

Promising practices in food security and nutrition assistance to vulnerable households in the Tonle Sap Region, Cambodia



PROMISING PRACTICES IN FOOD SECURITY AND NUTRITION ASSISTANCE TO VULNERABLE HOUSEHOLDS IN THE TONLE SAP REGION, CAMBODIA

Citation

This publication should be cited as: CGIAR Research Program on Aquatic Agricultural Systems. 2015. Promising practices in food security and nutrition assistance to vulnerable households in the Tonle Sap Region, Cambodia. Penang, Malaysia: CGIAR Research Program on Aquatic Agricultural Systems. Program Report: AAS-2015-03.

Acknowledgments

The study team would like to convey their deep appreciation to the staff of the organizations and agencies, the program managers and government technicians, and the many Cambodian community members who generously gave their time to provide the information in this report and participate in the field data collection activities. Their efforts to improve food security, nutrition and livelihoods, as well as to protect the environment and reduce shocks in their communities, are inspiring and humbling. Additionally, this study would not have been possible without the generous support of WorldFish, Caritas Cambodia and Catholic Relief Services.

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LIST OF ABBREVIATIONS

AAS	CGIAR Research Program on Aquatic Agricultural Systems
ADB	Asian Development Bank
AIDS	acquired immune deficiency syndrome
ATSA	Agricultural Technical Service Association
BCC	behavior change communication
CARD	Council for Agriculture and Rural Development
CEDAC	Cambodian Center for Study and Development in Agriculture
cm	centimeter(s)
COLPOG	Community Livestock Pass On Gift
CRS	Catholic Relief Services
ECOSORN	Economic and Social Relaunch of Northwest Provinces
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
HIV	human immunodeficiency virus
HKI	Helen Keller International
IDPoor	Identification of Poor Households
IRD	International Relief and Development
IRDM	Integrated Rural Development Module
NGO	nongovernmental organization
NSA	non-state actors
RACHA	Reproductive and Child Health Alliance
SORF	Support Organization to Rural Farmers
SRI	system of rice intensification
TSSL	Tonle Sap Sustainable Livelihoods Project
USAID	United States Agency for International Development
VERS	Village Emergency Referral System

EXECUTIVE SUMMARY

The CGIAR Research Program on Aquatic Agricultural Systems (AAS) seeks to reduce poverty and improve food security for many small-scale fishers and farmers who are dependent on aquatic agriculture systems by partnering with local, national and international partners to achieve large-scale development impact. This study on promising practices in food security and nutrition assistance to vulnerable households in the Tonle Sap region forms part of the preliminary research that informs AAS work in the highly productive Mekong Delta and Tonle Sap Lake floodplain. The study aims to identify and learn from promising practices that have had a positive impact on the food security and nutrition of vulnerable households in the Tonle Sap region. Food security and nutrition is defined in this document as the ability to acquire adequate food, to maintain adequate food production and to maximize food utilization for good nutritional outcomes.

Communities living around the Tonle Sap Lake and Tonle Sap River are among the most resource-poor and vulnerable groups in Cambodia, and their livelihoods are extremely sensitive to cyclical changes in productivity, driven by river flow, seasonal rainfall variations and other marine processes. In an attempt to address the challenges this situation generates for food security, the Royal Government of Cambodia and a large number of organizations have responded through the national Strategic Framework for Food Security and Nutrition 2008–2012. Interventions have been geared towards increasing its five strategic objectives: food availability, food access, utilization of food in food-insecure households, the stability of these households, and enhancing the policy and institutional environment around food security initiatives.

To gain an understanding of promising practices addressing food security and nutrition in the five provinces of the Tonle Sap region, this study asked two thematic questions:

- Which organizations have worked on food security and nutrition programs or projects, in what capacity, and where?
- What approaches appeared to be sustainable and are linked to positive outcomes for households vulnerable to food and nutrition insecurity?

The study team undertook meetings with various international and local nongovernmental organizations (NGOs), government agencies, and local authorities; reviewed past project final reports and evaluation reports; interviewed organization beneficiaries; and held a joint workshop with food security and nutrition experts. Of the 11 organizations examined that were involved in the funding or implementation of food security and nutrition projects in the Tonle Sap, 7 projects were selected as having successful outcomes and were the subject of further in-depth analysis. Specific promising practices that were identified are listed in Box 1.

