	To refresh animal health care.

Objective

Who does this demonstration benefit?	Village: Tuol, Prek Phhav, Kampong Smach Touch, and Chror Long School Health Center Others: Local VAHWs

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Tuol	1,830		9
Phaav	766		11
Kampong Smach Touch	1,127		9
Chror Long	909		24
Total			53 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	PMC and Commune Council

Current Animal Farming Practice (in case of water supply the questions are about existing use and source)

Animal	**Number of family**	**Percentage**	**Number of animals**
Cow	234	26.29	384
Buffalo	200	22.47	276
Pig	472	53.03	885
Chicken	608	68.31	3,439
Duck	33	3.71	347

Source: Commune Database, 2012

Investment Presentation

(Commune Format)

Name: Climate Change Education, Awareness Building and Climate Resilience Irrigation Training

Geographical Location: Tuk Laak commune, Prey Nob district, Preah Sihanouk province.

Duration of Project Implementation:
The project started in January 2013 and will be completed in January 2014.

Description of Project:
Tuk Laak commune is one of the target communes selected by the Coastal Adaptation and Planning Resilience Project (CARP) for implementation of Climate Change Education and Awareness Building. This investment proposal was developed based on field studies as well as several consultation and prioritization meetings held during September-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises of three main activities, development of a teacher training manual and flipcharts, training of trainers, and conducting awareness raising in all villages of the commune. A specific training programme will be conducted in Prey Nob district and Toul Kokir concerning climate resilient irrigation.

Development Teacher Training Manual and Flipcharts: The teacher manual is developed for trainers containing five climate change topics: i) introduction to climate change; ii) the causes of climate change; iii) climate change impacts; iv) climate change adaptation; and v) climate change mitigation. The flipcharts consist of 19 drawings illustrating the same five topics with simple descriptions of climate change issues and responses. Save Cambodia Wildlife (SCW) is contracted to design the training manual and flipcharts and deliver the training of trainers.

Training of Trainers (TOT): This training is organized aiming to provide general knowledge on climate change adaptation and GHG mitigations using flipcharts as training materials. The trainees are selected from provincial departments of environment, water resources and meteorology, agriculture as well as rural development in Preah Sihanouk and Koh Kong provinces. These trainees will then become extension workers who will conduct awareness building in each village of Peam Krasoab commune.

Awareness Raising: The officers who participate in TOT will conduct awareness raising in each village using the flipcharts.

Climate Resilient Irrigation Training: Under the CARP, a specific module has been developed in climate resilient irrigation and a manual has been prepared in both Khmer and English. Training will be conducted for the Polder User Committee and commune councils in Prey Nob district and also for the commune council and farmers in Toul Kokir commune.

Objective:

The first objective is to build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts. The second objective is to provide training in climate resilient irrigation to these officers and other stakeholders in the target areas.

Implementation Agency:
The SCW and Department of Environmental Education are responsible for administration and implementation of this demonstration project concerning climate change awareness raising. The training in climate change resilient irrigation will be implemented under the CARP and in cooperation with Department of Water Resources and Meteorology.

Benefit recipient: 200 households will learn about climate change and climate resilience irrigation.

Partners and Relevant Stakeholders:
Provincial Environment Department, Commune Council, Prey Nob Polder User Committee, Provincial Water Resources and Meteorology Department as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
Department of Education will have direct responsibility for management and support of this demonstration project until 2014.

Budget: US$ 6,250

Work plan:

Investment Fiche

<table>
<tr><td colspan="6">Investment Information</td></tr>
<tr><td colspan="3">Province: Preah Sihanouk</td><td colspan="3">Commune: Tuk Laak</td></tr>
<tr><td colspan="3">District: Prey Nop</td><td colspan="3">Commune code: 180211</td></tr>
<tr><td colspan="6">Section 1: General Information</td></tr>
<tr><td colspan="6">Project Name: Climate Change Education, Awareness Building and Climate Resilience Irrigation Training</td></tr>
<tr><td colspan="2">Date of completion of study
March 2013</td><td colspan="2">Name of Technical Assistant:</td><td colspan="2">Role of the Assistant:
Agricultural Advisor</td></tr>
<tr><td colspan="6">Project Objective: To build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts and provide training for them and other stakeholders in climate resilient irrigation.</td></tr>
<tr><td colspan="3">Sector: Climate Change</td><td colspan="3">Project Type: Training</td></tr>
<tr><td colspan="2">Infrastructure</td><td colspan="2">Service</td><td colspan="2">Material Supply</td></tr>
<tr><td colspan="3">Project result: Capacity building on climate change and climate resilience irrigation.</td><td colspan="3">Design Planning after Study: No change.</td></tr>
<tr><td colspan="3">Estimated cost: US$ 6,250</td><td colspan="3">Actual Cost after Study: US$ 6,250</td></tr>
<tr><td>Year:</td><td>2013</td><td>2014</td><td>2015</td><td></td><td></td></tr>
<tr><td></td><td>January</td><td>March</td><td></td><td></td><td></td></tr>
<tr><td colspan="6">Beneficiary</td></tr>
<tr><td>Number</td><td colspan="2">Village Name</td><td colspan="2">Beneficiary</td><td>Number of Families</td></tr>
</table>

		Total	Women	
1	Tuol	40		40
2	Prek Phaav	40		40
3	Kampong Smach Touch	40		40
4	Chrolong	40		40
Total		160		160

Section 2: Operation and Maintenance	
Who are the users and who is responsible for maintenance of the project?	
Line department	DEE, PPWRAM
Commune Council	
User groups	PWUC
User groups to be set up before project implementation	
Private sector	

Section 3: Environmental Impact	
3.1	Is this commune located in a region vulnerable to environmental impacts? No.
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.
3.3	Does the project cause damage to used water sources? No.
3.4	Is the project result a new road? No.
3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? No.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? Yes, indirectly by raising awareness of climate change at local level.
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, the climate resilient irrigation training may encourage farmers to grow additional crops and thereby increase their income.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the awareness raising.
4.9	Is the project likely to lead to changes in the employment structure of the area? No.
4.10	Does the project improve access to all year round potable water? No, but it might provide access to water for growing vegetable crops providing an alternative income supplement.
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No.

Climate Change Education and Awareness Building

Study Information (perhaps no standard format)

General Information

Project Name	Climate Change Education and Awareness Building
Province	Preah Sihanouk
District	Prey Nob
Commune	Tuk Laak
Villages	All villages
Commune code	180211
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	All villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Development of Flipcharts	SCW develops the flipcharts and teacher training manual
Training of Trainers	Government officers from four line departments in Preah Sihanouk and Koh Kong
Conducting Awareness	All villages
Climate resilient irrigation	Polder User Committee trained together with provincial staff

Objective

Who does this demonstration benefit?	Village: all villages. School Health Center Others: PWUC

Information on Beneficiaries

Village Name	**Number of People**	**Number of Families**	**Number of Beneficiaries**
Tuol	1,830		
Prek Phaav	766		
Kampong Smach Touch	1127		
Chrolong	909		
Total			

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers and PWUC

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas	700 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha		
Total productivity	1,190 t	
Percentage of farmers	66 %	

KINGDOM OF CAMBODIA

NATION RELIGION KING

Commune project proposal 2013

HARVESTING RAINING WATER RESERVOIR

VILLAGE : PREKPHAO

COMMUNE: TUEKL'AK

DISTRICT: PREY NOB

PROVINCE: PREAH SIHANOUK PROVINCE

CODE:

ACRONYMS AND ABBREVIATION

CC	: Commune Council
HRWR	: Harvesting Raining Water Reservoir
WUG	: Water User's Group

Contents

KINGDOM OF CAMBODIA

NATIONS RELIGION KING

PREY NOB DISTRICT
TUEKL'AK COMMUNE
N0: TUEKL'AK, DATE: August 30, 2013

CHIEF OF TUEKL'AK COMMUNE
HIGHLY REQUEST TO
COASTAL ADAPTATION AND RESILIENCE PLANNING COMPONENT (CARP) UNDER CAMBODIA CLIMATE CHANGE ALLIANCE

Objective: Proposal for construction a reservoir for harvesting raining water in Prek Phao village, Tuek L'ak commune, Prey Nob district.

People and students in Prek Phao village, TuekL'ak commune face shortage of freshwater every year in dry season. Facing with the shortage of fresh water supply, the villagers and commune council seek to donors for financial support for construction a reservoir for harvesting raining water in this village.

As we mention above, we respectfully request the Coastal Adaptation and Resilience Planning Component under Cambodia Climate Change Alliance to highly consider our proposal.

We appreciate and highly respect you and your consideration.

Chief of Commune

PROPOSAL

1. PROJECT BACKGROUND

1. Project name: Construct a reservoir for harvesting raining water.
2. Project location: Prek Phao village, TuekL'ak commune, Prey Nob district, Preah Sihanouk province.
3. Project term: This project will start in this raining season.
4. Description project: This project is located in Prek Phao village and close to the sea. There are 241 families and 1252 people face with shortage of fresh water uses because of climate change impact.
5. Objective: Provide fresh water to villagers in dry season.
6. Project implementation: Should construct with private company who has experiences many years in reservoir construction.
7. Beneficiaries: 241 families in Prek Phao village will get benefit from this project.
8. Development partners: Donors, provincial department of Rural Development Department, local authority and Water User's Group (WUG);
9. Management: Commune council will establish WUG to maintain these wells.
10. Budgets: Propose budget 3768 USD ;
11. Action plan: As detailed in the description project

2. LOCATION MAP

The map shows the project location of construction a reservoir for harvesting raining water in Prek Phao village, Tuek L'ak commune, Prey Nob district, Preah Sihanouk province.

3. DESCRIPTION PROJECT

Description Project	
Province: Prey Sihanouk	Commune: Tuek L'ak
District: Prey Nob	Commune's Code:

Section 1: General Information

Project's Name: Harvesting Raining Water Reservoir (HRWR)			
Date end of survey	Technical assistant:	Position:	
Project Objective: Water supply to villagers for better living condition			
Sector: Economic		Project Type: Rural communication	
Infrastructure Project☐	Service Project☑	Material Supply Project☐	
Outcome: Constructed a Reservoir		Output: Constructed a Raining water reservoir	
Budget Estimate		Budget Estimated: 4,100.00 USD	
Year	2013	2014	2015

Project Beneficiaries

N0	Name of Village	People of beneficiaries		Families
		Total	Women	
1	Prek Phao	1252	741	241
2				
3				
4				
5				
Total		1252	741	241

Section 2: Responsibility and maintenance

Who is responsible to manage utilities and maintenance the project?	
Specialize Departments	□
Commune Councils	☑
Existing Utilizers Group	☑
Project Utilizers Group	□
Private Sector	□
	□

Section 3: Environmental Impact

3.1	Is the commune vulnerable of environmental impact?	□
3.2	Is the project impact to natural and social environment?	□
3.3	Is the project impact to villagers' water resources?	□
3.4	Is it new road project outcome?	□
3.5	Is it the project outcome as a dyke, a new canal or a new reservoir?	□
3.6	Is it project outcomes a new canal for water way or a reservoir for water supply?	☑

Section 4: Climate Change

4.1	Is the project located in a region of vulnerable impact of climate change?	☑Yes□NO
4.2	If yes, what is the impact of climate change to the project?	☑Sea level rise☑ Seawater intrusion □Flooding ☑Drought ☑Storm surge
4.3	Does the climate change impact to water supply in your village?	☑Yes□NO
4.4	Is the proposed project related to adaptationor mitigationof climate change?	☑Adaptation□Mitigation
4.5	Does the project improve access to water supply?	☑Dry season☑ Raining season
4.6	Does the project contribute to improving people's livelihoods?	☑Yes□NO

4. BUDGET ESTIMATE

This is the table of estimated budget for construction a reservoir for harvesting raining water

Located in Prek Phao Village, Tuek L'ak Commune, Prey Nob district, Preah Sihanouk Province

N0	Description	Unit	Quantity	Cost	Total Cost	Contribution	In Charge
1	Site clearing	m^2	25.80	0.50 USD	12.90 USD		
2	Foundation	m^3	17.30	2.00 USD	34.60 USD		
3	Colum (wooden) installation	Colum	0	5.00 USD	00.00 USD		
4	Compacting & concrete	m^3	18.10	35.00 USD	633.50 USD		
5	Concrete beam & paving	m^3	4.20	220.00 USD	924.00 USD		
6	Pipes installation	Pipe	50.00	45.00 USD	2,250.00 USD		
7	Hose system installation	Set	1	245.00 USD	245.00 USD		
9							
	Total				**4,100.00 USD**		

Date:

Surveyor:SokChantheoun

5. TECHNICAL INFORMATION

1. General Information

Province: Preah Sihanouk	District: Prey Nob	Commune: Tuek L'ak	Code
Name of Project: Harvesting Raining Water Reservoir (HRWR)			
Name of Technical Assistant: Sok Chanthoeun		Date: August 26, 2013	

2. Project Location

Where is the location HRWR?	Description: Prek Phao village, Tuek L'ak commune.
X and Y of reservoir location X: 376718 Y: 1182682	

3. Description Project

What is type of reservoir?	
☑ Concrete reservoir	□House's roof reservoir
□Plastic reservoir	□Huge jug

4. Objective of project

What is the purpose of water supply? ☑in village ☑ at school □Health center □Others

5. Information of Users

If the raining water reservoir is located in village, please answer the question below:

Name of village	Population	Total Families	User families
PrekPhao	1252	241	30
Total	1252	241	30

If the raining water reservoir is located at school, please answer the questions as below:

How many rooms are there in the school?	5
How many students are will use this reservoir?	400

6. Maintenance

Please tick one in the box	
Who are responsible to maintain the raining water reservoir?	School director and villagers
How many families will use raining reservoir?	30 families
Are the water users families agree to establish water user's committee?	□ No ☑ Yes

7. Water resource supply

What is the type of water resources has been used in the village?		
Water resources	Number of users	Distances
□ Natural pond		
☑Raining harvesting	256	at home
□Stream, River		
□Well		
□ Pipe system		
Total	325	

8. Project location information

Who is the land owner of project location?	□Land owner's name ☑ Group of water user

If the raining reservoir location is belonging to private land, please answer question below:

Does the land owner agree?	□disagree □ agree
Is the reservoir location in the flooding area?	□No ☑ Yes

If yes, please answer below:

Maximum of flooded depth:	Minimum of flooded depth:
Reason of flooding	□From river ☑ Heavy raining

Is there any existing well near the project location?	Please tick in the box	Number of wells: No
	□Digging well □Drilling well □Multiple well	

6. TECHNICAL CROSS SECTION OF RESERVOIR

7. USING PLANNING AND MAINTENANCE

Commune: Prey Nob			**Description Project:** HRWR			**Date:** 08/08/2013	
Management of Project: Commune council							
Ation Plan				**Budget Plan**			
N0	Activities	Number	Implementation	Price		Budget Sources	Other required
				1 time	1 year		
2. Permanence Maintenance							
1	Site Cleaning	All times	WUG	No	No	Contribution	People
2	Drainage	All times		No	No	Contribution	People
3. Annual Maintenance							
1	Cleaning reservoir	1 time	WUG	30$	30$	WUG	
2	Change water tap	1 time	WUG	130$	130$	WUG	
3	Change PVC pipes	1 time	CC	120$	120$	CC	
Total Budget/1year					**280$**		

Chief commune: Hark San Water users: Ang Thy Surveyor: Sok Chantheoun

8. WORK PLAN

Work plan for construction a reservoir for harvesting raining water in Prek Phao village, Tuek L'ak commune, Prey Nob district

N0	Description	Quantity	Week 1							Monitors
			day 1	day 2	day 3	day 4	day 5	day 6	day 7	CC/School director
1	Site clearing	26m^3								CC/School director
2	Foundation	17.30 m^3								CC/School director
3	Colum (wooden) installation	40co lum								CC/School director
4	Compacting & concrete	18.10 m^3								CC/School director
5	Concrete beam & paving	4.20 m^3								CC/School director
6	Pipes Installation	50 pipes								CC/School director
7	Hose system installation	1 set								CC/School director

Date:

Name: Sok Chantheoun

KINGDOM OF CAMBODIA

NATION RELIGION KING

Commune project proposal 2013

HARVESTING RAINING WATER RESERVOIR

VILLAGE : KOMPONGSMARCH

COMMUNE: TUEKL'AK

DISTRICT: PREY NOB

PROVINCE: PREAH SIHANOUK PROVINCE

CODE:

ACRONY AND ABBREVIATION

CC	: Commune Council
HRWR	: Harvesting Raining Water Reservoir
WUG	: Water User's Group

Contents

KINGDOM OF CAMBODIA

NATIONS RELIGION KING

PREY NOB DISTRICT
TUEKL'AK COMMUNE
N0: TUEKL'AK, DATE: August 30, 2013

CHIEF OF TUEKL'AK COMMUNE
HIGHLY REQUEST TO
COASTAL ADAPTATION AND RESILIENCE PLANNING COMPONENT (CARP) UNDER CAMBODIA CLIMATE CHANGE ALLIANCE

Objective: Proposal for construction of a reservoir for harvesting raining water in Kompong Smarch village, Tuek L'ak commune, Prey Nob district.

People and students in Kompong Smarch village, Tuek L'ak commune face shortage of freshwater every year in dry season. Facing with the shortage of fresh water supply, the villagers and commune council seek to donors for financial support for construction of a reservoir for harvesting raining water in this village.

As we mention above, we respectfully request the Coastal Adaptation and Resilience Planning Component under Cambodia Climate Change Alliance to highly consider our proposal.

We appreciate and highly respect you and your consideration.

Chief of Commune

PROPOSAL

1. PROJECT BACKGROUND

1. Project name: Construct a reservoir for harvesting raining water.
2. Project location: Kompong Smarch village, Tuek L'ak commune, Prey Nob district, Preah Sihanouk province.
3. Project term: This project will start in this raining season.
4. Description project: This project is located in Kompong Smarch village and close to the sea. There are 226 families and 1086 people face with shortage of fresh water uses because of climate change impact.
5. Objective: Provide fresh water to villagers in dry season.
6. Project implementation: Should construct with private company who has experiences many years in reservoir construction.
7. Beneficiaries: 226 families in Kompong Smarch village will get benefit from this project.
8. Development partners: Donors, provincial department of Rural Development Department, local authority and Water User's Group (WUG);
9. Management: Commune council will establish WUG to maintain these wells.
10. Budgets: Proposed budget 3,768 USD ;
11. Action plan: As detail in the description project

2. LOCATION MAP

The map shows the project location of construction a reservoir for harvesting raining water in Kompong Smarch village, Tuek L'ak commune, Prey Nob district, Preah Sihanouk province.

3. DESCRIPTION PROJECT

Description Project	
Province: Prey Sihanouk	Commune: Tuek L'ak
District: Prey Nob	Commune's Code:

Section 1: General Information

Project's Name: Harvesting Raining Water Reservoir (HRWR)		
Date end of survey	Technical assistant:	Position:
Project Objective: Water supply to villagers for better living condition		
Sector: Economic	Project Type: Rural communication	
Infrastructure Project□	Service Project☑	Material Supply Project□
Outcome: Constructed a Reservoir	Output: Constructed a Raining water reservoir	
Budget Estimate	Budget Estimated: 3,768 USD	

Year	2013	2014	2015

Project Beneficiaries

N0	Name of Village	People of beneficiaries		Families
		Total	Women	
1	PrekPhao	1086	572	226
2				
3				
4				
5				
Total		1086	572	226

Section 2: Responsibility and maintenance

Who is responsible to manage utilities and maintenance the project?	
Specialize Departments	□
Commune Councils	☑
Existing Utilizers Group	☑
Project Utilizers Group	□
Private Sector	□
	□

Section 3: Environmental Impact

3.1	Is the commune vulnerable of environmental impact?	□
3.2	Is the project impact to natural and social environment?	□
3.3	Is the project impact to villagers' water resources?	□
3.4	Is it new road project outcome?	□
3.5	Is it the project outcome as a dyke, a new canal or a new reservoir?	□
3.6	Is it project outcomeas a new canal for water way or a reservoir for water supply?	☑

Section 4: Climate Change

4.1	Is the project located in a region of vulnerable impact of climate change?	☑Yes□NO
4.2	If yes, what is the impact of climate change to the project?	☑Sea level rise☑ Seawater intrusion □Flooding ☑Drought ☑Storm surge
4.3	Does the climate change impact to water supply in your village?	☑Yes□NO
4.4	Is the proposed project related to adaptation or mitigation of climate change?	☑Adaptation□Mitigation
4.5	Does the project improve access to water supply?	☑Dry season☑ Raining season
4.6	Does the project contribute to improving people's livelihoods?	☑Yes□NO

4. BUDGET ESTIMATE

This is the table of estimated budget for construction a reservoir for harvesting raining water

Located in Kompong Smarch Village, Prey Nob Commune, Prey Nob district, Preah Sihanouk Province

N0	Description	Unit	Quantity	Cost	Total Cost	Contribution	In Charge
1	Site clearing	m^2	25.80	0.50 USD	12.90 USD		
2	Foundation	m^3	17.30	2.00 USD	34.60 USD		
3	Colum (wooden) installation	Colum	0	5.00 USD	00.00 USD		
4	Compacting & concrete	m^3	18.10	35.00 USD	633.50 USD		
5	Concrete beam & paving	m^3	4.20	220.00 USD	924.00 USD		
6	Pipes installation	Pipe	50.00	45.00 USD	2,250.00 USD		
7	Hose system installation	Set	1	245.00 USD	245.00 USD		
9							
	Total				**4,100.00 USD**		

Date: 25 September 2013

Surveyor: Sok Chantheoun

5. TECHNICAL INFORMATION

1. General Information

Province: Preah Sihanouk	District: Prey Nob	Commune: Tuek L'ak	Code
Name of Project: Harvesting Raining Water Reservoir (HRWR)			
Name of Technical Assistant: Sok Chanthoeun		Date: August 26, 2013	

2. Project Location

Where is the location HRWR?	Description: Kompong Smarch village, Tuek L'ak commune.
X and Y of reservoir location X: 378597 Y: 1184968	

3. Description Project

What is type of reservoir?	
☑ Concrete reservoir	□House's roof reservoir
□Plastic reservoir	□Huge jug

4. Objective of project

What is the purpose of water supply? ☑in village ☑ at school □Health center □Others

5. Information of Users

If the raining water reservoir is located in village, please answer the question below:

Name of village	Population	Total Families	User families
PrekPhao	1086	226	226
Total	1086	226	226

If the raining water reservoir is located at school, please answer the questions as below:

How many rooms are there in the school?	5
How many students are will use this reservoir?	400

6. Maintenance

Please tick one in the box	
Who are responsible to maintain the raining water reservoir?	School director and villagers
How many families will use raining reservoir?	226families
Are the water users families agree to establish water user's committee?	□ No ☑ Yes

7. Water resource supply

What is the type of water resources has been used in the village?		
Water resources	Number of users	Distances
□ Natural pond		
☑Raining harvesting	256	at home
□Stream, River		
□Well		
□ Pipe system		
Total	325	

8. Project location information

Who is the land owner of project location?	□Land owner's name ☑ Group of water user

If the raining reservoir location is belonging to private land, please answer question below:

Does the land owner agree?	□disagree □ agree
Is the reservoir location in the flooding area?	□No ☑ Yes

If yes, please answer below:

Maximum of flooded depth:	Minimum of flooded depth:
Reason of flooding	□From river ☑ Heavy raining

Is there any existing well near the project location?	Please tick in the box	Number of wells: No
	□Digging well □Drilling well □Multiple well	

6. TECHNICAL CROSS SECTION OF RESERVOIR

7. USING PLANNING AND MAINTENANCE

Commune: Prey Nob			**Description Project:**HRWR			**Date:**27/08/2013	
Management of Project: Commune council							
Action Plan				**Budget Plan**			
N0	Activities	Number	Implementation	Price		Budget Sources	Other required
				1 time	1 year		
2. Permanence Maintenance							
1	Site Cleaning	All times	WUG	No	No	Contribution	People
2	Drainage	All times		No	No	Contribution	People
3. Annual Maintenance							
1	Cleaning reservoir	1 time	WUG	30$	30$	WUG	
2	Change water tap	1 time	WUG	130$	130$	WUG	
3	Change PVC pipes	1 time	CC	120$	120$	CC	
Total Budget/1year					**280$**		

Chief commune: Hark San Water users: Prak Saroum Surveyor: Sok Chantheoun

8. WORK PLAN

Work plan for construction a reservoir for harvesting raining water in Kompong Smarch village, Tuek L'ak commune, Prey Nob district

N0	Description	Quantity	Week 1							Monitors
			day 1	day 2	day 3	day 4	day 5	day 6	day 7	CC/School director
1	Site clearing	$26m^3$								CC/School director
2	Foundation	$17.30\ m^3$								CC/School director
3	Colum (wooden) installation	40 colum								CC/School director
4	Compacting & concrete	$18.10\ m^3$								CC/School director
5	Concrete beam & paving	$4.2\ m^3$								CC/School director
6	Pipes Installation	50 pipes								CC/School director
7	Hose system installation	1 set								CC/School director

Date: 25 September 2013

Name: Sok Chantheoun

ANNEX 4

Investment Presentation

(Commune Format)

Name: Demonstration of Integrated Farming and Climate Change

Geographical Location: Tuk Thla commune, Prey Nob district, Preah Sihanouk province.