Box 1. Promising practices identified through the analysis of seven food security and nutrition projects implemented in the Tonle Sap region

Project design and targeting

- Conducting a feasibility study prior to the project startup ensures effective and sound program design.
- Beneficiary selection using participatory rural appraisal combined and cross-referenced with the government Identification of Poor Households (IDPoor) system is an effective way to target the resource-poor and very resource-poor.

Monitoring and evaluation

- Three sets of indicator measurements—poverty level, food security, and adoption and dissemination rates—are the minimum needed to compare food security and nutrition program baselines and endlines.
- A routine monitoring and evaluation system allows projects to track and report their results while also adapting to unforeseen events.
- Use of a garden classification system allows farmers to choose appropriate gardening tools and techniques that match their needs and abilities.

Capacity building

- Customized Integrated Rural Development Module training packages allow interventions to have a standardized training system while adapting to the needs and reality of the farmer beneficiaries.
- Utilization of model farms is an effective teaching methodology (learning by doing) that takes into consideration the realities of the beneficiaries.
- Exchange visits are a low-cost and effective way to provide opportunities for farmers, farmer promoters and farmer leaders to gain additional experience and to observe successful techniques both on system of rice intensification (SRI) production and group management.
- Effective capacity building of community-based organizations empowers them to confidently connect to local government funding mechanisms (in this context, the commune investment plan process).
- Equipping local NGOs and community-based organizations with additional tools beyond the scope of the project becomes an important asset for local NGO institutional preparedness after the program.

Behavior change communication approach

- The positive deviance or hearth model successfully contributes to the reduction of child malnutrition and promotes child development.
- Mass communication strategies (awareness campaigns) combined with peer-to-peer education (one-to-one education) produce notable results.

Farmer and community groups

- Use of farmer promoters and farmer leaders is a very promising way to disseminate skills and new practices to other farmers.
- Farmer networking promotes and provides knowledge, influence and opportunities (market, business, etc.) for farmers.
- Community development associations ensure knowledge transfer, monitoring and sustainability.

Contribution and connection to the national Strategic Framework for Food Security and Nutrition and other development agendas

- Working within the scope and structure of the local government permits the project to be more effective in promoting food security and nutrition.
- Official recognition by existing government mechanisms of a new group formed through a project is crucial for group member motivation and performance.
- Connections between project activities and existing government mechanisms are key to sustainability.
- Linking with the participatory village or commune action plan is an effective practice to promote beneficiary participation and project ownership.

Integrative approach

- Holistic approaches combining nutrition education with food security and water and sanitation interventions are powerful means to improve the nutritional status of children.
- An integrated farming system produces longer-term change and impact on household life.
- Access to better-quality food and a clean water supply improves household nutrition and hygiene practices.

Other specific promising interventions

- Reduction in use of chemical fertilizers and pesticides among project beneficiaries is an important aspect to be included in any food production program.
- Access to loans from saving groups increases the ability of resource-poor families to pursue an additional source of income and undertake income-generating activities.

Background and context of study

Cambodia's food security and nutrition context

In Cambodia, 18% of households experience food insecurity.¹ The 2010 Global Hunger Index rated Cambodia's food security situation as "alarming" (20.9).² In addition, Cambodia ranks 124th out of 169 countries in the Human Development Index with a score of 0.494, which places the country below the East Asia and Pacific average of 0.650.³ The malnutrition rate is very high, with 28.3% of the population underweight. This is more than 11 times the rate of a healthy population (2.5%).

Communities living around the Tonle Sap Lake are among the most resource-poor and vulnerable groups in the country due to multiple constraints limiting their ability to harness the area's resources in the form of improved food, nutrition and income. However, the aquatic agricultural system that their livelihoods depend on is highly productive and has strong potential if provided with well-targeted investments.

The Royal Government of Cambodia and a large number of organizations responded to this "alarming" situation via the national Strategic Framework for Food Security and Nutrition 2008–2012, which includes the following goal: "By 2012, poor and food-insecure Cambodians will have substantially improved physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs (and food preference) for an active and healthy life." Interventions have been geared towards increasing the four strategic objectives, which constitute the four dimensions of food security and nutrition:

- food availability
- food access
- food use and utilization
- the stability of each dimension.

CGIAR Research Program on Aquatic Agricultural Systems

The CGIAR Research Program on Aquatic Agricultural Systems (AAS) seeks to overcome constraints and harness the full development

potential of aquatic agricultural systems in selected countries, including Cambodia. As part of the preliminary work for AAS, Catholic Relief Services (CRS) and WorldFish in Cambodia gathered information on what organizations have previously done in the Tonle Sap region. The research focused on which projects and practices successfully increased the communities' ability to harness their strengths to improve food security and nutrition.