Duration of Project Implementation:
The project started in January 2013 and will be completed in January 2014.

Description of Project:
Tuk Thla commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Demonstration of Integrated Farming and Climate Change. This investment proposal was developed based on field studies as well as several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises six main activities; farming system assessment and planning, demonstration of rice farming in integration with livestock (pig and chicken), aquaculture (tilapia), vegetables, on-farm demonstration, farmer field schools, farmer field days and study tours, training of local extension workers, and supporting micro-projects and saving groups. Department of Agricultural Extension of MAFF will implement the demonstration project in cooperation with Preah Sihanouk Provincial Department of Agriculture.

Farming System Assessment and Planning: This activity is conducted using agro-ecological system analysis to get an understanding of natural resource conditions including physical, economic and social resources for agricultural production systems and livelihood activities in the commune as well as to get an overview of current status and trend of agriculture/farming systems and livelihood activities and identify system resilience and climate change adaptation options in the agricultural production system.

Commune and village extension worker training: Training of extension workers is an important step following agro-ecological system analysis in order to refresh and adapt the training modules to the coastal conditions. A training workshop was organized in Kampong Som to train extension workers and government officers from relevant departments and agencies. These people will pass on training modules and knowledge to farmers through farmer field schools. Attending the workshop will be participants from central and provincial departments, district offices of Preah Sihanouk and Koh Kong provinces as well as 8 commune councils. 12 training modules were presented at the training workshop.

Farmer Field School (FFS): It is a field-based learning process where farmers are given training modules and share experiences on many aspects of agriculture and livestock techniques and management. A FFS consists of 16 sessions encompassing 5 modules (rice farming technique, vegetable farming, pig raising, chicken raising and fish rearing), where each session is conducted every week in each village. About 20-30 families from each village are invited to the FFS. A Farmer Field Day is organized following FFS sessions where farmers can learn about the actual progress and issues by visiting demonstration sites.

Demonstration of integrated farming techniques: This activity demonstrates integration of rice farming with other farming activities such as pig raising, chicken raising and aquaculture which allows for

efficient management of agricultural inputs such as water conservation, energy conservation, and composting of manure in a closed system. As a result, farmers will increase productivity with less cost and improved environmental quality. 2 families, one from each village of Prek Toal and Prek Pros, are selected for demonstration of integrated farming. Besides, on-farm demonstration of individual techniques for rice farming, raising pigs, chicken raising, aquaculture etc. is carried out as part of the FFS. 10 families are selected, two from each village, to demonstrate individual activities, such as rice farming or pig raising, based on the farmer's preference.

Farmer Field Day and Study Tour: A Farmer Field Day will be organized at the end of the harvest season to bring together farmers from all villages, government officers from the Prey Nop district and Preah Sihanouk province as well as members of the commune council and NGOs. The aim will be to evaluate the result of the on-farm demonstration of integrated, vegetable and livestock farming. In addition, a few farmers of the Tuk Thla commune are selected to join a study tour to learn good practices from integrated farming in other provinces, possibly in Takeo or Kampong Speu province.

Support community micro-project and saving groups: This activity is designed to support farmers to form saving groups that maintain and manage revolving funds for benefit of members. The project has for each saving group provided an initial capital of US$ 4,000. Half of this amount is used to support micro projects such as business or rehabilitation of reservoirs that benefits the whole group and the other half is used as micro-credit on an agreed interest rate to finance activities of individual members. A member of a saving group can be eligible for borrowing money on the condition that the group guarantees the repayment.

Objective:
The objective is to promote integration of crop, vegetable farming, livestock and fish raising as an option for increasing resilience and adaptive capacity of farmers to the impacts of climate change.

Implementation Agency:
Department of Agricultural Extension (DAE) is responsible for administration and implementation of the demonstration project.

Benefit recipient:
About 120-150 people comprising farmers, commune leaders, district and provincial authorities are expected to benefit directly and indirectly from implementation of the field demonstration activities and the learning exercise through farmer field schools.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning of Provincial Governor Office, District Agricultural Office, Commune Council, and the CARP are the main partners under this demonstration project.

Management and Sustainability:
DAE and Provincial Department of Agriculture will have direct responsibility for management and support of this demonstration project until end of December 2013, after which participating farmers and saving groups will continue application of integrated farming, vegetable farming, animal raising and aquaculture.

Budget: US$ 35,500

Work plan:

Investment Fiche

Investment Information					
Province: Preah Sihanouk			Commune: Tuk Thla		
District: Prey Nob			Commune code: 180212		
Section 1: General Information					
Project Name: Demonstration of Integrated Farming and Climate Change					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant: Agricultural Advisor	
Project Objective: The objective is to promote integrated farming techniques which are more adaptable to climate change.					
Sector: Economy			Project Type: Agriculture Technique and Training		
Infrastructure		Service		Material Supply	
Project result: integrated rice farming with livestock, aquaculture, and vegetables and capacity improvement for farmers.			Design Planning after Study: No change.		
Estimated cost: US$ 35,500			Actual Cost after Study: US$ 35,500		
Year:	2013	2014	2015		
	January-December				
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Prey Pros		30		30
2	Prek Toal		30		30
3	Prek Sangke		30		30
4	Kampong Chen		30		30
Total			120		120
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					PDA and DAE
Commune Council					Yes
User groups					Farmers
User groups to be set up before project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				
3.3	Does the project cause damage to used water sources? No.				
3.4	Is the project result a new road? No.				

3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? Yes, it can address the impacts from flooding and drought.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1)
4.4	Does the proposed project reduce climate change impacts? Yes, IFS can build adaptive capacity of farmers through cost saving and increased yields.
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes, farmers are trained on agricultural techniques, including farming, livestock, water conservation, pest management and efficient fertilizer application.
4.6	Does the project contribute to GHG emission? If yes, What measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through higher yields, cost savings and improved livestock production.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the training and direct demonstration activities.
4.9	Is the project likely to lead to changes in the employment structure of the area? Improved rice yields and livestock production enrich employment structure by encouraging more farmers to integrate livestock and vegetables with rice farming, creating job opportunities for extension workers and veterinarians.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No.

Demonstration of Integrated Farming and Climate Change

Study Information (perhaps no standard format)

General Information

Project Name	Demonstration of Integrated Farming and Climate Change
Province	Preah Sihanouk
District	Prey Nob
Commune	Tuk Thla
Villages	Prek Pros, Prek Toal, Prek Sangke, Kampong Chen
Commune code	180212
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	Selected plots in 4 villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Farming system assessment and planning	Assessment of the current resources and opportunity for integrated farming
Training of extension workers	Extension workers, government officers and farmers
Field demonstration of integrated farming	2 plots are selected with size of 20X20m
On-farm demonstration of individual technique	10 on-farm-demonstrations (2 per village) to learn specific element of integrated farming such as rice farming, aquaculture, livestock, aquaculture…etc.
Farmer Field Schools	1 per village
Farmer Field Day and study tour	16 FFD and one big FFD event after the end of the demonstration activity
Supporting micro-project and saving group	One saving group consisting of 20-25 members is set up in each village.

Objective

Who does this demonstration benefit?	Village School Health Center Others

Information on Beneficiaries

Village Name	**Number of People**	**Number of Families**	**Number of Beneficiaries**
Prey Pros	1,960		30
Prek Toal	1,001		30
Prek Sangke	1,143		30
Kampong Chen	1,204		30
Total			120 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas	705 ha	
Rice varieties	Jasmine, Haivin and Red rice	

Fertilizer application per ha		
Total productivity	652.5 t	
Percentage of farmers	41.31 %	

Investment Presentation

(Commune Format)

Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Geographical Location:Tuk Thla commune, Prey Nob district, Preah Sihanouk Province.

Duration of Project Implementation:
The project started in February 2013 and will be completed by the end of March 2014.

Description of Project:
Tuk Thla commune is one of the target communes selected by the Coastal Adaptation and Planning Resilience Project (CARP) for implementation of Field Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties. This investment proposal was developed based on field studies and several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises four main activities; field demonstration of combined agricultural techniques with shorter duration rice varieties (Phkar Romduol and Phkar Romeat), purification of rice varieties as well as field demonstrations of vegetables and farmer field days. Two field demonstrations for combined techniques and one field demonstration of purification will be conducted.

Field Demonstration of Combined Agricultural Techniques: This is a demonstration of agricultural techniques and rice varieties developed by CARDI. Five rice varieties are introduced including Phkar Romduol, Pkar Romeat, Cholsa, Sen Pidor, and Chan SenSo, of which Phkar Romduol and Phkar Romeat are short term rice varieties with potential yields of about 4-5 t/ha. The others are non-photoperiod varieties that can adapt to any planting season. Rice seeds, either Phkar Romduol or Phkar Romeat, are grown on a farming plot of 10 m wide and 30 m long. The plot is divided into three sections; each section has the area of 10 m by 10 m, where various agricultural techniques are applied. The first section employs the CARDI technique package (land preparation, transplanting, fertilizer application). The second section employs traditional practice with the same rice seeds provided by CARDI and the third sub-plot employs the traditional technique with a local rice variety (Jasmine rice or any). The combined techniques are tested to see if there are differences in yield outcome when traditional agricultural techniques and techniques developed by CARDI are employed and when local rice varieties and those developed by CARDI are used, respectively.

Field Demonstration of Purification of Rice Seed: Purification of rice seeds carried out by observing different stages of the crop growth cycle, namely at vegetative, flowering, and spikelet formation stages. The main principle of purification is that any seedling with abnormal growth, flowering or panicles should be removed entirely from the tested plot until uniform rice growth and pure rice panicles are achieved.

Field Demonstration of Vegetables: This demonstration activity will be carried out in December-March following the harvest of rice varieties tested. Vegetables are also cash crops that can supplement the income of farmers.

Farmer Field Days (FFDs): This is a field-based learning process, where farmers are brought together for training modules and to share experiences on many aspects of agriculture and livestock techniques and management. Three FFDs will be organized in August for participating farmers and one for larger groups during the rice harvest.

Objective:
The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.

Implementation Agency:
CARDI

Benefit recipient:
About 100 people, comprising farmers, commune leaders and provincial authorities, are expected to benefit directly and indirectly from implementation of the demonstration activities and the learning exercise through FFD.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning, District Agricultural Office and Commune Council as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
CARDI and Provincial Department of Agriculture will have direct responsibility for management and support of this demonstration project until March 2013, after which participating farmers will continue application of CARDI techniques, shorter duration rice varieties and vegetables.

Budget: US$ 5,500

Work plan:

Investment Fiche

<table>
<tr><th colspan="3">Investment Information</th></tr>
<tr><td colspan="2">Province: Preah Sihanouk</td><td>Commune: Tuk Thla</td></tr>
<tr><td colspan="2">District: Prey Nob</td><td>Commune code: 180212</td></tr>
<tr><td colspan="3">Section 1: General Information</td></tr>
<tr><td colspan="3">Project Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties</td></tr>
<tr><td>Date of completion of study: March 2013</td><td>Name of Technical Assistant: Mr.</td><td>Role of the Assistant: Deputy Director</td></tr>
<tr><td colspan="3">Project Objective: The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.</td></tr>
<tr><td colspan="2">Sector: Economy</td><td>Project Type: Agriculture Technique and Training</td></tr>
<tr><td>Infrastructure</td><td>Service</td><td>Material Supply</td></tr>
</table>

Project result: Short-term rice varieties and capacity improvement.			Design Planning after Study: No change.		
Estimated cost: US$ 5,500			Actual Cost after Study: US$ 5,500		
Year:	2013	2014	2015		
	January	March			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Prey Pros		3		3
2	Prek Toal		1		1
3	Prek Sangke		1		1
Total					5

Section 2: Operation and Maintenance	
Who are the users and who is responsible for maintenance of the project?	
Line department	CARDI
Commune Council	Yes
User groups	Farmers
User groups to be set up before project implementation	
Private sector	Yes

Section 3: Environmental Impact	
3.1	Is this commune located in a region vulnerable to environmental impacts? No.
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.
3.3	Does the project cause damage to used water sources? No.
3.4	Is the project result a new road? No.
3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? Yes, it addresses the SLR, flooding and saline intrusion and strong winds by providing possibilities for harvesting before such impacts might occur later in the year.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? The CARDI rice varieties can mature about 10-20 days earlier than the local rice varieties, and can thus be harvested before the onset of sea water intrusion in November.
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes, farmers are trained to apply shorter duration rice varieties and the CARDI technique package which will increase rice yields and reduce vulnerability to sea water intrusion in November.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through potential income from the sale of vegetables plus higher

	rice yields.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Not specifically.
4.9	Is the project likely to lead to changes in the employment structure of the area? Improved yields and income could encourage more farmers to plant such rice varieties as well as vegetables, depending on land availability.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No.

Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Study Information (perhaps no standard format)

General Information

Project Name	Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties
Province	Kampong Som
District	Pery Nob
Commune	Tuk Thla
Villages	Prey Pros, Prek Toal, Prek Sangke
Commune code	180212
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	Selected plots in three villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Field Demonstration of combined agricultural techniques in three plots with size of 10X10m	Rice varieties: Phkar Romduol and Phkar Romeat
Field demonstration of rice seed purification	Rice varieties: Phkar Romduol and Phkar Romeat
Farmer Field Days	Number of days: 3 days
Demonstration of Vegetables	Tomato

Objective

Who does this demonstration benefit?	Village: Prek Pros, Prek Toal, Prek Sangke. School Health Center Others

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Prey Pros	1,960		3
Prek Toal	1,001		1
Prek Sangke	1,143		1
Kampong Chen	1,204		0
Total			5(families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas	705 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha		
Total productivity	652.5 t	
Percentage of farmers	41.31 %	

Investment Presentation

(Commune Format)

Name: Climate Change Education, Awareness Building and Climate Resilience Irrigation Training

Geographical Location: Tuk Thla commune, Prey Nob district, Preah Sihanouk province.

Duration of Project Implementation:
The project started in January 2013 and will be completed in January 2014.

Description of Project:
Tuk Thla commune is one of the target communes selected by the Coastal Adaptation and Planning Resilience Project (CARP) for implementation of Climate Change Education and Awareness Building. This investment proposal was developed based on field studies as well as several consultation and prioritization meetings held during September-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises of three main activities, development of a teacher training manual and flipcharts, training of trainers, and conducting awareness raising in all villages of the commune. A specific training programme will be conducted in Prey Nob district and Toul Kokir concerning climate resilient irrigation..

Development Training Manual and Flipcharts: The training manual is developed for trainers containing five climate change topics: i) introduction to climate change; ii) the causes of climate change; iii) climate change impacts; iv) climate change adaptation; and v) climate change mitigation. The flipcharts consist of 19 drawings illustrating the same five topics with simple descriptions of climate change issues and responses. Save Cambodia Wildlife (SCW) is contracted to design the training manual and flipcharts and deliver the training of trainers.

Training of Trainers (TOT): This training is organized aiming to provide general knowledge on climate change adaptation and GHG mitigations using flipcharts as training materials. The trainees are selected from provincial departments of environment, water resources and meteorology, agriculture as well as rural development in Preah Sihanouk and Koh Kong provinces. These trainees will then become extension workers who will conduct awareness building in each village of the Peam Krasoab commune.

Awareness Raising: The officers who participate in TOT will conduct awareness raising in each village using the flipcharts.

Climate Resilient Irrigation Training: Under the CARP, a specific module has been developed in climate resilient irrigation and a manual has been prepared in both Khmer and English. Training will be conducted for the Polder Water User Committee and commune councils in Prey Nob district and also for the commune council and farmers in Toul Kokir commune.

Objective:
The first objective is to build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts. The second objective is to provide training in climate resilient irrigation to these officers and other stakeholders in the target areas.

Implementation Agency:
The SCW and Department of Environmental Education are responsible for administration and implementation of this demonstration project concerning climate change awareness raising. The training in climate change resilient irrigation will be implemented under the CARP and in cooperation with Department of Water Resources and Meteorology.

Benefit recipient: 200 households will learn about climate change and climate resilience irrigation.

Partners and Relevant Stakeholders:
Provincial Environment Department, Commune Councils, Prey Nob Polder User Committee, Provincial Water Resources and Meteorology Department as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
Department of Environmental Education will have direct responsibility for management and support of this demonstration project until 2014.

Budget: US$ 6,250

Work plan:

Investment Fiche

Investment Information					
Province: Preah Sihanouk			Commune: Tuk Thla		
District: Prey Nob			Commune code: 180212		
Section 1: General Information					
Project Name: Climate Change Education, Awareness Building and Climate Resilience Irrigation Training					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant: Agricultural Advisor	
Project Objective: To build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts and provide training for them and other stakeholders in climate resilient irrigation.					
Sector: Climate Change			Project Type: Training		
Infrastructure		Service		Material Supply	
Project result: Capacity building on climate change and climate resilience irrigation.			Design Planning after Study: No change.		
Estimated cost: US$ 6,250			Actual Cost after Study: US$ 6,250		
Year:	2013	2014	2015		
	January	January			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Prey Pros		40		40
2	Prek Toal		40		40
3	Prek Sangke		40		40
4	Kampong Chen		40		40
Total					160
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					DEE, PDWRAM
Commune Council					
User groups					PWUC
User groups to be set up before project implementation					
Private sector					
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				

3.3	Does the project cause damage to used water sources? No.
3.4	Is the project result a new road? No.
3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? No.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1)
4.4	Does the proposed project reduce climate change impacts? Yes, indirectly by raising awareness of climate change at local level.
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, the climate resilient irrigation training may encourage farmers to grow additional crops and thereby increase their income.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the awareness raising.
4.9	Is the project likely to lead to changes in the employment structure of the area? No.
4.10	Does the project improve access to all year round potable water? No, but it might provide access to water for growing vegetable crops providing an alternative income supplement.
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No.

Climate Change Education, Awareness Building and Climate Resilience Irrigation Training

Study Information (perhaps no standard format)

General Information

Project Name	Climate Change Education and Awareness Building and Climate Resilience Irrigation Training
Province	Preah Sihanouk
District	Prey Nob
Commune	Tuk Thla
Villages	All villages
Commune code	180212
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	All villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Development of Flipcharts	SCW develops the flipcharts and training manual
Training of Trainers	Government officers from four line departments in Preah Sihanouk and Koh Kong
Conducting Awareness	All villages
Climate resilient irrigation	Polder User Committee trained together with provincial staff

Objective

Who does this demonstration benefit?	Village: all villages. School Health Center Others: PWUC

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Prey Pros	1,960		40
Prek Toal	1,001		40
Prek Sangke	1,143		40
Kampong Chen	1,204		40
Total			160 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers and PWUC

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	2012	2013
Rice farming areas	705 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha		
Total Productivity	652.5 t	
Percentage of farmers	41.31 %	

KINGDOM OF CAMBODIA

NATION RELIGION KING

Commune project proposal 2013

PIPE WELL REHABILITATION

VILLAGE : PREKTEUL

COMMUNE: TUEKTHLA

DISTRICT: PREY NOB

PROVINCE: PREAH SIHANOUK PROVINCE

CODE:

ACRONYMS AND ABBREVIATION

WUG	Water User's Group
DoWRAM	Department of Water Resources and Meteorology

Contents

KINGDOM OF CAMBODIA

NATION RELIGION KING

PREY NOB DISTRICT
TUEKTHLA COMMUNE
N0: TUEKTHLA, DATE: August 08, 2013

CHIEF OF TUEKTHLA COMMUNE
HIGHLY REQUEST TO
COASTAL ADAPTATION AND RESILIENCE PLANNING COMPONENT (CARP) UNDER CAMBODIA CLIMATE CHANGE ALLIANCE

Objective: Proposal for construction four of pipe wells.

Recently people in Prek Teul village, Tuek Thla commune faces with lack of water supply because of weather change and shortage of raining and the existing wells are in bad conditions (broken and shallow).Facing with the shortage of fresh water uses, the villagers and commune council seek to donors for financial support for soil excavation and repair of wells.

As we mention above, we respectfully request the Coastal Adaptation and Resilience Planning Component under Cambodia Climate Change Alliance to highly consider our proposal.

We appreciate and highly respect you and your consideration.