The information gathered will contribute to the AAS in Cambodia research context and research questions. Promising practices identified within this study will also contribute to shaping future project strategies for improving the food, nutrition and income of the resource-poor and vulnerable segment of the population living in aquatic agricultural systems.

Scope of study

The purpose of this study was to identify and learn how and why certain practices have had a positive impact on Tonle Sap households' food, nutrition and income.

There were two specific objectives under this study:

- To map out food security and nutrition interventions' achievements in the Tonle Sap region. (What are the interventions? What are the outcomes of the different interventions on households' food security and nutrition?)
- To understand how and why promising interventions have generated positive impacts on household food security and nutrition.

Success of each approach and process was to be measured according to the improvement or positive change in any or all of the following impact-level food security and nutrition indicators seen at community level:

- food acquisition: annual patterns of income source, income level and food acquisition strategies;
- food production: annual patterns of food production, food production practices, diversity of produce, production yield and marketing;

- food consumption patterns: dietary diversity (as an indicator of intake of nutrients and calories), intra-household food allocation and annual patterns of food consumption;
- coping mechanisms to sustain food security and nutrition: vulnerability to disasters and ability to cope with shocks.

Study methodology and process

This study was carried out by CRS Cambodia in collaboration with Caritas Cambodia, along with two consultants (one international and one local). The methodologies and processes are described in the following section.

Methodology

- **Literature review coupled with individual meetings with various NGOs and government institutions.** Relevant literature was reviewed and meetings were organized to obtain information in relation to relevant projects implemented. (See Annex A and Annex J.)
- **Consultative workshops.** Workshops were carried out with various NGOs and government institutions in order to clearly define the criteria for positive outcomes on food security and nutrition.
- **Interviews with project field staff.** Two field staff were selected and interviewed for each project. In total, eight project field staff were interviewed (Annex B).
- **Individual interviews with project beneficiaries.** Ten beneficiaries in each project were selected to participate in individual interviews. In total, 67 farmers were interviewed (Annex D).
- **Focus group discussions with project beneficiaries.** Two focus group discussions with farmers (one male group and one female group, where possible) were conducted in each selected project. In total, there were 14 focus group discussions (10 female groups and 4 male groups) with 155 participating farmers, including 109 females (Annex C).

Process

Step I: Literature review

The first step in the study was a thorough literature review of existing interventions that responded to at least one of the four dimensions of food security and nutrition. The study team consulted the Cooperation Committee for Cambodia (local NGO) directory,

the Food Security and Nutrition Network list and the International NGO Forum to identify both past and current food security and nutrition projects aimed at communities living in the five provinces around the Tonle Sap Lake: Kampong Thom, Siem Reap, Battambang, Pursat and Kampong Chhnang.

This exercise generated a preliminary matrix of 14 main donors and organizations⁴ that provided funding for and implemented 17 different projects in the target region. The matrix included each project's objectives, strategic approaches, processes and key achievements. (See food security and nutrition intervention matrix for further details.) Available progress, annual and evaluation reports were also collected in order to analyze each project's strategies and outcomes.

Step II: Interviews with organizations and government agencies

The study team met with international NGOs, national NGOs, government agencies and local authorities that had implemented food security and nutrition interventions in the Tonle Sap region. The main purpose of these individual meetings was to gather further information and feedback from program managers. The study team developed an appreciative inquiry questionnaire (Annex A) to collect perceived successful practices and lessons learned from projects that contributed to positive outcomes on household food security and nutrition.

The study team arranged individual interviews with the following 14 organizations and government agencies with food security and nutrition expertise in past and current food security and nutrition projects in the Tonle Sap region (Annex J):

- Council for Agriculture and Rural Development (CARD)
- The Department of Local Administration of the Ministry of Interior; executive agency of the Tonle Sap Sustainable Livelihoods Project (TSSL), funded by the Asian Development Bank (ADB)
- Department of Agriculture Extension; Ministry of Agriculture, Fishery and Forestry
- Maternal, Newborn and Child Health Department; Ministry of Health
- Food and Agriculture Organization of the United Nations (FAO)

- ActionAid Cambodia
- Agricultural Technical Service Association (ATSA)
- Oxfam America
- Caritas Cambodia
- Helen Keller International (HKI)
- Srer Khmer
- Cambodian Center for Study and Development in Agriculture (CEDAC)
- World Vision International

Step III: Participatory workshop with food security and nutrition experts

These individual interviews culminated in a consultative workshop organized on 4 December 2012 with participation from 24 food security experts. The objective of the workshop was to present the draft intervention matrix and define a set of criteria for selecting promising food security and nutrition interventions for potential field verification. These criteria were used to categorize, screen and select projects for field data collection. (A list of workshop participants can be found in Annex K.)