Chief of Commune

PROJECT PROPOSAL

1. PROJECT BACKGROUND

1. Project name: Construct four culvert pipe wells.
2. Project location: Prek Teuk village, Tuek Thla commune, Prey Nob district, Preah Sihanouk province.
3. Project term: This project will start on September 09, 2013 to October 2013.
4. Description project: The wells (culverts) were constructed by H.E Su Chung Hour in 2000 and it was maintained and repaired by commune council in the last three years; however, the four wells became shallow, less water and was also broken. Climate change (drought) is the one factor the causes the well to become low of water and villagers facing with lack of water supply.
5. Objective: People in Prek Teul village have enough clean water supplies both in rainy and dry seasons to reduce health impact from lack of clean water.
6. Project implementation: Should contract with private company who has experiences through many years in well construction.
7. Beneficiaries: 273 families in Prek Teul village will benefit from this project.
8. Development partners: Donors, provincial department of Rural Development Department, local authority and Water User's Group (WUG).
9. Management: Commune council will establish WUG to maintain the wells.
10. Budgets: Propose budget 4947 USD (four thousand nine hundred forty seven).
11. Action plan: As detailed in the description project.

2. LOCATION MAP

The map shows the project location for construction of four pipe wells in Preak Teul village, Tuek Thla commune, Prey Nob district, Preah Sihanouk province.

3. DESCRIPTION PROJECT

Description Project	
Province: Preah Sihanouk	Commune: Tuek Thla
District: Prey Nob	Commune's Code:

Section 1: General Information

Project's Name: 4 Pipe wells construction		
End date of survey	Technical assistant:	Position:
Project Objective: Provide water to villagers for better health		
Sector: Economic	Project Type: Rural communication	
Infrastructure Project☐	Service Project☑	Material Supply Project☐
Outcome: Constructed 4 wells,11m depths	Output of study: Constructed 4 wells, 11m depth	

Budget Estimate		Budget Estimated: 5,100.00 USD	
Year	2013	2014	2015

Project Beneficiaries

N0	Name of Village	People of beneficiaries		Families
		Total	Women	
1	Prek Teul	612	326	173
2				
3				
4				
Total		612	326	173

Section 2: Responsibility and maintenance

Who are responsible to manage the water utilities and maintenance the project?	
Specialize Departments	□
Commune Councils	☑
Existing Utilizers Group	☑
Project Utilizers Group	□
Private Sector	□

Section 3: Environmental Impact

3.1	Is the commune vulnerable of environmental impact?	□
3.2	Is the project impact to natural and social environment?	□
3.3	Is the project impact to villagers' water resources?	□
3.4	Is it new road project outcome?	□
3.5	Is it the project outcome as a dyke, a new canal or a new reservoir?	□
3.6	Is it project outcomes a new canal for water way or a reservoir for water supply?	☑

Section 4: Climate Change Information

4.1	Is the project located vulnerable impact of climate change?	☑Yes□NO
4.2	If yes, what is the impact of climate change to the project?	☑Sea level rise☑ Seawater intrusion □Flooding ☑Drought □Storm surge
4.3	Does the climate change impact to water supply in Prek Teul village?	☑Yes□NO
4.4	Is the proposed project related to adaptation of climate change?	☑Yes□NO
4.5	Does the project improve access to all year round of water supply?	☑Yes□NO
4.6	Does the project contribute to improving people's livelihoods?	☑Yes□NO

4. BUDGET ESTIMATE

This is the table of budget estimated for construction of 4 pipe wells

Located in Prek Teul Village, Tuek Thla Commune, Prey Nob district, Preah Sihanouk Province

N0	Description	Unit	Quantity	Cost	Total Cost	Contribution	In Charge
1	Remove existing culvert pipes	Pipe	18	18 USD	324 USD		Commune council
2	Pumping water and excavate soil	m^3	41	22 USD	902.00 USD		Commune council
3	Culvert pipes installation	Pipe	44	41 USD	1,804 USD		Commune council
4	Paving sand and gravel	m^3	1.59	150 USD	238.50 USD		Commune council
5	Earth fill and compacting	m^3	3.82	22 USD	84.04 USD		Commune council
6	Installing culvert pipe's cover	Pipe	4	17 USD	68 USD		Commune council
7	Small drainage	m^2	48	35 USD	1,680 USD		Commune council
8							
9							
	Total				5,100.00 USD		

Date: August 08, 2013

Approval: Phoeun Nam

Date: August 08, 2013

Surveyor: SOK Chanthoeun

5. WELL TECHNICAL INFORMATION

1. General Information

Province: Preah Sihanouk	Khan: Prey Nob	Commune: Tuek Thla	Code
Name of Project: Construct general culvert pipe well			
Name of Technical Assistant:		Date: August 06, 2013	

2. Project Location

Are the wells located in which villages?	Description
X and Y of wells location 1. X: Y: 2. X: Y:	

3. Description Project

What is type of well?	
☑pipe well	□ Drilling well with pump
□Pump well	□ Multiple well
□Other wells	□ Well

4. Objective of project

Is the well use for? ☑in village□ at school□Health center□Others

5. Well users

If the well is located at village, please answer the question below:

Name of village	Population	Total Families	User families
PrekTeul		273	273
Total		273	273

If the well is located at school, please answers the questions as below:

How many rooms are there in the school?	
How many students are will use this well?	

6. Maintenance

Please tick one in the box	
Are the water users families agree to establish water user's committee?	□ No ☑ Yes

7. Water Resource

What types of the water resources has been used in the village?		
Water resources	Families users water	Distances
☑ Natural pond	52 families	1-5 km
□harvesting Raining Water		
☑ Stream, River	97 families	0-80 km
□Well		
□ Pipe system		
Total	149 families	

8. Information of project location

Where are the sources of water and where is the direction to release water if it is flooded?

Who is the land owner of well location?	□Land owner's name ☑ Community

If well location is belong to private land, please answer question below:

Does the land owner agree?	□disagree ☑ agree

9. Existing Well

What kinds of existing well in the village?	
☑ General culvert pipe well	Number of well: 4
□Drilling well	Number of well:
□Multiple well	Number of well:
Total	4

History or Well condition

Who is the owner of existing well?	
Is the well use for domestic or agriculture?	☑ domestic□agriculture
How is the depth of existing well?	5 m
How many families havehad use this well?	273 families
How is the water level compare to land level in dry season?	5 m
How is the water level compare to land level in raining season?	2.5 m
Does the well supply enough water to villagers annually?	☑ not enough □enough
What is the water testing, color and odor of existing well water? □ no tested □Salty □bitter ☑ clear water □not clear water □odors □ no odors	
What is the type of soil in well location?	
Depth	Type of soil
5-10 m	clay soil
10-15 m	Sandy soil with rock
Other wells information	□No information □Too many wells ☑ All most the same information

If selected drilling well, please select dynamic pump		
Condition	Types of pump	Choice
dynamic water level ≤ 7 m	Pump	□VNN0 6
dynamic water level from 0-30 m	Force pushing	□Abrades
dynamic water level ≥ 30 m	Force pushing	☑Need expert

6. PIPE WELLCROSS SECTION

7. USING PLAN AND MAINTENANCE

Commune: TuekThla			**Description Project:** Pipe wells				**Date:**08/08/2013
Management of Project: Commune council							
Action Plan				**Budget Plan**			
N0	Activities	Number	Implementation	Price		Budget Sources	Other required
				1 time	1 year		
2. Permanence Maintenance							
1	Cleaning	All times	WUG	No	No	Contribution	People
2	Excavation	All times		No	No	Contribution	People
3. Annual Maintenance							
1	Repairing well	2 time	WUG	70$	140$	WUG	
2	Cleaning well	1 time	WUG	80$	80$	WUG	
3	Water testing	1 time	Commune councils	300$	300$	PDoE	Donors
Total Budget/1year					**520$**		

Date: August 08, 2013 Group User Water Date: August 08, 2013

Approval: Phoeun Nam Ser Yop Surveyor: Thim Puthy

8. WORK PLAN

Work plan for construction of 4 pipe wells at Prek Teul Village, Tuek Thla Commune

N0	Description	Quantity	Month 1				Monitor
			w 1	w 2	w 3	w 4	
1	Remove existing pipes	18 pipes					Commune Council
2	Pump water & soil	41 m^3					Commune Council
3	Installing pipes	44 pipes					Commune Council
4	Paving sand & gravel	1.59 m^3					Commune Council
5	Fill earth & Compact	3.82 m^3					Commune Council
6	Install cover	4 pipes					Commune Council
7	Concrete &water way	48 m^2					Commune Council

Date: August 08, 2013

Name: Thim Puthy

ANNEX 5

Investment Presentation

(Commune Format)

Name: Demonstration of Integrated Farming and Climate Change

Geographical Location: O Oknha Heng, Prey Nob Commune, Preah Sihanouk province

Duration of Project Implementation:
The project started in January 2013 and will be completed in January 2014.

Description of Project:
O Oknha Heng commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Demonstration of Integrated Farming and Climate Change. This investment proposal was developed based on field studies as well as several consultation and prioritisation meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises six main activities; farming system assessment and planning, demonstration of rice farming in integration with livestock (pig and chicken), aquaculture (tilapia), vegetables, on-farm demonstration, farmer field schools, farmer field days and study tours, training of local extension workers, and supporting micro-projects and saving groups. Department of Agricultural Extension of MAFF will implement the demonstration project in cooperation with Preah Sihanouk Provincial Department of Agriculture.

Farming System Assessment and Planning: This activity is conducted using agro-ecological system analysis to get an understanding on natural resource conditions including physical, economic and social resources for agricultural production systems and livelihood activities in the commune as well as to get an overview of current status and trend of agriculture/farming systems and livelihood activities and to identify system resilience and climate change adaptation options in the agricultural production system.

Commune and village extension worker training: Training of extension workers is an important step following agro-ecological system analysis to refresh and adapt the training modules to the coastal conditions. A training workshop was organized in Preah Sihanouk to train extension workers and government officers from departments and agencies. These people will pass on training modules and knowledge to farmers through farmer field schools. Attending the workshop will be participants from relevant central and provincial departments, district offices of Preah Sihanouk and Koh Kong provinces as well as 8 commune councils. 12 training modules were presented at the training workshop.

Farmer Field School (FFS): It is a field-based learning process where farmers are given training modules and share experiences on many aspects of agriculture and livestock techniques and management. A FFS consists of 16 sessions encompassing 5 modules (rice farming technique, vegetable farming, pig raising, chicken raising and fish rearing), where each session is conducted every week in each village. About 20-30 families from each village are invited to the FFS. A Farmer Field Day is organised following FFS sessions where farmers can learn about the actual progress and issues by visiting demonstration sites.

Demonstration of integrated farming techniques: This activity demonstrates integration of rice farming with other farming activities such as pig raising, chicken raising and aquaculture which allows for efficient management of agricultural inputs such as water conservation, energy conservation, and composting of manure in a closed system. As a result, farmers will increase productivity with less cost and improved environmental quality. 2 families, one from each village of O Oknha Heng and Bot Kokir, are selected for demonstration of integrated farming. Besides, on-farm demonstration of individual techniques for rice farming, raising pigs, chicken raising, aquaculture etc. is carried out as part of the FFS. 10 families are selected, two from each village, to demonstrate individual activities, such as rice farming or pig raising, based on the farmer's preference.

Farmer Field Day and Study Tour: A Farmer Field Day will be organized at the end of the harvest season to bring together farmers from all villages, government officers from the Prey Nop district and Preah Sihanouk province as well as members of the commune council and NGOs. The aim will be to evaluate the result of the on-farm demonstration of integrated, vegetable and livestock farming. In addition, a few farmers of the O Oknha Heng commune are selected to join a study tour to learn good practices from integrated farming in other provinces, possibly in Takeo or Kampong Speu province.

Support community micro-project and saving groups: This activity is designed to support farmers to form saving groups that maintain and manage revolving funds for benefit of members. The project has for each saving group provided an initial capital of US$4,000. Half of this amount is used to support micro projects such as business or rehabilitation of reservoir that benefits the whole group and of the other half is used as micro-credit on an agreed interest rate to finance activity of individual members. A member of a saving group can be eligible for borrowing money on the condition that the group guarantees the repayment.

Objective:
The objective is to promote integration of crop, vegetable farming, livestock and fish raising as an option for increasing resilience and adaptive capacity of farmers to the impacts of climate change.

Implementation Agency:
Department of Agricultural Extension (DAE) is responsible for administration and implementation of the demonstration project.

Benefit recipient:
About 150-200 people comprising farmers, commune leaders, district and provincial authorities are expected to benefit directly and indirectly from implementation of the field demonstrations activities and the learning exercise through farmer field schools.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning of Provincial Governor Office, District Agricultural Office, Commune Council and CARP are main partners under this demonstration project.

Management and Sustainability:
DAE and Provincial Department of Agriculture will have direct responsibility for management and support of this demonstration project until December 2013, after which interested farmers and saving groups will continue application of integrated farming, vegetable farming, animal raising and aquaculture.

Budget: US$ 43,000
Work plan:

Investment Fiche

Investment Information					
Province: Preah Sihanouk			**Commune**: O Oknha Heng		
District: Prey Nob			**Commune code**: 180206		
Section 1: General Information					
Project Name: Demonstration of Integrated Farming and Climate Change					
Date of completion of study: March 2013	**Name of Technical Assistant**: Mr.		**Role of the Assistant**: Agricultural Advisor		
Project Objective: The objective is to promote integrated farming techniques which are more adaptable to climate change.					
Sector: Economy			**Project Type**: Agriculture Technique and Training		
Infrastructure	Service		Material Supply		
Project Result: Integrated rice farming with livestock, aquaculture, and vegetables and capacity improvement for farmers.			**Design Planning after Study**: No change.		
Estimated cost:US$ 43,000			**Actual Cost after Study**: US$ 43,000		
Year:	2013	2014	2015		
	January-Dec				
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	O Oknha Heng		30		30
2	O Tapang		30		30
3	Bot Kokir		30		30
4	O Tasek		30		30
5	O Chamnar		30		30
Total			150		150
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					PDA and DAE
Commune Council					Yes
User groups					Farmers
User groups to be set up before the project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				
3.3	Does the project cause damage to used water sources? No.				
3.4	Is the project result a new road? No.				

3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project region vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4)
4.2	Does the project directly address the impacts identified above in 4.1? Yes, it can address impacts from flooding and drought.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? Yes, IFS can build adaptive capacity of farmers through cost saving and increased yields.
4.5	Does the project enhance resilience capacity to cope with climate change impacts? Yes, the farmers are trained on agricultural techniques, including farming, livestock, water conservation, pest management and efficient fertilizer application.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through higher yields, cost savings and improved livestock production.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the training and direct demonstration activities.
4.9	Is the project likely to lead to changes in the employment structure of the area? Improved rice yields and livestock production enrich employment structure by encouraging more farmers to integrate livestock and vegetables with rice farming, creating job opportunities for extension workers and veterinarians.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.

Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Study Information (perhaps no standard format)

General Information

Project Name	Demonstration of Integrated Farming and Climate Change
Province	Kampong Som
District	Prey Nob
Commune	O Oknha Heng
Villages	O Oknha Heng, Bot Kokir, O Tapang, O Tasek, O Chamnar
Commune code	180206
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project	Selected plots in 4 villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Farming system assessment and planning	Assessment of the current resources and opportunity for integrated farming
Training of extension workers	Extension workers, government officers and farmers
Field demonstration of integrated farming	2 plots are selected with size of 20X20m
On-farm demonstration of individual technique	10 on-farm-demonstrations (2 per village) to learn specific elements of integrated farming such as rice farming, aquaculture, livestock, aquaculture etc.
Farmer Field Schools	1 per village
Farmer Field Day and study tour	16 FFD and one big FFD event after the end of the demonstration activity
Supporting micro-project and saving group	One saving group consisting of 20-25 members is set up in each village.

Objective

Who does this demonstration project benefit?	Village: all villages School Health Center Others

Information on Beneficiaries

Village Name	**Number of People**	**Number of Families**	**Number of beneficiaries**
O Oknha Heng	2,088		30
O Tapang	2,411		30
Bot Kokir	2,742		30
O Tasek	443		30
O Chamnar	906		30
Total			150 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas	970 ha	

Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha		
Total Productivity	2,910 t	
Percentage of farmers	52.73 %	

Investment Presentation

(Commune Format)

Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Geographical Location: O Oknha Heng commune, Prey Nob district, Preah Sihanouk Province.

Duration of Project Implementation:
The project started in February 2013 and will be completed by the end of March 2014.

Description of Project:
O Oknha Heng commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Field Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties. This investment proposal was developed based on field studies and several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises four main activities; field demonstration of combined agricultural techniques with shorter duration rice varieties (PhkarRomduol and PhkarRomeat), purification of rice varieties as well as field demonstrations of vegetables and farmer field days. Two field demonstrations for combined techniques and one field demonstration of purification will be conducted.

Field Demonstration of Combined Agricultural Techniques: This is a demonstration of agricultural techniques and rice varieties developed by CARDI. Five rice varieties are introduced including Phkar Romduol, Pkar Romeat, Cholsa, Sen Pidor, and Chan SenSo, of which Phkar Romduol and Phkar Romeat are short term rice varieties with potential yields of about 4-5 t/ha. The others are non-photoperiod varieties that can adapt to any planting season. Rice seeds, either Phkar Romduol or Phkar Romeat, are grown on a farming plot of 10 m wide and 30 m long. The plot is divided into three sections; each section has the area of 10 m by 10 m, where various agricultural techniques are applied. The first section employs the CARDI technique package (land preparation, transplanting, fertilizer application). The second section employs traditional practice with the same rice seeds provided by CARDI and the third sub-plot employs the traditional technique with a local rice variety (Jasmine rice or any). The combined techniques are tested to see if there are differences in yield outcome when traditional agricultural techniques and techniques developed by CARDI are employed and when local rice varieties and those developed by CARDI are used, respectively..

Field Demonstration of Purification of Rice Seed: Purification of rice seeds carried out by observing different stages of the crop growth cycle, namely at vegetative, flowering, and spikelet formation stages. The main principle of purification is that any seedling with abnormal growth, flowering or panicles should be removed entirely from the tested plot until uniform rice growth and pure rice panicles are achieved.

Field Demonstration of Vegetables: This demonstration will be carried out in December-March following the harvest of rice varieties tested. Vegetables are also cash crops that can supplement the income of the farmers.

Farmer Field Days (FFDs): This is a field-based learning process, where farmers are brought together for training modules and to share experiences on many aspects of agriculture and livestock techniques and management. Three FFDs will be organized in August for participating farmers and one for larger groups during rice harvest.

Objective:
The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.

Implementation Agency:
CARDI

Benefit recipient:
About 100 people, comprising farmers, commune leaders and provincial authorities, are expected to benefit from direct and indirect implementation of the demonstration project and learning through FFD.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning, District Agricultural Office and Commune Council as well as CARP are main partners.

Management and Sustainability:
CARDI and Provincial Department of Agriculture will have direct responsibility for management and support of the demonstration project until March 2013, after which participating farmers will continue application of CARDI techniques, shorter duration rice varieties and vegetables.

Budget: US$ 5,500

Work plan:

Investment Fiche

<table>
<tr><th colspan="4">Investment Information</th></tr>
<tr><td colspan="2">Province: Preah Sihanouk</td><td colspan="2">Commune: O Oknha Heng</td></tr>
<tr><td colspan="2">District: Prey Nob</td><td colspan="2">Commune code: 180206</td></tr>
<tr><td colspan="4">Section 1: General Information</td></tr>
<tr><td colspan="4">Project Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties</td></tr>
<tr><td>Date of completion of study: March 2013</td><td colspan="2">Name of Technical Assistant: Mr.</td><td>Role of the Assistant: Deputy Director</td></tr>
<tr><td colspan="4">Project Objective: The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.</td></tr>
<tr><td colspan="2">Sector: Economy</td><td colspan="2">Project Type: Agriculture Technique and Training</td></tr>
<tr><td>Infrastructure</td><td colspan="2">Service</td><td>Material Supply</td></tr>
<tr><td colspan="2">Project result: Short-term rice varieties and</td><td colspan="2">Design planning after study: No change.</td></tr>
</table>

capacity improvement.					
Estimated cost: USD 5,500			Actual cost after study: US$ 5,500		
Year:	2013	2014	2015		
	January	March			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	O Oknha Heng		1		1
2	O Taki		1		1
3	O tapang		1		1
4	O Chamnar		1		1
Total			4		4
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					CARDI
Commune Council					Yes
Users groups					Farmers
User groups to be set up before the project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				
3.3	Does the project cause damage to used water resources? No.				
3.4	Is the project result a new road? No.				
3.5	Is the project result a new dam, new canals, or new reservoirs? No.				
3.6	Is the project result a new big channel for navigation or water supply? No.				
Section 4: Climate Change					
4.1	Is the project region vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).				
4.2	Does the project directly address the impacts identified above in 4.1? Yes, it addresses the SLR, flooding, saline intrusion and strong winds by providing possibilities for harvesting before such impacts might occur later in the year.				
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes, (1).				
4.4	Does the proposed project reduce climate change impacts? The CARDI rice varieties can mature about 10-20 days earlier than the local rice varieties, and can thus be harvested before the onset of sea water intrusion in November.				
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes, farmers are trained to apply shorter duration rice varieties and the CARDI technique package which will increase rice yields and reduce vulnerability to sea water intrusion in November.				
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.				
4.7	Does the project potentially contribute to increased income generation amongst				

	participants? Yes, through potential income from sale of vegetables plus higher rice yields.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Not specifically.
4.9	Is the project likely to lead to changes in the employment structure of the area? Improved yields and income could encourage more farmers to plant such rice varieties as well as vegetables, depending on land availability.
4.10	Does the project improve access to all year round potable water? No
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.

Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Study Information (perhaps no standard format)

General Information

Project Name	Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties
Province	Kampong Som
District	PreyNop
Commune	O Oknha Heng
Villages	All villages
Commune code	180206
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	Selected plots in three villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Field Demonstration of combined agricultural techniques in three plots with size of 10X10m	Rice varieties: Phkar Romduol and Phkar Romeat
Field demonstration of rice seed purification	Rice varieties: Phkar Romduol and Phkar Romeat
Farmer Field Days	Number of days: 3 days
Demonstration of Vegetables	Tomato

Objective

Who does this demonstration project benefit?	Village School Health Center Others

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of beneficiaries
O Oknha Heng	2,088		1
O Tapang	2,411		1
Bot Kokir	2,742		1
O Chamnar	906		1
Total			4 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas	970 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha		
Total Productivity	2,910 t	
Percentage of farmers	52.73 %	

Investment Presentation

(Commune Format)

Name: Climate Change Education and Awareness Building and climate change resilient irrigation training

Geographical Location: O Oknha Heng commune, Prey Nob district, Preah Sihanouk province.

Duration of Project Implementation:
The project started in January 2013 and will be completed in January 2014.

Description of Project:
O Oknha Heng commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Climate Change Education and Awareness Building. This investment proposal was developed based on field studies as well as several consultation and prioritization meetings held during September-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises of three main activities, development of a teacher training manual and flip charts, training of trainers, and conducting awareness raising in all villages of the commune. A specific training programme will be conducted in Prey Nob district and Toul Kokir concerning climate resilient irrigation.

Development Training Manual and Flipcharts: The training manual will be developed for trainers containing five climate change topics: i) introduction to climate change; ii) the causes of climate change; iii) climate change impacts; iv) climate change adaptation; and v) climate change mitigation. The flipcharts consist of 19 drawings illustrating the same five topics with simple descriptions of climate change issues and responses. Save Cambodia Wildlife (SCW) is contracted to design the training manual and flipcharts and deliver the training of trainers.

Training of Trainers (TOT): This training is organized aiming to provide general knowledge on climate change adaptation and GHG mitigations using flipcharts as training materials. The trainees are selected from provincial departments of environment, water resources and meteorology, agriculture and rural development in Preah Sihanouk and Koh Kong provinces. These trainees will then become extension workers who will conduct awareness building in each village of O Oknha Heng commune.

Awareness Raising: The officers who participate in TOT will conduct awareness raising in each village using the flipcharts.

Climate Resilient Irrigation Training: Under the CARP, a specific module has been developed in climate resilient irrigation and a manual has been prepared in both Khmer and English. Training will be conducted for the Polder User Committee and commune councils in Prey Nob district and also for the commune council and farmers in Toul Kokir commune.

Objective:
The first objective is to build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts. The second objective is to provide training in climate resilient irrigation to these officers and other stakeholders in the target areas.

Implementation Agency:
The SCW and Department of Environmental Education are responsible for administration and implementation of this demonstration project concerning climate change awareness raising. The training in climate change resilient irrigation will be implemented under the CARP and in cooperation with Department of Water Resources and Meteorology.

Benefit recipient:

Partners and Relevant Stakeholders:
Provincial Environment Department, Commune Councils, Prey Nob Polder User Committee, Provincial Water Resources and Meteorology Department as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
Department of Education will have direct responsibility for management and support of this demonstration project until 2014.

Budget: US$ 6,250

Work plan:

Investment Fiche

Investment Information					
Province: Preah Sihanouk			Commune: O Oknha Heng		
District: Prey Nop			Commune code: 180206		
Section 1: General Information					
Project Name: Climate Change Education and Awareness Building and Climate Resilient Irrigation Training					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant: Agricultural Advisor	
Project Objective: To build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts and provide training for them and other stakeholders in climate resilient irrigation.					
Sector: Climate Change			Project Type: Training		
Infrastructure		Service		Material Supply	
Project result: Capacity building on climate change and climate resilient irrigation.			Design Planning after Study: No change.		
Estimated cost:US$ 6,250			Actual Cost after Study: US$ 6,250		
Year:	2013	2014	2015		
	January-December				
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	O Oknha Heng		40		40
2	O Tapang		40		40
3	Bot Kokir		40		40
4	O Tasek		40		40
5	O Chamnar		40		40
Total					200
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					DEE, PDWRAM
Commune Council					
User groups					PWUC
User groups to be set up before project implementation					
Private sector					
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				

3.3	Does the project cause damage to used water source? No.
3.4	Is the project result a new road? No.
3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project region vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? No.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? Yes, indirectly by raising awareness of climate change at local level.
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, the climate resilient irrigation training may encourage farmers to grow additional crops and thereby increase their income.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the awareness raising.
4.9	Is the project likely to lead to changes in the employment structure of the area? No.
4.10	Does the project improve access to all year round potable water? No, but it might provide access to water for growing vegetable crops providing an alternative income supplement.
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No.

Climate Change Education, Awareness Building and Climate Resilience Irrigation Training

Study Information (perhaps no standard format)

General Information

Project Name	Climate Change Education, Awareness Building and Climate Resilience Irrigation Training
Province	Preah Sihanouk
District	Prey Nob
Commune	O Oknha Heng
Villages	All villages
Commune code	180206
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project	All villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Development of Flipcharts	SCW develops the flipcharts and teacher training manual
Training of Trainers	Government officers from four line departments in Preah Sihanouk and Koh Kong
Conducting Awareness	All villages
Climate resilient irrigation	Polder User Committee trained together with provincial staff

Objective

Who does this demonstration project benefit?	Village: all villages School Health Center Others: PWUC members

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
O Oknha Heng	2,088		40
O Tapang	2,411		40
Bot Kokir	2,742		40
O Tasek	443		40
O Chamnar	906		40
Total			200 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers and PWUC

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	2012	2013
Rice farming areas	970 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha		
Total Productivity	2,910 t	
Percentage of farmers	52.73 %	

ANNEX 6

Investment Presentation

(Commune Format)

Name: Demonstration of Integrated Farming and Climate Change

Geographical Location: Samaki commune, Prey Nob district, Preah Sihanouk.

Duration of Project Implementation:
The project started in January 2013 and will be completed in January 2014.

Description of Project:
Samaki commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Demonstration of Integrated Farming and Climate Change. This investment proposal was developed based on field studies as well as several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises six main activities; farming system assessment and planning, demonstration of rice farming in integration with livestock (pig and chicken), aquaculture (tilapia), vegetables, on-farm demonstration, farmer field schools, farmer field days and study tours, training of local extension workers, and supporting micro-projects and saving groups. Department of Agricultural Extension of MAFF will implement the demonstration project in cooperation with Preah Sihanouk Provincial Department of Agriculture.

Farming System Assessment and Planning: This activity is conducted using agro-ecological system analysis to get an understanding of natural resource conditions including physical, economic and social resources for agricultural production systems and livelihood activities in the commune as well as to get an overview of current status and trend of agriculture/farming systems and livelihood activities, and identify system resilience and climate change adaptation options in the agricultural production system.

Commune and village extension worker training: Training of extension workers is an important step following agro-ecological system analysis in order to refresh and adapt the training modules to coastal conditions. A training workshop was organized in Kampong Som to train extension workers and government officers from departments and agencies. These people will pass on training modules and knowledge to farmers through farmer field schools. Attending the workshop will be participants from central and provincial departments, district offices of Preah Sihanouk and Koh Kong provinces as well as 8 commune councils. 12 training modules were presented at the training workshop.

Farmer Field School (FFS): It is a field-based learning process where farmers are given training modules and share experiences on many aspects of agriculture and livestock techniques and management. A FFS consists of 16 sessions encompassing 5 modules (rice farming technique, vegetable farming, pig raising, chicken raising and fish rearing), where each session is conducted every week in each village. About 20-30 families from each village are invited to the FFS. A Farmer Field Day is organized following FFS sessions where farmers can learn about the actual progress and issues by visiting demonstration sites.

Demonstration of integrated farming techniques: This activity demonstrates integration of rice farming with other farming activities such as pig raising, chicken raising, aquaculture, which allows for efficient

management of agricultural inputs such as water conservation, energy conservation, and composting of manure in a closed system. As a result, farmers will increase productivity with less cost and improved environmental quality. 2 families, one from each village of Prek Kranh and Taoang Thom, are selected for demonstration of integrated farming. Besides, on-farm demonstration of individual techniques for rice farming, raising pigs, chicken raising, aquaculture etc. is carried out as part of the FFS. 6 families are selected, two from each village, to demonstrate individual activities such as rice farming or pig raising based on the farmer'r preference.

Farmer Field Day and Study Tour: A Farmer Field Day will be organized at the end of the harvest season to bring together farmers from all villages, government officers from the Prey Nop district and Preah Sihanouk province, and members of the commune council, and NGOs. The aim will be to evaluate the result of the on-farm demonstration of integrated, vegetable and livestock farming. In addition, a few farmers of the Samaki commune are selected to join a the study tour to learn good practices from integrated farming in other provinces, possibly in Takeo or Kampong Speu province.

Support community micro-project and saving groups: This activity is designed to support farmers to form saving groups that maintain and manage revolving funds for benefit of members. The project has for each saving group provided an initial capital of US$ 4,000. Half of this amount is used to support micro projects such as business or rehabilitation of reservoir that benefits the whole group and of the other half is used as micro-credit on an agreed interest rate to finance activities of individual members. A member of a saving group can be eligible for borrowing money on the condition that the group guarantees the repayment.

Objective:
The objective is to promote integration of crop, vegetable farming, livestock and fish raising as an option for increasing resilience and adaptive capacity of farmers to the impacts of climate change.

Implementation Agency:
Department of Agricultural Extension (DAE) is responsible for administration and implementation of the demonstration project.

Benefit recipient:
About 100-150 people comprising farmers, commune leaders, district and provincial authorities are expected to benefit directly and indirectly from implementation of the field demonstration activities and the learning exercise through farmer field schools.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning of Provincial Governor Office, District Agricultural Office, Commune Council as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
DAE and Provincial Department of Agriculture will have direct responsibility for management and support of this demonstration project until December 2013, after which participating farmers and saving groups will continue application of integrated farming, vegetable farming, animal raising and aquaculture.

Budget: US$ 28,000

Work plan:

Investment Fiche

Investment Information					
Province: Preah Sihanouk			Commune: Samaki		
District: Prey Nob			Commune code: 180209		
Section 1: General Information					
Project Name: Demonstration of Integrated Farming and Climate Change					
Date of completion of study: March 2013	Name of Technical Assistant: Mr.		Role of the Assistant: Agricultural Advisor		
Project Objective: The objective is to promote integrated farming techniques which are more adaptable to climate change.					
Sector: Economy			Project Type: Agriculture Technique and Training		
Infrastructure	Service		Material Supply		
Project result: Integrated rice farming with livestock, aquaculture, and vegetables and capacity improvement for farmers.			Design Planning after Study: No change.		
Estimated cost: US$ 28,000			Actual Cost after Study: US $28,000		
Year:	2013	2014	2015		
	January-December				
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Boeng Raing		30		30
2	Taoang Thom		30		30
3	Prek Kranh		30		30
Total			90		90
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					PDA and DAE
Commune Council					Yes
User groups					Farmers
User groups to be set up before project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				
3.3	Does the project cause damage to used water resources? No.				
3.4	Is the project result a new road? No.				
3.5	Is the project result a new dam, new canals, or new reservoirs? No.				

3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? Yes, it can address the impacts from flooding and drought.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1)
4.4	Does the proposed project reduce climate change impacts? Yes, IFS can build adaptive capacity of farmers through cost saving and increased yields.
4.5	Does the project enhance resilience capacity to cope with climate change impacts? Yes, the farmers are trained on agricultural techniques, including farming, livestock, water conservation, pest management and efficient fertilizer application.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through higher yields, cost savings and improved livestock production.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the training and direct demonstration activities.
4.9	Is the project likely to lead to changes in the employment structure of the area? Improved rice yields and livestock production enrich employment structure by encouraging more farmers to integrate livestock and vegetables with rice farming, creating job opportunities for extension workers and veterinarians.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No.

Demonstration of Integrated Farming and Climate Change

Study Information (perhaps no standard format)

General Information

Project Name	Demonstration of Integrated Farming and Climate Change
Province	Preah Sihanouk
District	Prey Nob
Commune	Samaki
Villages	Boeng Raing, Taoang Thom, Prek Kranh
Commune code	180209
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	Selected plots in 4 villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Farming system assessment and planning	Assessment of the current resources and opportunity for integrated farming
Training of extension workers	Extension workers, government officers and farmers
Field demonstration of integrated farming	2 plots are selected with size of 20X20m
On-farm demonstration of individual techniques	10 on-farm-demonstrations (2 per village) to learn specific element of integrated farming such as rice farming, aquaculture, livestock, aquaculture…etc.
Farmer Field Schools	1 per village
Farmer Field Day and study tour	16 FFD and one big FFD event after the end of the demonstration activity
Supporting micro-project and saving group	One saving group consisting of 20-25 members is set up in each village.

Objective

Who does this demonstration benefit?	Village: all villages School Health Center Others

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Boeng Raing	2,064		30
Taoang Thom	595		30
Prek Kranh	1,293		30
Total			90

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	2012	2013
Rice farming areas	1,020 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha		
Total productivity	2,346 t	
Percentage of farmers	77.7 %	

Investment Presentation

(Commune Format)

Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Geographical Location: Samaki commune, Prey Nob district, Preah Sihanouk Province.

Duration of Project Implementation:
The project started in February 2013 and will be completed by the end of March 2014.

Description of Project:
Samaki commune is one of the target communes selected by the Coastal Adaptation and Planning Resilience Project (CARP) for implementation of Field Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties. This investment proposal was developed based on field studies and several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises four main activities; field demonstration of combined agricultural techniques with shorter duration rice varieties (Phkar Romduol and Phkar Romeat), purification of rice varieties as well as field demonstrations of vegetables and farmer field days. Two field demonstrations for combined techniques and one field demonstration of purification will be conducted.

Field Demonstration of Combined Agricultural Techniques: This is a demonstration of agricultural techniques and rice varieties developed by CARDI. Five rice varieties are introduced including Phkar Romduol, Pkar Romeat, Cholsa, Sen Pidor, and Chan SenSo, of which Phkar Romduol and Phkar Romeat are short term rice varieties with potential yields of about 4-5 t/ha. The others are non-photoperiod varieties that can adapt to any planting season. Rice seeds, either Phkar Romduol or Phkar Romeat, are grown on a farming plot of 10 m wide and 30 m long. The plot is divided into three sections; each section has the area of 10 m by 10 m, where various agricultural techniques are applied. The first section employs the CARDI technique package (land preparation, transplanting, fertilizer application). The second section employs traditional practice with the same rice seeds provided by CARDI and the third sub-plot employs the traditional technique with a local rice variety (Jasmine rice or any). The combined techniques are tested to see if there are differences in yield outcome when traditional agricultural techniques and techniques developed by CARDI are employed and when local rice varieties and those developed by CARDI are used, respectively.

Field Demonstration of Purification of Rice Seed: Purification of rice seeds carried out by observing different stages of the crop growth cycle, namely at vegetative, flowering, and spikelet formation stages. The main principle of purification is that any seedling with abnormal growth, flowering or panicles should be removed entirely from the tested plot until uniform rice growth and pure rice panicles are achieved.

Field Demonstration of Vegetables: This demonstration activity will be carried out in December-March following the harvest of rice varieties tested. Vegetables are also cash crops that can supplement the income of the farmers.

Farmer Field Days (FFDs): This is a field-based learning process, where farmers are brought together for training modules and to share experiences on many aspects of agriculture and livestock techniques and management. Three FFDs will be organized in August for participating farmers and one for larger groups during rice harvest.

Objective:
The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.

Implementation Agency:
CARDI

Benefit recipient:
About 100 people comprising farmers, commune leaders, provincial authorities are expected to benefit directly and indirectly from implementation of the demonstration activities and the learning exercise through FFD.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning, District Agricultural Office and Commune Council as well as CARP are the main partners under this demonstration project.

Management and Sustainability:
CARDI and Provincial Department of Agriculture will have direct responsibility for management and support of this demonstration project until March 2014, after which participating farmers will continue application of CARDI techniques, shorter duration rice varieties and vegetables.

Budget: US$ 5,500

Work plan:

Investment Fiche

<table>
<tr><th colspan="4">Investment Information</th></tr>
<tr><td colspan="2">Province: Preah Sihanouk</td><td colspan="2">Commune: Samaki</td></tr>
<tr><td colspan="2">District: Prey Nob</td><td colspan="2">Commune code: 180209</td></tr>
<tr><td colspan="4">Section 1: General Information</td></tr>
<tr><td colspan="4">Project Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties</td></tr>
<tr><td>Date of completion of study: March 2013</td><td colspan="2">Name of Technical Assistant: Mr.</td><td>Role of the Assistant: Deputy Director</td></tr>
<tr><td colspan="4">Project Objective: The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.</td></tr>
<tr><td colspan="2">Sector: Economy</td><td colspan="2">Project Type: Agriculture Technique and Training</td></tr>
<tr><td>Infrastructure</td><td colspan="2">Service</td><td>Material Supply</td></tr>
<tr><td colspan="2">Project result: Short-term rice varieties and capacity improvement.</td><td colspan="2">Design Planning after Study: No change.</td></tr>
<tr><td colspan="2">Estimated cost: US$ 5,500</td><td colspan="2">Actual Cost after Study: US$ 5,500</td></tr>
</table>

Year:	2013	2014	2015		
	January	March			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Taoang Thom		5		5
Total			5		5
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					CARDI
Commune Council					Yes
User groups					Farmers
User groups to be set up before the project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				
3.3	Does the project cause damage to used water resources? No.				
3.4	Is the project result a new road? No				
3.5	Is the project result a new dam, new canals, or new reservoirs? No.				
3.6	Is the project result a new big channel for navigation or water supply? No.				
Section 4: Climate Change					
4.1	Is the project located in a region vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).				
4.2	Does the project directly address the impacts identified above in 4.1? Yes, it addresses the SLR, flooding, saline intrusion and strong winds by providing possibilities for harvesting before such impacts might occur later in the year				
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).				
4.4	Does the proposed project reduce climate change impacts? The CARDI rice varieties can mature about 10-20 days earlier than the local rice varieties, and can thus be harvested before the onset of sea water intrusion in November.				
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes, farmers are trained to apply shorter duration rice varieties and the CARDI technique package which will increase rice yields and reduce vulnerability to sea water intrusion in November.				
4.6	Does the project contribute to GHG emission? If yes, What measures are taken to reduce GHG emission? No.				
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through potential income from sale of vegetables plus higher rice yields.				
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Not specifically.				
4.9	Is the project likely to lead to changes in the employment structure of the area?				

	Improved yields and income could encourage more farmers to plant such rice varieties as well as vegetables, depending on land availability.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No.

Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Study Information (perhaps no standard format)

General Information

Project Name	Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties
Province	Kampong Som
District	Pery Nob
Commune	Samaki
Villages	Ta Oang Thom
Commune code	180209
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	Selected plots in three villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Field Demonstration of combined agricultural techniques in three plots with size of 10X10m	Rice varieties: Phkar Romduol and Phkar Romeat
Field demonstration of rice seed purification	Rice varieties: Phkar Romduol and Phkar Romeat
Farmer Field Days	Number of days: 3 days
Demonstration of Vegetables	Tomato

Objective

Who does this demonstration benefit?	Village: Ta Oangthom School Health Center Others

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Taoang Thom	595		5
Total			5 (families)

If there is a school please answer the question below

How many class rooms?	

How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas	1,020 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha		
Total productivity	2,346 t	
Percentage of farmers	77.7 %	

Investment Presentation

(Commune Format)

Name: Demonstration of Revolving Livestock Scheme

Geographical Location: Samaki commune, Prey Nob district, Preah Sihanouk province.

Duration of Project Implementation:
The project started in March 2013 and will be completed by the end of March 2014.

Description of Project:
Samaki commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Demonstration of Revolving Livestock Scheme. This investment proposal was developed based on field studies and several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises four main activities, namely formation and capacity building of the Project Management Committee, farmer field schools, field demonstration of livestock and training of local veterinarians. CelAgrid will implement the project in partnership with the commune council.

*Form*ation *and Capacity Building of Project Management Committee*: A project management committee is formed to assist in family selection, demonstration implementation, revolving funds management, monitoring and evaluating as well as in carrying out activities to release funds for the next cycle of livestock. Capacity building will be carried out for PMC on administration, organization management, monitoring as well as evaluation and funding management.

Farmer Field School (FFS): It is a field-based learning process where farmers are brought together for training modules and to share experiences on many aspects of animal raising techniques and management. FFS comprises 10 sessions covering different topics of training, including animal facility, feeding techniques, local feeding resources, disease control and vaccination, breeding and care of pregnant pigs and piglets as well as recording of expense and income. FFS begins in September in each

village, where the sessions are held every week to follow the animal growth cycle until the end of January 2014. About 20 families are invited to each session of FFS.

Demonstration of Livestock: The interested farmers are selected based on their financial capability, availability of land and animal facilities, accountability and commitment to raise the animals until the maturity stage. Domestic animals may include pig, chicken, goat and duck. Interested farmer or household will receive 5 pigs or 100 chickens for stocking with an equivalent cost of about US$ 300. The revolving scheme obliges the farmers to return the cost of stocking to the PMC or another qualified financial institution agreed and entrusted by the CARP, the Commune Council or other local authorities.

Training of Village Animal Health Workers (VAHWs): Building capacity of local VAHWs is an important part of this demonstration project, as they will provide animal health care services to the farmers on a commercial basis. Follow-up training sessions will be conducted for several VAHWs.

Objective:
The objective is to promote revolving livestock schemes as a viable and sustainable business for income generation and thereby improve the capacity of the commune to cope with climate change.

Implementation Agency:
CelAgrid

Benefit recipient:
About 100 people comprising farmers, commune leaders, provincial authorities, VAHWs are expected to benefit from direct implementation of the demonstration activities and the learning exercise through FFS.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning of the Provincial Governor Office, District Agricultural Office and Commune Council as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
CelAgrid will have direct responsibility for management and supportof this demonstration project until March 2014, after which the PMC will continue administering the activities and select another round of farmers who will receive funds to start or continue animal farming.

Budget: US$ 42,120

Work plan: (see the annex)

Investment Fiche

Investment Information					
Province: Preah Sihanouk			Commune: Samaki		
District: Prey Nob			Commune code: 180209		
Section 1: General Information					
Project Name: Revolving Livestock Scheme					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant:	
Project Objective: The objective is to promote revolving livestock schemes as a viable and sustainable business for income generation and as such improving resilience capacity of the commune to cope with climate change.					
Sector: Economy			Project Type: Livestock and Training		
Infrastructure		Service		Material Supply	
Project result: Capacity improvement and improved livestock production.			Design Planning after Study: No change.		
Estimated cost: US$ 42,120			Actual Cost after Study: US$ 42,120		
Year:	2013	2014	2015		
	March	March			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Boeng Raing		23		23
2	Prek Kranh		31		31
3					
Total			54		54
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					CelAgrid
Commune Council					Yes
User groups					Farmers
User groups to be set up before the project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? Yes, if animal waste are not properly handled. Training will include proper manure handling and enforcement measures will also be included in the contracts.				
3.3	Does the project cause damage to used water resources? Yes, especially those farms located near reservoirs or wells without proper animal manure management. Training will include proper manure handling and measures will also be included in the contracts.				

3.4	Is the project result a new road? No.
3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? No.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? No.
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes, by increasing incomes of households and thereby strengthening their resilience.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? Yes, pig farming will emit CH_4 as a result of pig manure fermentation. As part of the farmer field school, composting will be included in the training programme.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, income increases from the sale of pigs or other animals.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the training and demonstration.
4.9	Is the project likely to lead to changes in the employment structure of the area? If the revolving livestock scheme is successful and expands, additional jobs will be created for poor community members, VAHWs and other businesses.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.