After verifying the contents of the preliminary food security and nutrition intervention matrix, participants reviewed the four dimensions of food security and were asked to list known interventions that were applicable to each dimension. Groups were then asked to complete the list with organizations that had worked in the Tonle Sap region using one or more of these different interventions in a current or past project. The interventions and organizations cited in this portion of the workshop were used to supplement the preliminary food security and nutrition matrix and identify organizations and institutions that had not yet been interviewed. All organizations that were suggested were included in the final matrix.

The second portion of the consultative workshop was dedicated to developing a set of criteria listing key outcomes (in each dimension) that define “success” of food security and nutrition programs. The criteria (Box 2) were established through small group brainstorming followed by plenary discussion and agreement. Organizations were divided according to their area of expertise. These criteria were later applied to each project in the food security and nutrition matrix in order to identify which projects would be selected as having positive impacts on household food security and nutrition.

Step IV: Selection of and data collection from projects with positive outcomes

The study team met on 12 December 2012 to review and select projects for field verification based on the results of the literature review and the food security and nutrition criteria developed in the workshop.

Participants at the meeting agreed that no single intervention could ensure the complete food security and nutrition of resource-poor households. Most food security and nutrition projects combined a variety of activities that addressed the multiple dimensions of food security. The selection process was furthered by comparing interventions that differed in terms of the type of households selected, selection criteria, geographical conditions, households’ absorption capacity, type and frequency of inputs, and/or project duration.

In an effort to mitigate these differences, the study team decided to consider projects that targeted the most resource-poor and vulnerable in aquatic agricultural systems in the Tonle Sap region, that had been in implementation for at least 2 years, and that involved at least two dimensions of food security and nutrition. Project beneficiaries would then be able to indicate which interventions were most appreciated at the household level. As such, seven projects were selected for further field study (Annex G).

Study data collection tools included individual interviews with project beneficiaries (Annex D) and focus group discussions with male and female beneficiaries (Annexes C and E).

Study participants were identified through random selection from the list of project beneficiaries provided by the organizations. The questionnaires created for the beneficiaries asked them to outline how they participated in the project, detail the most significant changes noted in their household food security and nutrition since the project began, and describe how such changes developed over time.

Data collection was conducted in 10 villages. (A detailed list of the location and number of participants in the focus group discussions and individual interviews with project beneficiaries can be found in Annex H.) Eight NGO field

Box 2. Selection criteria of food security and nutrition projects with positive outcomes, developed at the consultative workshop on 4 December 2012

Criteria for successful interventions that address the physical **availability** of food:

- sustained, increased crop yield
- period of food shortage reduced
- increased number of farmers applying the new agricultural technique (e.g. seeds now stored according to model demonstrated)
- intervention not undermining natural resources
- increased amount of food for household consumption
- increased household ownership of production.

Criteria for successful interventions that address economic and physical **access** to food:

- increased household income (especially for landless households)
- intervention well adapted to local context (cross-cutting criteria)
- local market accessibility created and/or increased
- access to and control over diversified food sources (fisheries, forestry, markets, etc.).

Criteria for successful interventions that address food **use** and **utilization**:

- improved nutritional status of family members
- increased understanding of nutrition (food safety, diversified and balanced food sources, food storage)
- positive behavioral change observed at household level (use of available natural and nutritious foods, cooking practices, food handling and storage, hygiene and hand washing, location and use of latrine)
- improved quality and quantity of water available for household use.

Criteria for successful interventions that address the **stability** of the other three dimensions over time:

- functioning and accessible community safety net in place for vulnerable households
- increased community and household capacity to adapt to and to cope with impact from climate change
- decreased community and household vulnerability to shocks
- intervention adopted in a sustainable manner.

staff, their supervisors, and two members of the Kampong Kleang Commune Council were interviewed. The average age of focus group discussion participants was 41 years old, while the average age of individuals interviewed was 43 years old. The majority of those interviewed had little or no primary school education and worked in occupations related to their aquatic agricultural system environment, such as rice farming, home gardening, and raising cattle, pigs, poultry and/or fish.

Step V: Field data analysis workshops

Field data analysis was organized in two stages (24 January 2013 and 18 March 2013) by the study team. The workshops aimed at identifying which interventions had the most positive outcomes based on what was

included in project documents and what was learned during the focus group discussions and individual interviews. The team also discussed why and how those interventions had achieved the positive results observed.

Step VI: Preliminary results sharing and feedback

A second consultative workshop was held on 29 March 2013 to present the preliminary results of the literature review, interviews with food security and nutrition experts, and field data verification (participant list in Annex L). During this workshop, participants were given the opportunity to supplement the matrix of food security and nutrition interventions in the Tonle Sap region, as well as comment on the preliminary findings. The main suggestions

from the workshop participants were to conduct further analysis of project documents (to specify outcomes) and to include more analysis of projects targeting food use and utilization (nutrition). Recommendations of the workshop participants are included in this report.

Step VII: Further document review, final analysis and report writing

The study team met with the selected organizations in order to gather more detailed information about the outcomes of the selected projects and more understanding of what approaches could be attributed to the positive outcomes from the time each project was designed until it ended. Promising practices were then identified and documented. Draft section reports about each project were shared with each organization to ensure accuracy and correct articulation.

Two main documents were produced as part of this study: (1) an Excel spreadsheet of Tonle Sap food security and nutrition interventions; and (2) this written report, outlining the promising practices identified in each project.

MAPPING AND MATRIX OF FOOD SECURITY AND NUTRITION PROJECTS IN TONLE SAP

The map in Figure 1 is the result of the literature review, the meetings with different organizations and the consultative workshops. In total, there were 17 food security and nutrition projects implemented in the five target provinces (Battambang, Siem Reap, Kampong Chhnang, Kampong Thom and Pursat) in the Tonle Sap region during the last 5 years.

Using the classification of the four dimensions of food security and nutrition, the Excel spreadsheet in Annex M provides detailed information specifying funding organization, implementing agencies, project location, project objectives, strategic approaches, key achievements, targeting criteria, beneficiaries, geographic scope (commune, villages, etc.) and contact person details (Annex M).