Demonstration of Revolving Livestock Scheme

Study Information (perhaps no standard format)

General Information

Project Name	Revolving Livestock Scheme
Province	Preah Sihanouk
District	Prey Nob
Commune	Samaki
Villages	Boeng Raing, Prek Kranh,
Commune code	180209
Name of Technical Assistant	
Date of Project Preparation	March 2013

Location

Where is the location of this project?	Selected families in two villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Formation and Capacity Building of PMC	PMC will be trained to manage the revolving fund.
Field demonstration of livestock	5 pigs or 100 chickens are provided.

Farmer Field School	Training modules will be held every week in each village.
Training of VAHWs	To refresh animal health care.

Objective

Who does this demonstration benefit?	Village: Boeng Raing and Prek Kranh School Health Center Others: VAHWs

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Boeng Raing	2,064		23
Prek Kranh	1,293		31
Total			54

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	PMC and Commune Council

Current Animal Farming Practice (in case of water supply the questions are about existing use and source)

Animal	**Number of family**	**Percentage**	**Number of animals**
Cow	208	21.42	518
Buffalo	215	22.14	583
Pig	538	55.41	914
Chicken	877	90.32	6563
Duck	61	6.28	289

Source: Commune Database, 2012

Investment Presentation

(Commune Format)

Name: Climate Change Education, Awareness Building and Climate Resilience Irrigation Training

Geographical Location: Samaki commune, Prey Nob district, Preah Sihanouk province.

Duration of Project Implementation:
The project started in January 2013 and will be completed in January 2014.

Description of Project:
Samaki commune is one of the target communes selected by the Coastal Adaptation and Planning Resilience Project (CARP) for implementation of Climate Change Education and Awareness Building. This investment proposal was developed based on field studies as well as several consultation and prioritization meetings held during September-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises of three main activities, development of a teacher training manual and flipcharts, training of trainers, and conducting awareness raising in all villages of the commune. A specific training programme will be conducted in Prey Nob district and Toul Kokir concerning climate resilient irrigation.

Development Teacher Training Manual and Flipcharts: The training manual will be developed for trainers containing five climate change topics: i) introduction to climate change; ii) the causes of climate change; iii) climate change impacts; iv) climate change adaptation; and v) climate change mitigation. The flipcharts consist of 19 drawings illustrating the same five topics with simple descriptions of climate change issues and responses. Save Cambodia Wildlife (SCW) is contracted to design the training manual and flipcharts and deliver the training of trainers.

Training of Trainers (TOT): This training is organized aiming to provide general knowledge on climate change adaptation and GHG mitigations using flipcharts as training materials. The trainees are selected from provincial departments of environment, water resources and meteorology, agriculture as well as rural development in Preah Sihanouk and Koh Kong provinces. These trainees will then become extension workers who will conduct awareness building in each village of Peam Krasoab commune.

Awareness Raising: The officers who participate in TOT will conduct awareness raising in each village using the flipcharts.

Climate Resilient Irrigation Training: Under the CARP, a specific module has been developed in climate resilient irrigation and a manual has been prepared in both Khmer and English. Training will be conducted for the Polder User Committee and commune councils in Prey Nob district and also for the commune council and farmers in Toul Kokir commune.

Objective:
The first objective is to build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts. The second objective is to provide training in climate resilient irrigation to these officers and other stakeholders in the target areas.

Implementation Agency:
The SCW and Department of Environmental Education are responsible for administration and implementation of this demonstration project concerning climate change awareness raising. The training in climate change resilient irrigation will be implemented under the CARP and in cooperation with Department of Water Resources and Meteorology.

Benefit recipient: 200 householders will learn about climate change and climate resilience irrigation.

Partners and Relevant Stakeholders:
Provincial Environment Department, Commune Council, Prey Nob Polder User Committee, Provincial Water Resources and Meteorology Department as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
Department of Education will have direct responsibility for management and support of this demonstration project until 2014.

Budget: US$ 6,250

Work plan:

Investment Fiche

<table>
<tr><th colspan="6">Investment Information</th></tr>
<tr><td colspan="3">Province: Preah Sihanouk</td><td colspan="3">Commune: Samaki</td></tr>
<tr><td colspan="3">District: Prey Nob</td><td colspan="3">Commune code: 180209</td></tr>
<tr><td colspan="6">Section 1: General Information</td></tr>
<tr><td colspan="6">Project Name: Climate Change Education, Awareness Building and Climate Resilience Irrigation Training</td></tr>
<tr><td colspan="2">Date of completion of study:
March 2013</td><td colspan="2">Name of Technical Assistant:</td><td colspan="2">Role of the Assistant:
Agricultural Advisor</td></tr>
<tr><td colspan="6">Project Objective: To build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts and provide training for them and other stakeholders in climate resilient irrigation.</td></tr>
<tr><td colspan="3">Sector: Climate Change</td><td colspan="3">Project Type: Training</td></tr>
<tr><td colspan="2">Infrastructure</td><td colspan="2">Service</td><td colspan="2">Material Supply</td></tr>
<tr><td colspan="3">Project result: Capacity building on climate change and climate resilience irrigation.</td><td colspan="3">Design Planning after Study: No change.</td></tr>
<tr><td colspan="3">Estimated cost: US$ 6,250</td><td colspan="3">Actual Cost after Study: US$ 6,250</td></tr>
<tr><td>Year:</td><td>2013</td><td>2014</td><td>2015</td><td></td><td></td></tr>
<tr><td></td><td>January</td><td>January</td><td></td><td></td><td></td></tr>
<tr><td colspan="6">Beneficiary</td></tr>
<tr><td rowspan="2">Number</td><td rowspan="2">Village Name</td><td colspan="2" rowspan="2">Beneficiary</td><td colspan="2">Number of Families</td></tr>
<tr><td>Total</td><td>Women</td><td></td></tr>
<tr><td>1</td><td>Boeng Raing</td><td colspan="2">40</td><td></td><td>40</td></tr>
<tr><td>2</td><td>Taoang Thom</td><td colspan="2">40</td><td></td><td>40</td></tr>
</table>

3	Prek Kranh	40		40
Total		120		120
Section 2: Operation and Maintenance				
Who are the users and who is responsible for maintenance of the project?				
Line department				DEE, PDWRAM
Commune Council				
User groups				PWUC
User groups to be set up before project implementation				
Private sector				
Section 3: Environmental Impact				
3.1	Is this commune located in a region vulnerable to environmental impacts? No.			
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.			
3.3	Does the project cause damage to used water resources? No.			
3.4	Is the project result a new road? No.			
3.5	Is the project result a new dam, new canals, or new reservoirs? No.			
3.6	Is the project result a new big channel for navigation or water supply? No.			
Section 4: Climate Change				
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).			
4.2	Does the project directly address the impacts identified above in 4.1? No.			
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1)			
4.4	Does the proposed project reduce climate change impacts? Yes, indirectly by raising awareness of climate change at local level.			
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes.			
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.			
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, the climate resilient irrigation training may encourage farmers to grow additional crops and thereby increase their income.			
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the awareness raising.			
4.9	Is the project likely to lead to changes in the employment structure of the area? No.			
4.10	Does the project improve access to all year round potable water? No but it might provide access to water for growing vegetable crops providing an alternative income supplement.			
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No.			

Climate Change Education, Awareness Building and Climate Resilience Irrigation Training

Study Information (perhaps no standard format)

General Information

Project Name	Climate Change Education, Awareness Building and Climate Resilience Irrigation Training
Province	Preah Sihanouk
District	Prey Nob
Commune	Samaki
Villages	All villages
Commune code	180209
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	All villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Development of Flipcharts	SCW develops the flipcharts and training manual
Training of Trainers	Government officers from four line departments in Preah Sihanouk and Koh Kong
Conducting Awareness	All villages
Climate resilience irrigation training	Polder User Committee trained together with provincial staff

Objective

Who does this demonstration benefit?	Village: all villages. School Health Center Others: PWUC members.

Information on Beneficiaries

Village Name	**Number of People**	**Number of Families**	**Number of Beneficiaries**
Boeng Raing	2,064		40
Taoang Thom	595		40
Prek Kranh	1,293		40
Total			120 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers, PWUC

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas	1,020 ha	
Rice varieties	Jasmine, Haivin and Red rice	
Fertilizer application per ha		
Total productivity	2,346 t	
Percentage of farmers	77.7 %	

ANNEX 7

Investment Presentation

(Commune Format)

Name: Demonstration of Integrated Farming and Climate Change

Geographical Location: Peam Krasoab commune, Mondol Siema district, Koh Kong province.

Duration of Project Implementation:
The project started in January 2013 and will complete in January 2014.

Description of Project:
Peam Krasoab commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Demonstration of Integrated Farming and Climate Change. This investment proposal was developed based on field studies as well as several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises five main activities; farming system assessment and planning, demonstration of rice farming in integration with livestock (pig and chicken), aquaculture (tilapia), vegetables, on-farm demonstration, farmer field schools, farmer field days and study tour, and training of local extension workers.

Farming System Assessment and Planning: This activity is conducted using agro-ecological system analysis to get an understanding of natural resources conditions, including physical, economic and social resources for agricultural production system and livelihood activities in the commune as well as to get an overview of current status and trend of agriculture/farming systems and livelihood activities and identify system resilience and climate change adaptation options in the agricultural production system.

Commune and village extension worker training: Training of extension workers is an important step following agro-ecological system analysis in order to refresh and adapt the training modules to coastal conditions. A training workshop was organized in Preah Sihanouk to train extension workers and government officers. These people will pass on training modules and knowledge to farmers through farmer field schools. Attending the workshop will be participants from central and provincial departments, district offices of Preah Sihanouk and Koh Kong provinces as well as 8 commune councils. 12 training modules were presented at the training workshop.

Farmer Field School (FSS): It is a field-based learning process where farmers are given training modules and share experiences on many aspects of agriculture and livestock techniques and management. A FFS consists of 16 sessions encompassing 5 modules (rice farming technique, vegetable farming, pig raising, chicken raising and fish rearing), where each session is conducted every week in each village. About 20-30 families from each village are invited to the FFS. A Farmer Field Day is organized following FFS sessions where farmers can learn about the actual progress and issues by visiting demonstration sites.

Demonstration of integrated farming techniques: This activity demonstrates integration of rice farming with other farming activities such as pig raising, chicken raising, aquaculture, which allows for efficient management of agricultural inputs such as water conservation, energy conservation, and composting of manure in a closed system. As a result, farmers will increase productivity with less cost and improved

environmental quality. 2 families, one from each village of Prey Nop 1 and Prey Nop 3, are selected for demonstration of integrated farming. Besides, on-farm demonstration of individual technique for rice farming, raising pigs, chicken raising, aquaculture…etc. is carried out as part of the FFS. 10 families are selected, two from each village, to demonstrate individual activities such as rice farming or pig raising based on the farmer's preference.

Farmer Field Day and Study Tour: A Farmer Field Day will be organized at the end of the harvest season to bring together farmers from all villages, government officers from the Prey Nop district and Preah Sihanouk province as well as members of Prey Nop Commune Council, and NGOs. The aim will be to evaluate the results of the on-farm demonstration of integrated, vegetable and livestock farming. In addition, a few farmers of the Prey Nop commune are selected to join a study tour to learn good practices from integrated farming in other provinces, possibly in Takeo or Kampong Speu province.

Support community micro-project and saving groups: This activity is designed to support farmers to form saving groups that maintain and manage revolving funds for benefit of members. The project has for each saving group provided an initial capital of US$4,000. Half of this amount is used to support micro projects such as business or rehabilitation of reservoirs that benefit the whole group and the other half is used as micro-credit on an agreed interest rate to finance activities of individual members. A member of a saving group can be eligible for borrowing money on the condition that the group guarantees the repayment.

Objective:
The objective is to promote integration of crop, vegetable farming, livestock and fish raising as an option for increasing resilience and adaptive capacity of farmers to the impacts of climate change.

Implementation Agency:
Department of Agricultural Extension (DAE) is responsible for administration and implementation of the demonstration project.

Benefit recipient:
About 150-200 people comprising farmers, commune leaders, district and provincial authorities are expected to benefit directly and indirectly from implementation of the field demonstration activities and the learning exercise through farmer field schools.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning of Provincial Governor Office, District Agricultural Office, Commune Council, and the CARP are main partners under this demonstration project.

Management and Sustainability:
DAE and Provincial Department of Agriculture will have direct responsibility for management and support of this demonstration project until December 2013, after which participating farmers and saving groups will continue application of integrated farming, vegetable farming, animal raising and aquaculture.

Budget: US$ 20,500

Work plan:

Investment Fiche

Investment Information					
Province: Koh Kong			Commune: Peam Krasoab		
District: Mondol Seima			Commune code:		
Section 1: General Information					
Project Name: Demonstration of Integrated Farming					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant: Agricultural Advisor	
Project Objective: The objective is to promote integrated farming techniques which are more adaptable to climate change.					
Sector: Economy			Project Type: Agriculture Technique and Training		
Infrastructure		Service		Material Supply	
Project result: integrated rice farming with livestock, aquaculture, and vegetables and capacity improvement for farmers.			Design Planning after Study: No change.		
Estimated cost: US$ 20,500			Actual Cost after Study: US$ 20,500		
Year:	2013	2014	2015		
	January-Dec				
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1					
2					
3					
4					
5					
Total					
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					PDA and DAE
Commune Council					Yes
User groups					Farmers
User groups to be set up before project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				
3.3	Does the project cause damage to used water resources? No.				
3.4	Is the project result a new road? No.				
3.5	Is the project result a new dam, new canals, or new reservoirs? No.				

3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? Yes, it will address the impacts from flooding and drought.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? Yes, IFS can build adaptive capacity of farmers through cost saving and increased yields.
4.5	Does the project build resilience capacity to cope with climate change impacts? Yes, farmers are trained on agricultural techniques, including farming, livestock, water conservation, pest management and efficient fertilizer application.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through higher yields, cost savings and improved livestock production.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the training and direct demonstration activities.
4.9	Is the project likely to lead to changes in the employment structure of the area? Improved rice yields and livestock production enrich employment structure by encouraging more farmers to integrate livestock and vegetables with rice farming, creating job opportunities for extension workers and veterinarians.
4.10	Does the project improve access to all year round potable water? No
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.

Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Study Information (perhaps no standard format)

General Information

Project Name	Integrated Farming and Climate Change
Province	Koh Kong
District	Mondol Seima
Commune	Peam Krasoab
Villages	
Commune code	
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	Selected plots in five villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Farming assessment and planning	Assessment of the current resources and opportunity for integrated farming
Training of extension workers	Extension workers, government officers and farmers
Field demonstration of integrated farming	2 plots are selected with size of 20X20m
On-farm demonstration of individual techniques	10 on-farm-demonstrations (2 per village) to learn specific elements of integrated farming such as farming, aquaculture, livestock, aquaculture…etc.
Farmer Field Schools	1 per village
Farmer Field Day and study tour	16 FFD and one big FFD event at the end of the demonstration activity
Support micro-project and saving group	One saving group consisting of 20-25 members is set up in each village.

Objective

Who does this demonstration benefit?	Village School Health Center Others

Information on Beneficiaries

Village Name	**Number of People**	**Number of Families**	**Number of beneficiaries**
			30
			30
			30
Total			90 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas		
Rice varieties		
Fertilizer application per ha		
Total productivity		
Percentage of farmers		

Investment Presentation

(Commune Format)

Name: Establishment of Peam Krasoab Community Fishery Organization

Geographical Location: Peam Krasoab commune, Mondol Seima district, Koh Kong province.

Duration of Project Implementation:
The project started in May 2013 and will be completed in December 2013.

Description of Project:
Peam Krasoab commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for the establishment of community fishery. This investment proposal was developed based on field studies as well as several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises three main activities; formation and registration of Peam Krasoab Community Fishery Organization, CFi area management plan, implementation and management of fish stock enhancement measures and strengthening of fisheries monitoring, control and surveillance measures.

Formation and Registration of CFi with the Fishery Administration: Several activities are required to form and officially register the CFi, which include registration of CFi members, election of CFi Committee, development of CFi by-law Agreement, internal rules and a CFi area management plan, and finally the development of a CFi Area Agreement. The CFi Area Agreement defines the perimeters of the fishery areas of the state property to be given to CFi to manage for three years.

CFi area management plan: The plan includes the list of fishing gears permitted to be used by CFi members, collection of data on fishery capture, CFi conservation areas, aquaculture plan, creation of crab bank, fishery processing and marketing plan, patrol plan and additional livelihood plan.

Implementation and management of fish stock enhancement measures: The main activity is the demarcation and mapping of CFi area for conservation and fishing.

Strengthening of fisheries monitoring, control and surveillance measures: The CFi committee will be strengthened to conduct patrol and surveillance activities on a regular basis to prevent illegal fishing, collect fishery data and promote conservation of fish stock.

Objective:
The objective is to promote and strengthen community fishery organization as an adaptation response to climate change impacts in Koh Kong province.

Implementation Agency:
Fishery Administration is responsible for administration and implementation of this demonstration project in collaboration with Provincial Fishery Department (PFD).

Benefit recipient:
291 households are expected to benefit directly from the formation and strengthening of the Peam Krasoab CFi.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning of the Provincial Governor Office, Commune Council, and CARP are the main partners under this demonstration project.

Management and Sustainability:
FiA will have direct responsibility for management and support of this demonstration project until December 2013, after which Peam Krasoab CFi will continue administration and management of the CFi area according to the CFi by-law agreement, internal rules and management plan.

Budget: US$ 28,000

Work plan: (see the annex)

Investment Fiche

<table>
<tr><th colspan="6">Investment Information</th></tr>
<tr><td colspan="3">Province: Koh Kong</td><td colspan="3">Commune: Peam Krasoab</td></tr>
<tr><td colspan="3">District: Mondol Seima</td><td colspan="3">Commune code:</td></tr>
<tr><td colspan="6">Section 1: General Information</td></tr>
<tr><td colspan="6">Project Name: Establishment of Peam Krasoab Community Fishery Organization</td></tr>
<tr><td colspan="2">Date of completion of study:
March February 2013</td><td colspan="2">Name of Technical Assistant:
Mr.</td><td colspan="2">Role of the Assistant:</td></tr>
<tr><td colspan="6">Project Objective: To promote and strengthen community fishery organization as an adaptation response to climate change impacts in Koh Kong province.</td></tr>
<tr><td colspan="3">Sector: Economy</td><td colspan="3">Project Type: Livestock and Training</td></tr>
<tr><td colspan="2">Infrastructure</td><td colspan="2">Service</td><td colspan="2">Material Supply</td></tr>
<tr><td colspan="3">Project result: Establishment of Peam Krasoab Community Fishery and training</td><td colspan="3">Design Planning after Study: No change.</td></tr>
<tr><td colspan="3">Estimated cost: US$ 28,000</td><td colspan="3">Actual Cost after Study: US$ 28,000</td></tr>
<tr><td>Year:</td><td>2013</td><td>2014</td><td>2015</td><td></td><td></td></tr>
<tr><td></td><td>February</td><td>January</td><td></td><td></td><td></td></tr>
<tr><td colspan="6">Beneficiary</td></tr>
<tr><td rowspan="2">Number</td><td colspan="2" rowspan="2">Village Name</td><td colspan="2">Beneficiary</td><td>Number of Families</td></tr>
<tr><td>Total</td><td>Women</td><td></td></tr>
<tr><td>1</td><td colspan="2">Peam Krasoab 1</td><td>151</td><td></td><td>151</td></tr>
<tr><td>2</td><td colspan="2">Peam Krasoab 2</td><td>140</td><td></td><td>140</td></tr>
<tr><td colspan="3">Total</td><td>291</td><td></td><td>291</td></tr>
<tr><td colspan="6">Section 2: Operation and Maintenance</td></tr>
<tr><td colspan="6">Who are the users and who is responsible for maintenance of the project?</td></tr>
<tr><td colspan="5">Line department</td><td>FiA</td></tr>
<tr><td colspan="5">Commune Council</td><td>Yes</td></tr>
<tr><td colspan="5">User groups</td><td>Fishermen</td></tr>
</table>

User groups to be set up before project implementation		CF Organization
Private sector		Yes
Section 3: Environmental Impact		
3.1	Is this commune located in a region vulnerable to environmental impacts? No.	
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.	
3.3	Does the project cause damage to used water resources? No.	
3.4	Is the project result a new road? No.	
3.5	Is the project result a new dam, new canals, or new reservoirs? No.	
3.6	Is the project result a new big channel for navigation or water supply? No.	
Section 4: Climate Change		
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 5).	
4.2	Does the project directly address the impacts identified above in 4.1? No.	
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).	
4.4	Does the proposed project reduce climate change impacts? No.	
4.5	Does the project build resilience capacity to cope with climate change impacts? Yes, CFi can improve resilience capacity of community to cope with climate change.	
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.	
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, increased fish stock will result in increased income generation.	
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in community fishery organization.	
4.9	Is the project likely to lead to changes in the employment structure of the area? No.	
4.10	Does the project improve access to all year round potable water? No.	
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.	

Peam Krasoab Community Fishery Organization

Study Information (perhaps no standard format)

General Information

Project Name	Peam Krasoab Community Fishery Organization
Province	Koh Kong
District	Mondol Seima
Commune	Peam Krasoab
Villages	Peam Krasoab 1 and 2
Commune code	
Name of Technical Assistant	
Date of Project Preparation	February 2013

Location

No	**Longitude**	**Latitude**
1	0281280	1269929
2	0279874	1268855

3	0279161	1268570
4	0278746	1268905
5	0278294	1269592
6	0277813	1270344
13	0277268	1271174
14	0276425	1272063
15	0275502	1273642
16	0275870	1274214
17	0277369	1275686

Activities or Construction Requirement

Official registration of CFi	172 people are CFi members
CFi Area Management Plan	Key elements are CFi conservation areas, aquaculture plan, creation of crab bank, fishery processing and marketing plan, patrol plan, and additional livelihood plan.
Implementation of fish stock enhancement measures	Demarcation and mapping of CFi area for conservation and fishing.
Strengthening monitoring, control and surveillance	

Objective

Who does this demonstration benefit?	Village: Peam Krasob 1 and 2 School Health Center Others: CFO members

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Peam Krasoab 1			151
Peam Krasoab 2			140
Total			291 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Peam Krasoab CFi Committee

Key economic activities (in case of water supply the questions are about existing use and source)

Economic activity	**Number of family**	**Percentage**	
Fishing	251		

Farming	10		
Vegetable farming	46		
Animal raising	66		
Trade& selling	41		
Tourism	65		

Source: Peam Krasoab CFi management plan, 2013

Investment Presentation

(Commune Format)

Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Geographical Location: Peam Krasoab commune, Mondol Seima district, Koh Kong Province.