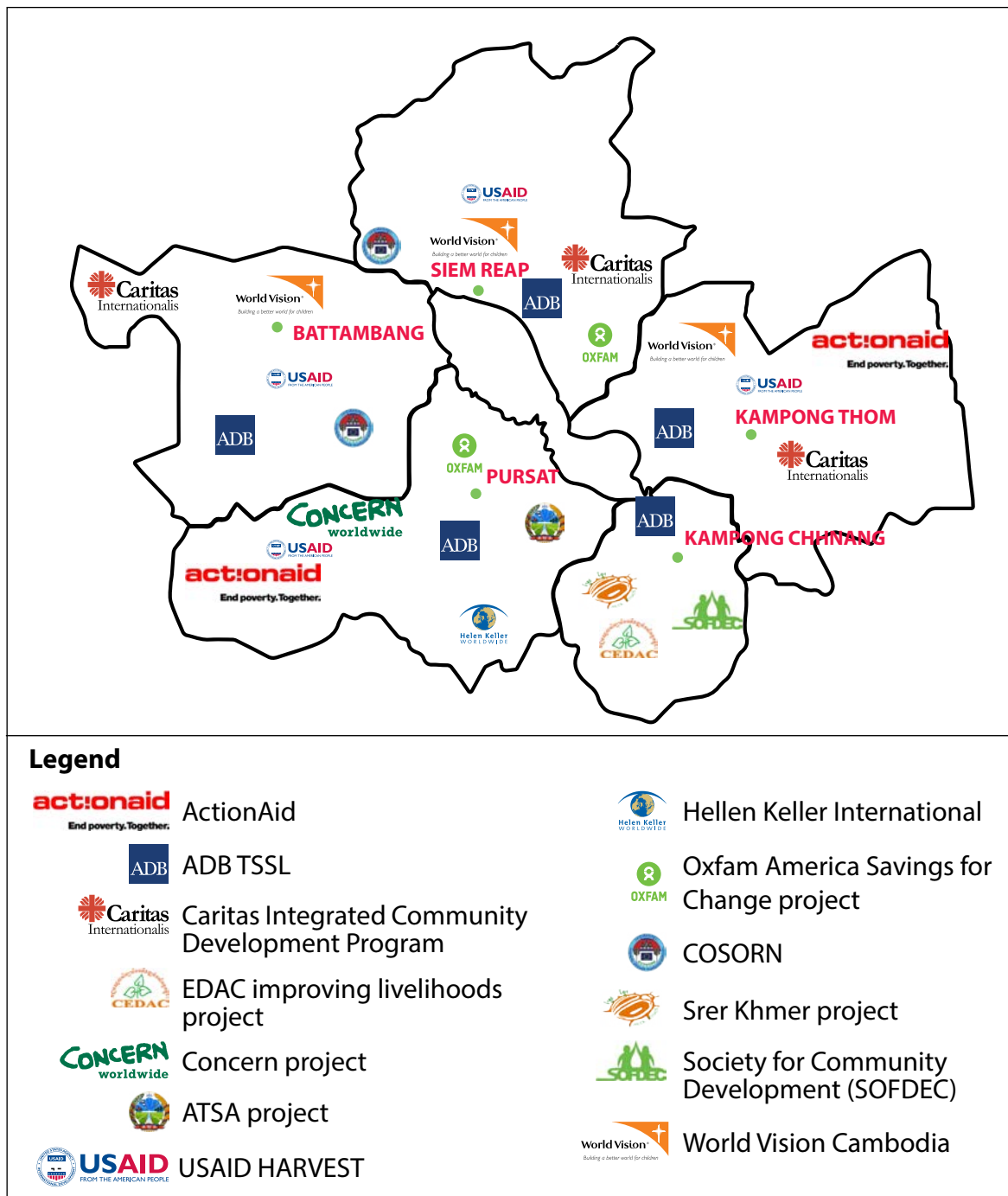


Figure 1. Map of food security and nutrition projects in the Tonle Sap region during the last 5 years.

PROMISING PRACTICES

The study team carried out an analysis of the seven selected projects implemented in the Tonle Sap region, based on the results of program report documents, interviews with program managers and government agencies, and beneficiary feedback collected during the field visits. Along with looking at each

intervention's strategic approach, the team evaluated its effectiveness, as well as how and why the approach produced positive outcomes. Most projects in this study focus on one or two of the four dimensions of the food security and nutrition framework; therefore, in this report findings are organized along these dimensions.

Interventions addressing the dimensions of food access and food availability: Strengthening Community Development and Local Governance



Location:	Pursat Province
Funding organization:	Concern Worldwide
Implementing organization(s):	Support Organization to Rural Farmers; Ponleu Kumar Organization
Project period:	January 2011–December 2012
Goal:	To support the achievement of Cambodia's Millennium Development Goal 1 (Eradicate extreme poverty and hunger) through participatory community development processes.
Objective(s):	To promote the development interests of the poorest of the poor in 100 villages in Pursat Province and increase their representation and participation in the development process, leading to the following results: <ul style="list-style-type: none"> • The poorest have a voice in their communities and have effectively participated in the local planning process within the government's framework of the National Program for Sub-National Democratic Development. • Community-based institutions have increased their capacity to support livelihood improvements of their members. • Target communities have developed community-based social safety net mechanisms to support the poorest households during critical food hunger periods. • Local NGO partners have improved capacity to resource and implement community development initiatives.
Direct beneficiaries:	5 districts, 25 communes and 100 villages; 39,129 people (17,608 women and 21,521 men)
Indirect beneficiaries:	15,060 people (8283 women and 6777 men)

Promising practice: At the beginning of the project cycle, beneficiary selection using a participatory rural appraisal approach, cross-referenced with the government IDPoor system, is an effective way to target the resource-poor and very resource-poor.

Description

Excellent targeting is a key to successful development projects. In this project, Concern Worldwide used a combination of two systems: the government IDPoor system and the wealth ranking method.

The IDPoor program is led by the Ministry of Planning in collaboration with the Department of Local Administration of the Ministry of Interior. The overall objective of the IDPoor program is to officially mandate national standardized procedures for identification of resource-poor households and to use these systems throughout Cambodia.⁵

The wealth ranking method is part of the participatory rural appraisal approach, which by definition “emphasizes local knowledge and enables local people to make their own analysis”⁶—in these cases, making their own selection of the resource-poor and very resource-poor.

Through the facilitation of Concern project staff, a group of local community members established the selection criteria, reviewed the IDPoor list for each location, identified those who were not on the list, and made