Duration of Project Implementation:
The project started in February 2013 and will be completed in March 2014.

Description of Project:
Peam Krasoab commune is one of the target communes selected by the Coastal Adaptation and Planning Resilience Project (CARP) for implementation of Field Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties. This investment proposal was developed based on field studies and several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises four main activities; field demonstration of combined agricultural techniques with shorter duration rice varieties (Phkar Romduol and Phkar Romeat), purification of rice varieties as well as field demonstrations of vegetables and farmer field days. Two field demonstrations for combined techniques and one field demonstration of purification will be conducted.

Field Demonstration of Combined Agricultural Techniques: This is a demonstration of agricultural techniques and rice varieties developed by CARDI. Five rice varieties are introduced including Phkar Romduol, Pkar Romeat, Cholsa, Sen Pidor, and Chan SenSo, of which Phkar Romduol and Phkar Romeat are short term rice varieties with potential yields of about 4-5 t/ha. The others are non-photoperiod varieties that can adapt to any planting season. Rice seeds, either Phkar Romduol or Phkar Romeat, are grown on a farming plot of 10 m wide and 30 m long. The plot is divided into three sections; each section has the area of 10 m by 10 m, where various agricultural techniques are applied. The first section employs the CARDI technique package (land preparation, transplanting, fertilizer application). The second section employs traditional practice with the same rice seeds provided by CARDI and the third sub-plot employs the traditional technique with a local rice variety (Jasmine rice or any). The combined techniques are tested to see if there are differences in yield outcome when traditional agricultural techniques and techniques developed by CARDI are employed and when local rice varieties and those developed by CARDI are used, respectively..

Field Demonstration of Purification of Rice Seed: Purification of rice seeds carried out by observing different stages of the crop growth cycle, namely at vegetative, flowering, and spikelet formation stages. The main principle of purification is that any seedling with abnormal growth, flowering or panicles should be removed entirely from the tested plot until uniform rice growth and pure rice panicles are achieved.

Field Demonstration of Vegetables: This demonstration activity will be carried out in December-March following the harvest of rice varieties tested. Vegetables are also cash crops that can supplement the income of farmers.

Farmer Field Days (FFDs): This is a field-based learning process, where farmers are brought together for training modules and to share experiences on many aspects of agriculture and livestock techniques and management. Three FFDs will be organized in August for participating farmers and one for larger groups during rice harvest.

Objective:
The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.

Implementation Agency:
CARDI

Benefit recipient:
About 100 people, comprising farmers, commune leaders and provincial authorities, are expected to benefit directly and indirectly from implementation of this demonstration activity and the learning exercise through FFD.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning, District Agricultural Office and Commune Council as well as the CARP are main partners under this demonstration project.

Management and Sustainability:
CARDI and Provincial Department of Agriculture will have direct responsibility for management and support of this demonstration project until March 2014, after which participating farmers will continue application of CARDI techniques, shorter duration rice varieties and vegetables.

Budget: US$ 5,500

Work plan:

Investment Fiche

<table>
<tr><th colspan="3">Investment Information</th></tr>
<tr><td colspan="2">Province: Koh Kong</td><td>Commune: Peam Krasoab</td></tr>
<tr><td colspan="2">District: Mondol Seima</td><td>Commune code:</td></tr>
<tr><td colspan="3">Section 1: General Information</td></tr>
<tr><td colspan="3">Project Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties</td></tr>
<tr><td>Date of completion of study: March 2013</td><td>Name of Technical Assistant: Mr.</td><td>Role of the Assistant: Deputy Director</td></tr>
<tr><td colspan="3">Project Objective: The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.</td></tr>
<tr><td colspan="2">Sector: Economy</td><td>Project Type: Agriculture Technique and Training</td></tr>
</table>

Infrastructure		Service		Material Supply	
Project result: Short-term rice varieties and capacity improvement.			Design Planning after Study: No change.		
Estimated cost: US$ 5,500			Actual Cost after Study: US$ 5,500		
Year:	2013	2014	2015		
	January	March			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Peam Krasoab 1		2		2
Total			2		2
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					CARDI
Commune Council					Yes
User groups					Farmers
User groups to be set up before project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				
3.3	Does the project cause damage to used water resources? No.				
3.4	Is the project result a new road? No.				
3.5	Is the project result a new dam, new canals, or new reservoirs? No.				
3.6	Is the project result a new big channel for navigation or water supply? No.				
Section 4: Climate Change					
4.1	Is the project located in a region vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4)				
4.2	Does the project directly address the impacts identified above in 4.1? Yes, it addresses the SLR, flooding and saline intrusion and strong winds by providing possibilities for harvesting before such impacts might occur later in the year				
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes, (1).				
4.4	Does the proposed project reduce climate change impacts? The CARDI rice varieties can mature about 10-20 days earlier than the local rice varieties and can thus be harvested before the onset of sea water intrusion in November.				
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes, farmers are trained to apply shorter duration rice varieties and the CARDI technique package which will increase rice yields and reduce vulnerability to sea water intrusion in November.				
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No				
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through potential income from sale of vegetables plus higher rice yields.				

4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Not specifically.
4.9	Is the project likely to lead to changes in the employment structure of the area? Improved yields and income could encourage more farmers to plant such rice varieties as well as vegetables, depending on land availability.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.

Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Study Information (perhaps no standard format)

General Information

Project Name	Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties
Province	Koh Kong
District	Mondol Seima
Commune	Peam Krasoab
Villages	Peam Krasoab
Commune code	
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	Selected plots in three villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Field Demonstration of combined agricultural techniques in three plots with size of 10X10m	Rice varieties: Phkar Romduol and Phkar Romeat
Field demonstration of rice seed purification	Rice varieties: Phkar Romduol and Phkar Romeat
Farmer Field Days	Number of days: 3 days
Demonstration of Vegetables	Tomato

Objective

Who does this demonstration benefit?	Village: Peam Krasoab School Health Center Others

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of beneficiaries
Peam Krasoab			2

Total			2 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas		
Rice varieties	Haivin and Red rice	
Fertilizer application per ha	UREA, DAP	
Total productivity		
Percentage of farmers		

Investment Presentation

(Commune Format)

Name: Demonstration of Revolving Livestock Scheme

Geographical Location: Peam Krasoab commune, Mondol Seima district, Koh Kong province.

Duration of Project Implementation:
The project started in March 2013 and will be completed by end of March 2014.

Description of Project:
Peam Krasoab commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Demonstration of Revolving Livestock Scheme. This investment proposal was developed based on field studies and several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises four main activities, namely formation and capacity building of the Project Management Committee, farmer field schools, field demonstration of livestock and training of local veterinarians. CelAgrid will implement the project in partnership with the commune council.

*Form*ation *and Capacity Building of Project Management Committee*: A project management committee is formed to assist in family selection, demonstration implementation, revolving funds management, monitoring and evaluating as well as in carrying out activities to release funds for the next cycle of livestock. Capacity building will be carried out for PMC on administration, organization management, monitoring as well as evaluation and funding management.

Farmer Field School (FFS): It is a field-based learning process where farmers are brought together for training modules and to share experiences on many aspects of animal raising techniques and management. FFS comprises 10 sessions covering different topics of training, including animal facility, feeding techniques, local feeding resources, disease control and vaccination, breeding and care of pregnant pigs and piglets as well as recording of expense and income. FFS begins in September in each village, where the sessions are held every week to follow the animal growth cycle until the end of January 2014. About 20 families are invited to each session of FFS.

Demonstration of Livestock: The interested farmers are selected based on their financial capability, availability of land and animal facilities, accountability and commitment to raise the animals until the maturity stage. Domestic animals may include pig, chicken, goat and duck. Interested farmer or household will receive 5 pigs or 100 chickens for stocking with an equivalent cost of about US$300. The revolving scheme obliges the farmers to return the cost of stocking to the PMC or another qualified financial institution agreed and entrusted by the CARP, the Commune Council or other local authorities.

Training of Village Animal Health Workers (VAHWs): Building capacity of local VAHWs is an important part of this demonstration project, as they will provide animal health care services to the farmers on a commercial basis. Follow-up training sessions will be conducted for several VAHWs.

Objective:
The objective is to promote revolving livestock schemes as a viable and sustainable business for income generation, and as such to improve capacity of the commune to cope with climate change.

Implementation Agency:
CelAgrid

Benefit recipient:
About 100 people comprising farmers, commune leaders, provincial authorities, local VAHWs are expected to benefit from direct implementation of the demonstration activities and the learning exercise through FFS.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning of the Provincial Governor Office, District Agricultural Office and Commune Council, and CARP are the main partners under this demonstration project.

Management and Sustainability:
CelAgrid will have direct responsibility for management and support of this demonstration project until March 2014, after which the PMC will continue administration of activities and select another round of farmers who will receive funds to start or continue animal farming.

Budget: US$ 21,840

Work plan: (see the annex)

Investment Fiche

Investment Information					
Province: Koh Kong			Commune: Pean Krasoab		
District: Peam Seima			Commune code:		
Section 1: General Information					
Project Name: Revolving Livestock Scheme					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant:	
Project Objective: The objective is to promote revolving livestock schemes as a viable and sustainable business for income generation and thereby improve the capacity of the commune to cope with climate change.					
Sector: Economy			Project Type: Livestock and Training		
Infrastructure		Service		Material Supply	
Project result: Capacity improvement and improved livestock productivity.			Design Planning after Study: No change.		
Estimated cost: US$ 21,840			Actual Cost after Study: US$ 21,840		
Year:	2013	2014	2015		
	March	March			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Peam Krasoab 1		14		14
2	Peam Krasoab 2		14		14
Total			28		28
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					CelAgrid
Commune Council					Yes
User groups					Farmers
User groups to be set up before project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? Yes, if animal waste is not properly handled. Training will include proper manure handling and enforcement measures will also be included in the contracts.				
3.3	Does the project cause damage to used water resources? Yes, especially those farms located near reservoirs or wells without proper animal manure management. Training will include proper manure handling and measures will also be included in the contracts.				
3.4	Is the project result a new road? No.				
3.5	Is the project result a new dam, new canals, or new reservoirs? No.				

3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project located in a region vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? No
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? No
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes, by providing increased income and thereby strengthening the resilience of households.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? Yes, pig farming will emit CH_4 as a result of pig manure fermentation. As part of the farmer field school, composting will be included in the training programme.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through potential income from the sale of pigs or other animals.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the training and demonstration.
4.9	Is the project likely to lead to changes in the employment structure of the area? If the revolving livestock scheme is successful and expands, additional jobs will be created for poor community members, VAHWs and other businesses.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.

Demonstration of Revolving Livestock Scheme

Study Information (perhaps no standard format)

General Information

Project Name	Revolving Livestock Scheme
Province	Koh Kong
District	Mondol Seima
Commune	Peam Krasoab
Villages	Peam Krasoab 1 and 2
Commune code	
Name of Technical Assistant	
Date of Project Preparation	March 2013

Location

Where is the location of this project?	Selected families in two villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Formation and Capacity Building of PMC	PMC will be trained in management of revolving fund

Field demonstration of livestock	5 pigs or 100 chickens are provided for each interested family
Farmer Field School	10 sessions will be conducted on animal raising techniques
Training of VAHWs	Several local VAHWs are selected for a follow-up session.

Objective

Who does this demonstration benefit?	Village: Peam Krasoab 1 and 2 School Health Center Others: VAHWs

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Peam Krasoab 1			14
Peam Krasoab 2			14
Total			28

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	PMC and Commune Council

Current Animal Farming Practice (in case of water supply the questions are about existing use and source)

Animal	**Number of family**	**Percentage**	**Number of animals**
Cow			
Buffalo			
Pig			
Chicken			
Duck			

Source: Commune Database, 2012

Investment Presentation

(Commune Format)

Name: Climate Change Education, Awareness Building and Climate Resilience Irrigation Training

Geographical Location: Peam Krasoab commune, Mondol Seima district, Koh Kong province.

Duration of Project Implementation:
The project started in May 2013 and will be completed in December 2013.

Description of Project:
Peam Krasoab commune is one of the target communes selected by the Coastal Adaptation and Planning Resilience Project (CARP) for implementation of Demonstration of Climate Change Education, Awareness Building and Climate Resilience Irrigation Training. This investment proposal was developed based on field studies as well as several consultation and prioritisation meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises of three main activities, namely development of flipcharts, training of trainers, and awareness building in target communes in all villages of the commune. A specific training programme will be conducted in Prey Nob district and Toul Kokir concerning climate resilient irrigation.

Development Training Manual and Flipcharts: The training manual will be developed for trainers containing five climate change topics: i) introduction to climate change; ii) the causes of climate change; iii) climate change impacts; iv) climate change adaptation; and v) climate change mitigation. The flipcharts consist of 19 drawings illustrating the same five topics with simple descriptions of climate change issues and responses. Save Cambodia Wildlife (SCW) is contracted to design the training manual and flipcharts and deliver the training of trainers.

Training of Trainers (TOT): This training is organized aiming to provide general knowledge on climate change adaptation and GHG mitigations using flipcharts as training materials. The trainees are selected from provincial departments of environment, water resources and meteorology, agriculture as well as rural development in Preah Sihanouk and Koh Kong provinces. These trainees will then become extension workers who will conduct awareness building in each village of Peam Krasoab commune.

Awareness Raising: The officers who participate in TOT will conduct awareness raising in each village using the flipcharts.

Climate Resilient Irrigation Training: Under the CARP, a specific module has been developed in climate resilient irrigation and a manual has been prepared in both Khmer and English. Training will be conducted for the Polder User Committee and commune councils in Prey Nob district and also for the commune council and farmers in Toul Kokir commune.

Objective:
The first objective is to build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts. The second objective is to provide training in climate resilient irrigation to these officers and other stakeholders in the target areas.

Implementation Agency:
The SCW and Department of Environmental Education are responsible for administration and implementation of this demonstration project concerning climate change awareness raising. The training in climate change resilient irrigation will be implemented under the CARP and in cooperation with Department of Water Resources and Meteorology.

Benefit recipient: 200 households are expected to benefit from the training and awareness building.

Partners and Relevant Stakeholders:
Provincial Environment Department, Commune Councils, Prey Nob Polder User Committee, Provincial Water Resources and Meteorology Department as well as CARP are the main partners under this demonstration project.

Management and Sustainability:
Department of Education will have direct responsibility for management and support of this demonstration project until May 2014.

Budget: US$ 6,250

Work plan: (see the annex)

Investment Fiche

<table>
<tr><th colspan="7">Investment Information</th></tr>
<tr><td colspan="3">Province: Koh Kong</td><td colspan="4">Commune: Peam Krasoab</td></tr>
<tr><td colspan="3">District: Mondol Seima</td><td colspan="4">Commune code:</td></tr>
<tr><td colspan="7">Section 1: General Information</td></tr>
<tr><td colspan="7">Project Name: Climate Change Education, Awareness Building and Climate Resilience Irrigation Training</td></tr>
<tr><td colspan="2">Date of completion of study:
March February 2013</td><td colspan="2">Name of Technical Assistant:
Mr.</td><td colspan="3">Role of the Assistant:</td></tr>
<tr><td colspan="7">Project Objective: To build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts and provide training for them and other stakeholders in climate resilient irrigation.</td></tr>
<tr><td colspan="3">Sector: Climate Change</td><td colspan="4">Project Type: Training</td></tr>
<tr><td colspan="2">Infrastructure</td><td colspan="2">Service</td><td colspan="3">Material Supply</td></tr>
<tr><td colspan="3">Project result: Capacity building on climate change and climate resilience irrigation.</td><td colspan="4">Design Planning after Study: No change.</td></tr>
<tr><td colspan="3">Estimated cost: US$ 6,250</td><td colspan="4">Actual Cost after Study: US$ 6,250</td></tr>
<tr><td>Year:</td><td>2013</td><td>2014</td><td>2015</td><td></td><td></td></tr>
<tr><td></td><td>February</td><td>January</td><td></td><td></td><td></td></tr>
<tr><td colspan="7">Beneficiary</td></tr>
<tr><td rowspan="2">Number</td><td colspan="2" rowspan="2">Village Name</td><td colspan="2">Beneficiary</td><td rowspan="2">Number of Families</td></tr>
<tr><td>Total</td><td>Women</td></tr>
<tr><td>1</td><td colspan="2">Peam Krasoab 1</td><td>30</td><td></td><td>30</td></tr>
<tr><td>2</td><td colspan="2">Peam Krasoab 2</td><td>30</td><td></td><td>30</td></tr>
</table>

3				
4				
Total				

Section 2: Operation and Maintenance	
Who are the users and who is responsible for maintenance of the project?	
Line department	DEE, PDWRAM
Commune Council	
User groups	PWUC
User groups to be set up before project implementation	
Private sector	

Section 3: Environmental Impact	
3.1	Is this commune located in a region vulnerable to environmental impacts? No.
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.
3.3	Does the project cause damage to used water resources? No.
3.4	Is the project result a new road? No.
3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project located in a region vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3, 4 & 5).
4.2	Does the project directly address the impacts identified above in 4.1? No.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? Yes, indirectly by raising awareness of climate change at local level.
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, the climate resilient irrigation training may encourage farmers to grow additional crops and thereby increase their income.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in awareness building.
4.9	Is the project likely to lead to changes in the employment structure of the area? No.
4.10	Does the project improve access to all year round potable water? No, but it might provide access to water for growing vegetable crops providing an alternative income supplement.
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.

Climate Change Education, Awareness Building and Climate Resilience Irrigation Training

Study Information (perhaps no standard format)

General Information

Project Name	Climate Change Education, Awareness Building and Climate Resilience Irrigation Training
Province	Koh Kong
District	Mondol Seima
Commune	Peam Krasoab
Villages	All villages
Commune code	
Name of Technical Assistant	
Date of Project Preparation	February 2013

Location

Where is the location of this project?	Selected families in two villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Development of Training Manual and Flipcharts	SCW develops the flipcharts and training manual
Training of Trainers	Government officers from four line departments in Preah Sihanouk and Koh Kong
Conducting Awareness Building	All villages
Climate Resilience Irrigation Training	Polder User Committee trained together with provincial staff

Objective

Who does this demonstration benefit?	Village: all villages. School Health Center Others: PWUC

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Peam Krasoab 1			
Peam Krasoab 2			
Total			

If there is a school please answer the question below

How many class rooms?	

How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	DEE and PDWRAM

Key economic activities (in case of water supply the questions are about existing use and source)

Economic activity	**Number of families**	**Percentage**	
Fishing	251		
Farming	10		
Vegetable farming	46		
Animal raising	62		
Trade& selling	35		
Tourism	65		

Source: Commune Database, 2012

KINGDOM OF CAMBODIA

NATION RELIGION KING

Commune project proposal 2013

HARVESTING RAINING WATER RESERVOIR

Village :PEAMKRASAOB 1

COMMUNE: PEAMKRASAOB

DISTRICT: MONDOL SEIMA

PROVINCE: KOH KONG PROVINCE

CODE:

ACRONYMS AND ABBREVIATION

CC	Commune Council
HRWR	Harvesting Raining Water Reservoir
PPACC	Peam Krasaob Protected Area Community Committee
WUG	Water User's Group

Contents

KINGDOM OF CAMBODIA

NATIONS RELIGION KING

MONDOLSEIMA DISTRICT
PEAMKRASAOB COMMUNE
N0: PEAMKRASAOB, DATE: August 09, 2013

CHIEF OF PEAMKRASAOB COMMUNE
HIGHLY REQUEST TO
COASTAL ADAPTATION AND RESILIENCE PLANNING COMPONENT (CARP) UNDER CAMBODIA CLIMATE CHANGE ALLIANCE

Objective: Proposal for construction a Reservoir for Harvesting Raining Water (RHRW).

The villagers in Peak Krasaob 1&2 lack of water supply every year because the geography of this area is located close to the sea. Recently, sea water intrusion to the wells and ponds into the villages and causes more problems to villagers with shortage of water supply.

Facing with this issue, the villagers seek to donors for financial support for construction a RHRW at PeamKrosoap1 (behind the commune office) to supply freshwater to the villagers.

As we mention above, we respectfully request the the Coastal Adaptation and Resilience Planning Component under Cambodia Climate Change Alliance to highly consider our proposal.

We appreciate and highly respect you and your consideration.

Chief of Commune

PROJECT PROPOSAL

1. PROJECT BACKGROUND

1. Project name: Construct a reservoir for harvesting raining water.
2. Project location: Peam Krasaob 1 village, Peam Krasaob commune, Mondol Seima district, Koh Kong province.
3. Project term: This project will be started on October 01, 2013 to November 16,2013.
4. Description project: This project is located at Peam Krasaob 1 village ((behind the commune office) and it is 07 km from Koh Kong city. Most of the year, the villagers face with shortage of water supply especially in dry season.
5. Objective: Provide enough freshwater supply to villagers in Peam Krasaob 1&2 villages in both seasons (raining and dry).
6. Project implementation: Should contract with private company who has experiences through many years in reservoir construction.
7. Beneficiaries: people (villagers & students) in Peam Krasaob 1&2villages will benefit from this project.
8. Development partners: Donors, provincial department of Rural Development Department, and local authority;
9. Management: Commune council and PeamKrasaob Protected Area Community Committee (PPACC) to maintainthe reservoir.
10. Budgets: Propose budget 3, 450 USD (Three Thousand Four hundred and Fifty);
11. Action plan: As detailed in the description project

2. LOCATION MAP

The map shows the project location for construction of a reservoir for harvesting raining water in Peam Krasaob 1 village, Peam Krasaob commune, Mondol Seima district, Koh Kong province.

3. DESCRIPTION PROJECT

Description Project	
Province: Koh Kong	Commune: Peam Krasaob
District: Mondol Seima	Commune's Code:

Section 1: General Information

Project's Name: Harvesting raining water reservoir		
Date end of survey:	Technical assistant:	Position:
Project Objective: Supply water to villagers for better health		
Sector: Economic	Project Type: Rural communication	
Infrastructure Project☐	Service Project☑	Material Supply Project☐
Outcome: A harvesting raining reservoir	Output: Constructed a harvesting raining	

		reservoir.	
Budget Estimate		Budget Estimated: 3,450.00 USD	
Year	2013	2014	2015

Project Beneficiaries

N0	Name of Village	People of beneficiaries		Families
		Total	Women	
1	Peam Krasaob 1&2	918	343	160
Total		918	343	160

Section 2: Responsibility and maintenance

Who is responsible to manage utilities and maintenance the project?	
Specialize Departments	□
Commune Councils	☑
Existing Utilizers Group	□
Project Utilizers Group	□
Private Sector	□
	□

Section 3: Environmental Impact

3.1	Is the commune vulnerable of environmental impact?	□
3.2	Is the project impact to natural and social environment?	□
3.3	Is the project impact to villagers' water resources?	□
3.4	Is it new road project outcome?	□
3.5	Is it the project outcome as a dyke, a new canal or a new reservoir?	□
3.6	Is it project outcome as a new reservoir for water supply?	☑

Section 4: Climate Change

4.1	Is the project located in a region of vulnerable impact of climate change?	☑Yes□NO
4.2	If yes, what is the impact of climate change to the project?	☑Sea level rise☑ Seawater intrusion □Flooding ☑Drought ☑Storm surge
4.3	Does the climate change impact to water supply in your village?	☑Yes□NO
4.4	Is the proposed project related to adaptation or mitigation of climate change?	☑ Adaptation□Mitigation
4.5	Does the project improve access to water supply?	☑Dry season☑ Raining season
4.6	Does the project contribute to improving people's livelihoods?	☑Yes□NO

4. BUDGET ESTIMATE

This is the table of estimated budget for construction a reservoir for harvesting raining water

Located in Peam Krasaob 1 Village, Peam Krasaob Commune, Mondol Seima district,

Koh Kong Province

No.	Activity	Resources	
		Project ($)	Contribution
1	Design plan and prepare related documents	50$	0
2	Select contractor	0	0
3	Site clearing		50$
4	Foundation	1,500$	0
5	Installation of concrete pipes and PVC pipes	1,900$	0
6	Cleaning site after completion	0	25$
7	Install covering net on the water harvesting tank	0	120$
8	Monitoring	0	0
	Sub-total	3,450$	195
	Grand total	3,645$	

5. RESERVOIR TECHNICAL INFORMATION

1. General Information

Province: Koh Kong	District: Mondol Seima	Commune: Peam Krasaob	Code
Name of Project: Harvesting Raining Water Reservoir (HRWR)			
Name of Technical Assistant:		Date: August 21, 2013	

2. Project Location

Where is the location HRWR?	Description: Peam Krasaob 1 village, Peam Krasaob commune.
X and Y of reservoir location 1. X: Y:	

3. Description Project

What is type of reservoir?	
☑Concrete reservoir	□House's roof reservoir
□Plastic reservoir	□Huge jug

4. Objective of project

What is the purpose of water supply? ☑in village□ at school□Health center□Others

5. Information of Users

If the raining water reservoiris located in village, please answer the question below:

Name of village	Population	Total Families	User families
PeamKrasaob 1	617	160	160
Total	617	160	160

If the raining water reservoir is located at school, please answer the questions as below:

How many rooms are there in the school?	
How many students are will use this well?	

6. Maintenance

Please tick one in the box	
Who are responsible to maintain the raining water reservoir?	Commune Council, PPACC and villagers
How many families will use raining reservoir?	160 families
Are the water users families agree to establish water user's committee?	☑ No ☐ Yes

7. Water resource supply

What isthe type of water resources has been used in the village?		
Water resources	Number of users	Distances
□ Natural pond		
☑Raining harvesting	160	at home
□Stream, River		
☑Well	160	200 m to 500 m
□ Pipe system		
Total	160	

8. Project location information

Who is the land owner of project location?	□Land owner's name ☑Commune council

If the raining reservoir location is belonging to private land, please answer question below:

Does the land owner agree?	□disagree ☑ agree
Is the reservoir location in the flooding area?	☑No □ Yes

If yes, please answer below:

Maximum of flooded depth:	Minimum of flooded depth:
Reason of flooding	□From river □ Heavy raining

Is there any existing well near the project location?	Please tick in the box	Number of wells: No
	□Digging well □Drilling well □Multiple well ☑Pipe well	

6. TECHNICAL CROSS SECTION OF RESERVOIR

7. USING PLANNING AND MAINTENANCE

Commune: Peam Krasaob			**Description Project:** Harvesting Raining Reservoir			**Date:** 22/08/2013	
Management of Project: Commune council							
Action Plan				**Budget Plan**			
N0	Activities	Number	Implementation	Price		Budget Sources	Other required
				1 time	1 year		
2. Permanence Maintenance							
1	Cleaning	All times	PPACC	No	No		Villagers
2	Excavation	All times		No	No	Contribution	People
3. Annual Maintenance							
1	Cleaning	1 time	PPACC	20$	20$	PPACC	
2	Change water tap	1 time	PPACC	100$	100$	PPACC	
3	Change PVC hose	1 time	Commune councils	80$	80$	Commune council	
Total Budget/1year					**200$**		

Date: 22/08/2013 Date: 23/08/2013

Commune Chief: YEM Yan

8. WORK PLAN

N0	Description	Week 1							Monitors
		day 1	day 2	day 3	day 4	day 5	day 6	day 7	CC/PPACC
1	Site clearing								CC/PPACC
2	Foundation								CC/PPACC
3	Colum (wooden) installation								CC/PPACC
4	Compacting & concrete								CC/PPACC
5	Concrete beam &paving								CC/PPACC
6	Pipes Installation								CC/PPACC
7	Hose system installation								CC/PPACC

Date:23/08/2013

Name: YEM Yan

KINGDOM OF CAMBODIA

NATION RELIGION KING

Commune project proposal 2013

PIPE WELL REHABILITATION

VILLAGE : PEAM KRASAOB 2

COMMUNE: PEAM KRASAOB

DISTRICT: MONDOL SEIMA

PROVINCE: KOH KONG PROVINCE

CODE:

ACRONYMS AND ABBREVIATION

CC	Commune Council
DoWRAM	Department of Water Resources and Meteorology
PPACC	Peam Krasaob Protected Area Community Committee
WUG	Water User's Group

Contents

KINGDOM OF CAMBODIA

NATIONS RELIGION KING

MONDOLSEIMA DISTRICT
PEAMKRASAOB COMMUNE
N0: PEAMKRASAOB, DATE: August 08, 2013

CHIEF OF PEAMKRASAOB COMMUNE
HIGHLY REQUEST TO
COASTAL ADAPTATION AND RESILIENCE PLANNING COMPONENT(CARP) UNDER CAMBODIA CLIMATE CHANGE ALLIANCE

Objective: Proposal for construction four of pipe wells.

Recently people inPeamKrasaob1&2 villages, Peam Krasaob commune faces with lack of water supply because of weather change and shortage of raining and the existing wells are in bad conditions (broken and shallow).Facing with the shortage of fresh water uses, the villagers and commune council seek to donors for financial support for soil excavation and repair of well.

As we mention above, we respectfully request the Coastal Adaptation and Resilience Planning Component under Cambodia Climate Change Alliance to highly consider our proposal.

We appreciate and highly respect you and your consideration.

Chief of Commune

PROJECT PROPOSAL

1. PROJECT BACKGROUND

1. Project name: Construct pipe well.
2. Project location: PeamKrasaob1 village, Peam Krasaob commune, Mondol Seima district, Koh Kong province.
3. Project term: This project will start on September 09, 2013 to October 2013.
4. Description project: The well was financial supported by Coastal Zone Management (CZM/DANIDA) in 2004 and it was maintained and repaired by commune council; however, the well became shallow, less water and was also broken. Climate change (drought) is the one factor the causes the well to become low of water and villagers facing with lack of water supply.
5. Objective: People in PeamKrasaob1&2 villages have enough fresh water water supplies in both seasons (rainy and dry seasons) and for villagers' better health.
6. Project implementation: Should contract with private company who has experiences through many years in well construction.
7. Beneficiaries: 160 families in Peak Krasaob1&2 villages will benefit from this project.
8. Development partners: Donors, provincial department of Rural Development Department, local authority.
9. Management: Commune council and Peam Krasaob Protected Area Community Committee (PPACC) to maintain the well.
10. Budgets: Propose budget 3, 350.00USD (Three Thousand Three Hundred and Fifty).
11. Action plan: As detailed in the description project.

2. LOCATION MAP

The map shows the project location for construction of four pipe wells in Peam Krasaob1&2 villages, Peam Krasaob commune, Mondol Seima district, Koh Kong province.

3. DESCRIPTION PROJECT

Description Project	
Province: Koh Kong	Commune: Peam Krasaob
District: Mondol Seima	Commune's Code:

Section 1: General Information

Project's Name: Pipe well construction		
End date of survey	Technical assistant:	Position:
Project Objective: Provide water supply to villagers for better health		
Sector: Economic	Project Type: Rural communication	
Infrastructure Project□	Service Project☑	Material Supply Project□
Outcome: Constructed 1 well,11m depths	Output of study: Constructed1 well, 11m	

		depth	
Budget Estimate		Budget Estimated: 3,350.00 USD	
Year	2013	2014	2015

Project Beneficiaries

N0	Name of Village	People of beneficiaries		Families
		Total	Women	
1	PeamKrasaob 1&2	1307	635	160
2				
Total		1307	635	160

Section 2: Responsibility and maintenance

Who are responsible to manage the water utilities and maintenance the project?	
Specialize Departments	□
Commune Councils	☑
Existing Utilizers Group	☑
Project Utilizers Group	□
Private Sector	□

Section 3: Environmental Impact

3.1	Is the commune vulnerable of environmental impact?	□
3.2	Is the project impact to natural and social environment?	□
3.3	Is the project impact to villagers' water resources?	□
3.4	Is it new road project outcome?	□
3.5	Is it the project outcome as a dyke, a new canal or a new reservoir?	□
3.6	Is it project outcomes a new canal for water way or a reservoir for water supply?	☑

Section 4: Climate Change Information

4.1	Is the project located vulnerable impact of climate change?	☑Yes□NO
4.2	If yes, what is the impact of climate change to the project?	☑Sea level rise☑ Seawater intrusion □Flooding ☑Drought ☑Storm surge
4.3	Does the climate change impact to water supply in PeamKrasaob 1&2 village?	☑Yes□NO
4.4	Is the proposed project related to adaptation of climate change?	☑Yes□NO
4.5	Does the project improve access to all year round of water supply?	☑Yes□NO
4.6	Does the project contribute to improving people's livelihoods?	☑Yes□NO

4. BUDGET ESTIMATE

This is the table of budget estimated for construction of 4 pipe wells

Located in Peam Krasaob 1 Village, Peam Krasaob Commune, Mondol Seima district, Koh Kong Province

No.	Activity	Resources	
		Project ($)	Contribution ($)
1	Design plan and prepare related documents	100$	0
2	Select contractor	0	0
3	Site clearing	0	50$
4	Remove existing concrete well	300.00$	50$
5	clearing and pumping water inside well	150.00$	0
6	Installing concrete wells and constructing terrace	2,800.00$	0
7	Cleaning site	0	50$
	Sub-total	3,350$	150$
	Grand total	3,400.00$	

Date: August 08, 2013

Approval:

Date: August 08, 2013

Surveyor: Commune councils

5. WELL TECHNICAL INFORMATION

1. General Information

Province: Koh Kong	District: Mondol Seima	Commune: Peam Krasaob 1&2	Code
Name of Project: Construct pipe well			
Name of Technical Assistant: Thouch Neang		Date: August 06, 2013	

2. Project Location

Are the wells located in which villages? Peam Krasaob 1&2	Description
X and Y of wells location 1. X: Y: 2. X: Y:	

3. Description Project

What is type of well?	
☑pipe well	□ Drilling well with pump
□Pump well	□ Multiple well
□Other wells	□ Well

4. Objective of project

Is the well use for? ☑in village□ at school□Health center□Others

5. Well users

If the well is located at village, please answer the question below:

Name of village	Population	Total Families	User families
Peam Krasaob 1&2		160	160
Total		160	160

If the well is located at school, please answers the questions as below:

How many rooms are there in the school?	
How many students are will use this well?	

6. Maintenance

Please tick one in the box	
Are the water users families agree to establishwater user's committee?	☑ No ☐ Yes

7. Water Resource

What types of the water resources has been used in the village?		
Water resources	Families users water	Distances
☑ Natural pond	160 families	1-5 km
□harvesting Raining Water		
□ Stream, River		
☑Well	160 families	
□ Pipe system		
Total	160 families	

8. Information of project location

Where are the sources of water and where is the direction to release water if it is flooded?

Who is the land owner of well location?	□Land owner's name ☑ Community

If well location is belong to private land, please answer question below:

Does the land owner agree?	□disagree ☑ agree

9. Existing Well

What kinds of existing well in the village?	
☑ Pipe well	Number of well: 1
□Drilling well	Number of well:
□Multiple well	Number of well:
Total	4

History or Well condition

Who is the owner of existing well?	
Is the well use for domestic or agriculture?	☑ domestic□agriculture
How is the depth of existing well?	5 m
How many families havehad use this well?	160 families
How is the water level compare to land level in dry season?	5 m
How is the water level compare to land level in raining season?	2.5 m
Does the well supply enough water to villagers annually?	☑ not enough □enough
What is the water testing, color and odor of existing well water? □ no tested □Salty □bitter ☑ clear water □not clear water □odors □ no odors	
What is the type of soil in well location?	
Depth	Type of soil
5-10 m	clay soil
10-15 m	Sandy soil with rock
Other wells information	□No information □Too many wells ☑ All most the same information

If selected drilling well, please select dynamic pump		
Condition	Types of pump	Choice
dynamic water level ≤ 7 m	Pump	□VNN0 6
dynamic water level from 0-30 m	Force pushing	□Abrades
dynamic water level ≥ 30 m	Force pushing	☑Need expert

6. PIPE WELLCROSS SECTION

7. USING PLAN AND MAINTENANCE

Commune: Peam Krasaob			**Description Project:** Pipe well			**Date:** 08/08/2013	
Management of Project: Commune council							
Action Plan				**Budget Plan**			
N0	Activities	Number	Implementation	Price		Budget Sources	Other required
				1 time	1 year		
2. Permanence Maintenance							
1	Cleaning	All times	CC&PPACC	No	No	Contribution	People
2	Excavation	All times		No	No	Contribution	People
3. Annual Maintenance							
1	Repairing well	2 time	CC&PPACC	70$	140$	CC&PPACC	
2	Cleaning well	1 time	CC&PPACC	80$	80$	CC&PPACC	
3	Water testing	1 time	Commune councils	300$	300$	PDoE	
Total Budget/1year					**520$**		

Date: August 08, 2013 Group User Water Date: August 08, 2013

Approval: Surveyor:

8. WORK PLAN

Work plan for construction of pipe well at Peam Krasaob 1 Village, Peam Krasaob Commune

N0	Description	Quantity	Month 1				Monitor
			w 1	w 2	w 3	w 4	
1	Remove existing pipes	18 pipes					Commune Council
2	Pump water & soil	34 m^3					Commune Council
3	Installing pipes	44 pipes					Commune Council
4	Paving sand & gravel	1.59 m^3					Commune Council
5	Fill earth & Compact	3.82 m^3					Commune Council
6	Install cover	4 pipes					Commune Council
7	Concrete &water way	48 m^2					Commune Council

Date: August 08, 2013

Name: YEM Yan

ANNEX 8

Investment Presentation

(Commune Format)

Name: Demonstration of Integrated Farming and Climate Change

Geographical Location: Tuol Kokir commune, Mondol Seima district, Koh Kong province.

Duration of Project Implementation:
The project started in January 2013 and will be completed in January 2014.

Description of Project:
Tuol Kokir commune is one of the target communes selected by the Coastal Adaptation and Resilience Planning Project (CARP) for implementation of Demonstration of Integrated Farming and Climate Change. This investment proposal was developed based on field studies as well as several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises of five main activities, namely farming system assessment and planning, demonstration of rice farming in integration with livestock (pig and chicken), aquaculture (tilapia), and vegetables, on-farm demonstration, farmer field schools, farmer field days and study tour, and training of local extension workers.

Farming System Assessment and Planning: This activity is conducted using agro-ecological system analysis to get an understanding of natural resource conditions including physical, economic and social resources for agricultural production systems and livelihood activities in the commune as well as to get an overview of current status and trend of agriculture/farming systems and livelihood activities and identify system resilience and climate change adaptation options in the agricultural production system.

Commune and village extension worker training: Training of extension workers is an important step following agro-ecological system analysis in order to refresh and adapt the training modules to the coastal conditions. A training workshop was organized in Kampong Som to train extension workers and government officers from departments and agencies. These people will pass on training modules and knowledge to farmers through farmer field schools. Attending the workshop will be participants from relevant central and provincial departments, district offices of Preah Sihanouk and Koh Kong provinces as well as 8 commune councils. 12 training modules were presented at the training workshop.

Farmer Field School (FFS): It is a field-based learning process where farmers are given training modules and share experiences on many aspects of agriculture and livestock techniques and management. A FFS consists of 16 sessions encompassing 5 modules (rice farming technique, vegetable farming, pig raising, chicken raising and fish rearing), where each session is conducted every week in each village. About 20-30 families from each village are invited to the FFS. A Farmer Field Day is organized following FFS sessions where farmers can learn about the actual progress and issues by visiting demonstration sites.

Demonstration of integrated farming techniques: This activity demonstrates integration of rice farming with other farming activities such as pig raising, chicken raising and aquaculture which allows for efficient management of agricultural inputs such as water conservation, energy conservation, and composting of manure in a closed system. As a result, farmers will increase productivity with less cost

and improved environmental quality. 2 families, one from each village of Prey Nop 1 and Prey Nop 3, are selected for demonstration of integrated farming. Besides, on-farm demonstration of individual techniques for rice farming, raising pigs, chicken raising, aquaculture…etc. is carried out as part of the FFS. 10 families are selected, two from each village, to demonstrate individual activities, such as rice farming or pig raising, based on the farmer's preference.

Farmer Field Day and Study Tour: A Farmer Field Day will be organized at the end of the harvest season to bring together farmers from all villages, government officers from the Prey Nop district and Preah Sihanouk province as well as members of the commune council and NGOs. The aim will be to evaluate the result of the on-farm demonstration of integrated, vegetable and livestock farming. In addition, a few farmers of the Prey Nop commune are selected to join a study tour to learn good practices of integrated farming from other provinces, possibly in Takeo or Kampong Speu province.

Support community micro-project and saving groups: This activity is designed to support farmers to form saving groups that maintain and manage revolving funds for benefit of members. The project has for each saving group provided an initial capital of US$ 4,000. Half of this amount is used to support micro projects such as business or rehabilitation of reservoir that benefits the whole group and the other half is used as micro-credit on an agreed interest rate to finance activities of individual members. A member of a saving group can be eligible for borrowing money on the condition that the group guarantees the repayment.

Objective:
The objective is to promote integration of crop, vegetable farming, livestock and fish raising as an option for increasing resilience and adaptive capacity of farmers to the impacts of climate change.

Implementation Agency:
Department of Agricultural Extension (DAE) is responsible for administration and implementation of the demonstration project.

Benefit recipient:
About 150-200 people comprising farmers, commune leaders, district and provincial authorities are expected to benefit directly and indirectly from the implementation of field demonstration activities and the learning exercise through farmer field schools.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning of Provincial Governor Office, District Agricultural Office, Commune Council as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
DAE and Provincial Department of Agriculture will have direct responsibility for management and support of this demonstration project until the end of December 2013, after which participating farmers and saving groups will continue application of integrated farming, vegetable farming, animal raising and aquaculture.

Budget: US$ 35,500

Wor kplan:

Investment Fiche

Investment Information					
Province: Koh Kong			Commune: Tuol Kokir		
District: Mondol Seima			Commune code:		
Section 1: General Information					
Project Name: Demonstration of Integrated Farming and Climate Change					
Date of completion of study: March 2013		Name of Technical Assistant: Mr.		Role of the Assistant: Agricultural Advisor	
Project Objective: The objective is to promote integrated farming techniques which are more adaptable to climate change.					
Sector: Economy			Project Type: Agriculture Technique and Training		
Infrastructure		Service		Material Supply	
Project result: Integrated rice farming with livestock, aquaculture, and vegetables and capacity improvement for farmers.			Design Planning after Study: No change.		
Estimated cost: US$ 35,500			Actual cost after study: US$ 35,500		
Year:	2013	2014	2015		
	January-December				
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Tuol Kokir Leu		30		30
2	Tuol Kokir Kroam		30		30
3	Tachat		30		30
4	Koh Chak		30		30
	Total		120		120
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					PDA and DAE
Commune Council					Yes
User groups					Farmers
User groups to be set up before project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No.				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				
3.3	Does the project cause damage to used water sources? No.				
3.4	Is the project result a new road? No.				

3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project located in a region vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).
4.2	Does the project directly address the impacts identified above in 4.1? Yes, it can address the flooding and drought.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? Yes, IFS can build adaptive capacity of farmers through cost saving and increased yields.
4.5	Does the project enhance resilience capacity to cope with climate change impacts? Yes, the farmers are trained on agricultural techniques, including farming, livestock, water conservation, pest management and efficient fertilizer application.
4.6	Does the project contribute to GHG emission? If yes, What measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, through higher yields, cost savings and improved livestock production.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in the training and direct demonstration activities.
4.9	Is the project likely to lead to changes in the employment structure of the area? Improved rice yields and livestock production enrich employment structure by encouraging more farmers to integrate livestock and vegetables with rice farming, creating job opportunities for extension workers and veterinarians.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No.

Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Study Information (perhaps no standard format)

General Information

Project Name	Integrated Farming and Climate Change
Province	Koh Kong
District	Mondol Seima
Commune	Tuol Kokir
Villages	
Commune code	
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	Selected plots in five villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Farming assessment and planning	Assessment of the current resources and opportunity for integrated farming
Training of extension workers	Extension workers, government officers and farmers
Field demonstration of integrated farming	2 plots are selected with size of 20X20m (Prey Nop 1 and 3)
On-farm demonstration of individual techniques	10 on-farm-demonstrations (2 per village) to learn specific elements of integrated farming such as farming, aquaculture, livestock, aquaculture…etc.
Farmer Field Schools	1 per village
Farmer Field Day and study tour	16 FFD and one big FDD after the end of the demonstration activity
Support micro-project and saving group	One saving group consisting of 20-25 members is set up in each village.

Objective

Who does this demonstration benefit?	Village: all villages School Health Center Others

Information on Beneficiaries

Village Name	**Number of People**	**Number of Families**	**Number of Beneficiaries**
Tuol Kokir Leu			30
Tuol Kokir Kroam			30
Tachat			30
Koh Chak			30
Total			120 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas		
Rice varieties		

Fertilizer application per ha		
Total productivity		
Percentage of farmers		

Investment Presentation

(Commune Format)

Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Geographical Location:Tuol Kokir commune, Mondol Seima district, Koh Kong Province.

Duration of Project Implementation:
The project started in February 2013 and will be completed by the end of March 2014.

Description of Project:
Tuol Kokir Heng commune is one of the target communes selected by the Coastal Adaptation and Planning Resilience Project (CARP) for implementation of Field Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties. This investment proposal was developed based on field studies and several consultation and prioritization meetings held during July-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises four main activities; field demonstration of combined agricultural techniques with shorter duration rice varieties (Phkar Romduol and Phkar Romeat), purification of rice varieties as well as field demonstrations of vegetables and farmer field days. Two field demonstrations for combined techniques and one field demonstration of purification will be conducted.

Field Demonstration of Combined Agricultural Techniques: This is a demonstration of agricultural techniques and rice varieties developed by CARDI. Five rice varieties are introduced including Phkar Romduol, Pkar Romeat, Cholsa, Sen Pidor, and Chan SenSo, of which Phkar Romduol and Phkar Romeat are short term rice varieties with potential yields of about 4-5 t/ha. The others are non-photoperiod varieties that can adapt to any planting season. Rice seeds, either Phkar Romduol or Phkar Romeat, are grown on a farming plot of 10 m wide and 30 m long. The plot is divided into three sections; each section has the area of 10 m by 10 m, where various agricultural techniques are applied. The first section employs the CARDI technique package (land preparation, transplanting, fertilizer application). The second section employs traditional practice with the same rice seeds provided by CARDI and the third sub-plot employs the traditional technique with a local rice variety (Jasmine rice or any). The combined techniques are tested to see if there are differences in yield outcome when traditional agricultural techniques and techniques developed by CARDI are employed and when local rice varieties and those developed by CARDI are used, respectively.

Field Demonstration of Purification of Rice Seed: Purification of rice seeds carried out by observing different stages of the crop growth cycle, namely at vegetative, flowering, and spikelet formation stages. The main principle of purification is that any seedling with abnormal growth, flowering or panicles should be removed entirely from the tested plot until uniform rice growth and pure rice panicles are achieved.

Field Demonstration of Vegetables: This demonstration activity will be carried out in December-March following the harvest of rice varieties tested. Vegetables are also cash crops that can supplement the income of farmers.

Farmer Field Days (FFDs): This is a field-based learning process, where farmers are brought together for training modules and to share experiences on many aspects of agriculture and livestock techniques and management. Three FFDs will be organized in August for participating farmers and one for larger groups during the rice harvest.

Objective:
The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.

Implementation Agency:
CARDI

Benefit recipient:
About 100 people comprising farmers, commune leaders and, provincial authorities are expected to benefit directly and indirectly from implementation of the demonstration activities and the learning exercise through FFD.

Partners and Relevant Stakeholders:
Provincial Department of Agriculture, Division of Investment Planning, District Agricultural Office and Commune Council as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
CARDI and Provincial Department of Agriculture will have direct responsibility for management and support of this demonstration project until March 2013, after which participating farmers will continue application of CARDI techniques, shorter duration rice varieties and vegetables.

Budget: US$ 5,500

Work plan:

Investment Fiche

<table>
<tr><th colspan="3">Investment Information</th></tr>
<tr><td colspan="2">Province: Koh Kong</td><td>Commune: Tuol Kokir</td></tr>
<tr><td colspan="2">District: Mondol Seima</td><td>Commune code:</td></tr>
<tr><td colspan="3">Section 1: General Information</td></tr>
<tr><td colspan="3">Project Name: Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties</td></tr>
<tr><td>Date of completion of study: March 2013</td><td>Name of Technical Assistant: Mr.</td><td>Role of the Assistant: Deputy Director</td></tr>
<tr><td colspan="3">Project Objective: The objective is to promote the use of shorter season rice varieties developed by CARDI that have higher yields than local rice varieties and are more adaptable to coastal conditions.</td></tr>
<tr><td colspan="2">Sector: Economy</td><td>Project Type: Agriculture Technique and Training</td></tr>
<tr><td>Infrastructure</td><td>Service</td><td>Material Supply</td></tr>
</table>

Project result: Short-term rice varieties and capacity improvement.			Design Planning after Study: No change.		
Estimated cost: US$ 5,500			Actual Cost after Study: US$ 5,500		
Year:	2013	2014	2015		
	January	March			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Tuol Kokir Leu		4		4
2	Tuol Kokir Krom		0		0
3	Tachat		0		0
4	Koh Chak		0		0
Total			4		4
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					CARDI
Commune Council					Yes
User groups					Farmers
User groups to be set up before project implementation					
Private sector					Yes
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				
3.3	Does the project cause damage to water sources for users? No.				
3.4	Is the project result a new road? No.				
3.5	Is the project result a new dam, new canals, or new reservoirs? No.				
3.6	Is the project result a new big channel for navigation or water supply? No.				
Section 4: Climate Change					
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3 & 4).				
4.2	Does the project directly address the impacts identified above in 4.1? Yes, it addresses the SLR, flooding, saline intrusion and strong winds by providing possibilities for harvesting before such impacts occur later in the year				
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).				
4.4	Does the proposed project reduce climate change impacts? The CARDI rice varieties can mature about 10-20 days earlier than the local rice varieties, and can thus be harvested before the onset of sea water intrusion in November.				
4.5	Does the project enhance resilience capacity to cope with climate change impacts? Yes, farmers are trained to apply shorter duration rice varieties and the CARDI technique package which will increase rice yields and reduce vulnerability to sea water intrusion in November.				
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.				
4.7	Does the project potentially contribute to increased income generation amongst				

	participants? Yes, through potential income from sale of vegetables plus higher rice yields.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Not specifically.
4.9	Is the project likely to lead to changes in the employment structure of the area? Improved yields and income could encourage more farmers to plant such rice varieties as well as vegetables, depending on land availability.
4.10	Does the project improve access to all year round potable water? No.
4.11	Does the project improve accessibility to/from the area as well as the ability of people to seek safety from extreme weather events? No.

Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties

Study Information (perhaps no standard format)

General Information

Project Name	Demonstration of Combined Agricultural Techniques and Shorter Duration Rice Varieties
Province	Koh Kong
District	Mondol Seima
Commune	Tuol Kokir
Villages	Tuol Kokir Leu
Commune code	
Name of Technical Assistant	
Date of Project Preparation	January 2013

Location

Where is the location of this project?	Selected plots in two villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Field Demonstration of combined agricultural techniques in three plots with size of 10X10m	Rice varieties: Phkar Romduol and Phkar Romeat
Field demonstration of rice seed purification	Rice varieties: Phkar Romduol and Phkar Romeat
Farmer Field Days	Number of days: 3 days
Demonstration of Vegetables	Tomato

Objective

Who does this demonstration benefit?	Village: yes. School Health Center Others:

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Tuol Kokir Leu			4
Tuol Kokir Krom			0
Tachat			0
Koh Chak			0
Total			4 (families)

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers

Current Rice Farming Practice (in case of water supply the questions are about existing use and source)

Year	**2012**	**2013**
Rice farming areas		
Rice varieties	Haivin and Red rice	
Fertilizer application per ha	UREA, DAP	
Total productivity		
Percentage of farmers		

Investment Presentation

(Commune Format)

Name: Climate Change Education, Awareness Building and Climate Resilience Irrigation Training

Geographical Location: Tuol Kokir commune, Mondol Seima district, Koh Kong province.

Duration of Project Implementation:
The project started in May 2013 and will be completed in December 2013.

Description of Project:
Tuol Kokir commune is one of the target communes selected by the Coastal Adaptation and Planning Resilience Project (CARP) for implementation of Climate Change Education and Awareness Building. This investment proposal was developed based on field studies as well as several consultation and prioritization meetings held during September-November 2012 with the Provincial Technical Working Group, Commune Councils and villagers. The proposed project comprises of three main activities, development of a teacher training manual and flipcharts, training of trainers, and conducting awareness raising in all villages of the commune. A specific training programme will be conducted in Prey Nob district and Toul Kokir concerning climate resilient irrigation.

Development of Teacher Training Manual and Flip charts: The training manual is developed for trainers containing 5 climate change topics: i) introduction to climate change; ii) the causes of climate change; iii) climate change impacts; iv) climate change adaptation; and v) climate change mitigation. The flipcharts consist of 19 drawings illustrating the same five topics with simple descriptions of climate change issues and responses. Save Cambodia Wildlife (SCW) is contracted to design the training manual and flipcharts and deliver the training of trainers.

Training of Trainers (TOT): This training is organized aiming to provide general knowledge on climate change adaptation and GHG mitigations using flip charts as training materials. The trainees are selected from provincial departments of environment, water resources and meteorology, agriculture as well as rural development in Preah Sihanouk and Koh Kong provinces. These trainees will then become extension workers who will conduct awareness building in each village of the target communes.

Awareness Raising: The officers who participate in TOT will conduct awareness raising in each village using the flip charts.

Climate Resilient Irrigation Training: Under the CARP, a specific module has been developed in climate resilient irrigation and a manual has been prepared in both Khmer and English. Training will be conducted for the Polder User Committee and commune councils in Prey Nob district and also for the commune council and farmers in Toul Kokir commune.

Objective:
The first objective is to build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts. The second objective is to provide training in climate resilient irrigation to these officers and other stakeholders in the target areas.

Implementation Agency:
The SCW and Department of Environmental Education are responsible for administration and implementation of this demonstration project concerning climate change awareness raising. The training in climate change resilient irrigation will be implemented under the CARP and in cooperation with Department of Water Resources and Meteorology.

Benefit recipient: 200 households will learn about climate change and climate resilience irrigation.

Partners and Relevant Stakeholders:
Provincial Environment Department, Commune Councils, Prey Nob Polder User Committee, Provincial Water Resources and Meteorology Department as well as the CARP are the main partners under this demonstration project.

Management and Sustainability:
Department of Education will have direct responsibility for management and support of this demonstration project until May 2014.

Budget: US$ 6,250

Work plan: (see the annex)

Investment Fiche

Investment Information					
Province: Koh Kong			Commune: Tuol Kokir		
District: Mondol Seima			Commune code:		
Section 1: General Information					
Project Name: Climate Change Education, Awareness Building and Climate Resilience Irrigation Training					
Date of completion of study: March 2013		Name of Technical Assistant:		Role of the Assistant:	
Project Objective: To build the capacity of provincial department officers to raise climate change awareness at commune level by use of flipcharts and provide training for them and other stakeholders in climate resilient irrigation.					
Sector: Climate Change			Project Type: Training		
Infrastructure		Service		Material Supply	
Project result: capacity building on climate change and climate resilience irrigation.			Design Planning after Study: No change.		
Estimated cost: US$ 6,250			Actual Cost after Study: US$ 6,250		
Year:	2013	2014	2015		
	February	January			
Beneficiary					
Number	Village Name		Beneficiary		Number of Families
			Total	Women	
1	Tuol Kokir Leu		40		40
2	Tuol Kokir Krom		40		40
3	Tachat		40		40
4	Koh Chak		40		40
Total					160
Section 2: Operation and Maintenance					
Who are the users and who is responsible for maintenance of the project?					
Line department					DEE, PDWRAM
Commune Council					
User groups					PWUC
User groups to be set up before roject implementation					
Private sector					
Section 3: Environmental Impact					
3.1	Is this commune located in a region vulnerable to environmental impacts? No				
3.2	Does the project cause environmental impacts on any location of environmental significance or cultural sites? No.				
3.3	Does the project cause damage to used water sources? No.				

3.4	Is the project result a new road? No.
3.5	Is the project result a new dam, new canals, or new reservoirs? No.
3.6	Is the project result a new big channel for navigation or water supply? No.
Section 4: Climate Change	
4.1	Is the project area vulnerable to climate change impacts (1. Flooding, 2. Sea level rise, 3. Saline intrusion, 4. Drought, 5. Storm surge/strong wind)? Yes (2, 3, 4 & 5).
4.2	Does the project directly address the impacts identified above in 4.1? No.
4.3	Is the proposed project related to adaptation (1) or mitigation (2)? Yes (1).
4.4	Does the proposed project reduce climate change impacts? Yes, indirectly by raising awareness of climate change at local level.
4.5	Does the project enhance the capacity to cope with climate change impacts? Yes.
4.6	Does the project contribute to GHG emission? If yes, what measures are taken to reduce GHG emission? No.
4.7	Does the project potentially contribute to increased income generation amongst participants? Yes, the climate resilient irrigation training may encourage farmers to grow additional crops and thereby increase their income.
4.8	How does the project address the issue of disadvantaged groups (e.g. women, disabled, elderly, children) who may be more affected by climate change/extreme weather? Women are encouraged to participate in awareness building.
4.9	Is the project likely to lead to changes in the employment structure of the area? No.
4.10	Does the project improve access to all year round potable water? No, but it might provide access to water for growing vegetable crops providing an alternative income supplement.
4.11	Does the project improve accessibility to/from the area and the ability of people to seek safety from extreme weather events? No.

Climate Change Education, Awareness Building and Climate Resilience Irrigation Training

Study Information (perhaps no standard format)

General Information

Project Name	Climate Change Education, Awareness Building and Climate Resilience Irrigation Training
Province	Koh Kong
District	Mondol Seima
Commune	Tuol Kokir
Villages	All villages
Commune code	
Name of Technical Assistant	
Date of Project Preparation	February 2013

Location

Where is the location of this project?	Selected families in two villages.
Coordinate X from GPS	
Coordinate Y From GPS	

Activities or Construction Requirement

Development of Training Manual and Flipcharts	SCW develops the flipcharts and training manual
Training of Trainers	Government officers from four line departments in Preah Sihanouk and Koh Kong
Conducting Awareness Building	All villages
Climate Resilience Training	Polder User Committee trained together with provincial staff

Objective

Who does this demonstration benefit?	Village: all villages School Health Center Others: PWUC

Information on Beneficiaries

Village Name	Number of People	Number of Families	Number of Beneficiaries
Tuol Kokir Leu			40
Tuol Kokir Krom			40
Tachat			40
Koh Chak			40
Total			160

If there is a school please answer the question below

How many class rooms?	
How many school children?	

Maintenance or sustainability

Who maintain or sustain these activities?	Farmers and PWUC

Key economic activities (in case of water supply the questions are about existing use and source)

Economic activity	**Number of family**	**Percentage**	
Fishing			
Farming			
Vegetable farming			
Animal raising			
Trade& selling			
Tourism			

Source: Commune Database, 2012

KINGDOM OF CAMBODIA

NATION RELIGION KING

Commune project proposal 2013

HARVESTING RAINING WATER RESERVOIR

VILLAGE : KOH CHARK

COMMUNE: TUOL KOKIR

DISTRICT: MONDOL SEIMA

PROVINCE: KOH KONG PROVINCE

CODE:

ACRONYMS AND ABBREVIATION

CC	: Commune Council
HRWR	: Harvesting Raining Water Reservoir
WUG	: Water User's Group

Contents

1. PROPOSE PROPOSAL

KINGDOM OF CAMBODIA

NATIONS RELIGION KING

MONDOLSEIMA DISTRICT
TUOLKOKIR COMMUNE
N0: TUOLKOKIR, DATE: August 08, 2013

CHIEF OF TUOL KOKIR COMMUNE
HIGHLY REQUEST TO
COASTAL ADAPTATION AND RESILIENCE PLANNING COMPONENT (CARP) UNDER CAMBODIA CLIMATE CHANGE ALLIANCE

Objective: Proposal for construction a reservoir for harvesting raining water in Koh Chak village, Tuol Kokir commune, Mondol Seima district.

People and students in Koh Chark village, Tuol Kokir commune face problem with shortage of freshwater every year in dry season. Because the geography of project area is located near to the sea (sea water intrusion). Facing with the shortage of fresh water supply, the villagers and commune council seek to donors for financial support for construction of a reservoir for harvesting raining water in Koh Chark village.

As we mention above, we respectfully request the Coastal Adaptation and Resilience Planning Component under Cambodia Climate Change Alliance to highly consider our proposal.

We appreciate and highly respect you and your consideration.

Chief of Commune

2. PROJECT BACKGROUND

1. Project name: Construct a reservoir for harvesting raining water.
2. Project location: Koh Chark (Salar Chhortien), Koh Chark village, Tuol Kokir commune, Mondol Seima district, Koh Kong province.
3. Project term: This project will take 4 weeks to complete.
4. Description project: Koh Chark village is located close to sea and face problem in term of storm surge, sea level rise, and draught; it causes villagers face with shortage of fresh water uses.
5. Objective: Provide fresh water to villagers in dry season.
6. Project implementation: Should construct with private company who has experiences many years in reservoir construction.
7. Beneficiaries: Villagers in Koh Chark village will get benefit from this project.
8. Development partners: Donors, provincial department of Rural Development Department, local authority.
9. Management: Villagers leader and commune council will maintain this well.
10. Budgets: Proposed budget 3,200.00USD (Three Thousand Two Hundred);
11. Action plan: As detail in the description project

3. LOCATION MAP

The map shows the project location of construction a reservoir for harvesting raining water in Koh Chak village, Tuol Kokir commune, Mondol Seima district, Koh Kong province.

4. DESCRIPTION PROJECT

Description Project	
Province: Koh Kong	Commune: Tuol Kokir
District: Mondol Seima	Commune's Code:

Section 1: General Information

Project's Name: Harvesting Raining Water Reservoir (HRWR)			
Date end of survey	Technical assistant:	Position:	
Project Objective: Water supply to villagers for better living condition			
Sector: Economic		Project Type: Rural communication	
Infrastructure Project□	Service Project☑	Material Supply Project□	
Outcome: Constructed a Reservoir		Output: Constructed a Raining water reservoir	
Budget Estimate		Budget Estimated: 3,200.00 USD	
Year	2013	2014	2015

Project Beneficiaries

N0	Name of Village	People of beneficiaries		Families
		Total	Women	

1	KohChark	212	118	325
2				
3				
4				
5				
Total		617		325

Section 2: Responsibility and maintenance

Who is responsible to manage utilities and maintenance the project?	
Specialize Departments	□
Commune Councils	☑
Existing Utilizers Group	□
Project Utilizers Group	□
Private Sector	□
	□

Section 3: Environmental Impact

3.1	Is the commune vulnerable of environmental impact?	□
3.2	Is the project impact to natural and social environment?	□
3.3	Is the project impact to villagers' water resources?	□
3.4	Is it new road project outcome?	□
3.5	Is it the project outcome as a dyke, a new canal or a new reservoir?	□
3.6	Is it project outcomes a new canal for water way or a reservoir for water supply?	☑

Section 4: Climate Change

4.1	Is the project located in a region of vulnerable impact of climate change?	☑Yes□NO
4.2	If yes, what is the impact of climate change to the project?	☑Sea level rise☑ Seawater intrusion □Flooding ☑Drought ☑Storm surge
4.3	Does the climate change impact to water supply in your village?	☑Yes□NO
4.4	Is the proposed project related to adaptation or mitigation of climate change?	☑Adaptation□Mitigation
4.5	Does the project improve access to water supply?	☑Dry season☑ Raining season
4.6	Does the project contribute to improving people's livelihoods?	☑Yes□NO

5. BUDGET ESTIMATE

This is the table of estimated budget for construction a reservoir for harvesting raining water

Located in Koh Chark (Salar Chhortien), Koh Chark village, Tuol Kokir commune, Mondol Seima district, Koh Kong province.

No.	Activity	Resource	
		Project	Contribution
1	Design plan and prepare related documents	50$	0
2	Select contractor	0	0
3	Site clearing	0	50$
4	Material transportation	500$	0
5	Foundation	950$	0
6	Installation of concrete pipe and PVC pipe	1,050$	40$
7	Cleaning site	0	20$
8	Roof covering net	0	50$
9	Fee of Labor force	700$	0
10	Monitoring	0	50$
Sub-total		**3,200$**	**230$**
Grand Total		***3,430$***	

Date: 23/08/2013 Date: 23/08/2013

Approval: KHIM Sanith, Commune Chief Surveyor:

6. TECHNICAL INFORMATION

1. General Information

Province: Koh Kong	Khan: Mondol Seima	Commune: Tuol Kokir	Code
Name of Project: Harvesting Raining Water Reservoir (HRWR)			
Name of Technical Assistant:		Date: August 22, 2013	

2. Project Location

Where is the location HRWR?	Description: Koh Chark village, Tuol Kokir commune.
X and Y of reservoir location X: Y:	

3. Description Project

What is type of reservoir?	
☑ Concrete reservoir	□House's roof reservoir
□Plastic reservoir	□Huge jug

4. Objective of project

What is the purpose of water supply? ☑in village (Sala Chhortien)□ at school □Health center □Others

5. Information of Users

If the raining water reservoir is located in village, please answer the question below:

Name of village	Population	Total Families	User families
Koh Chak	617	131	325
Total	617	131	325

If the raining water reservoir is located at school, please answer the questions as below:

How many rooms are there in the school?	5
How many students are will use this reservoir?	203

6. Maintenance

Please tick one in the box	
Who are responsible to maintain the raining water reservoir?	Villagers leader and commune chief
How many families will use raining reservoir?	131 families
Are the water users families agree to establish water user's committee?	□ No ☑ Yes

7. Water resource supply

What is the type of water resources has been used in the village?		
Water resources	Number of users	Distances
□ Natural pond		
☑Raining harvesting	325	
□Stream, River		at home
□Well		
□ Pipe system		
Total	325	

8. Project location information

Who is the land owner of project location?	□Land owner's name ☑ Group of water user

If the raining reservoir location is belonging to private land, please answer question below:

Does the land owner agree?	□disagree □ agree
Is the reservoir location in the flooding area?	□No ☑ Yes

If yes, please answer below:

Maximum of flooded depth:	Minimum of flooded depth:
Reason of flooding	□From river ☑ Heavy raining

Is there any existing well near the project location?	Please tick in the box	Number of wells: No
	□Digging well □Drilling well □Multiple well	

7. TECHNICAL CROSS SECTIONOF RESERVOIR

8. USING PLANNING AND MAINTENANCE

Commune: TuolKokir			**Description Project:** HRWR			**Date:** 08/08/2013	
Management of Project: Commune council							
Action Plan				**Budget Plan**			
N0	Activities	Number	Implementation	Price		Budget Sources	Other required
				1 time	1 year		
2. Permanence Maintenance							
1	Site Cleaning	All times	WUG	No	No	Contribution	People
2	Drainage	All times		No	No	Contribution	People
3. Annual Maintenance							
1	Cleaning reservoir	1 time	WUG	20$	20$	WUG	
2	Change water tap	1 time	WUG	100$	100$	WUG	
3	Change PVC pipes	1 time	Commune councils	80$	80$	CC	
Total Budget/1year					**200$**		

Chief commune: KHIM Sanith

9. WORK PLAN

Work plan for construction a reservoir for harvesting water in Koh Chark village, Tuol Kokir commune, Mondol Seima district.

N0	Description	Quantity	Week 1							Monitors
			day 1	day 2	day 3	day 4	day 5	day 6	day 7	CC/School director
1	Site clearing	20 m^3								CC/School director
2	Foundation	22 m^3								CC/School director
3	Colum (wooden) installation	40 colum								CC/School director
4	Compacting & concrete	26 m^3								CC/School director
5	Concrete beam & paving	4 m^3								CC/School director
6	Pipes Installation	50 pipes								CC/School director
7	Hose system installation	1 set								CC/School director

Date: 23/08/2013

Name: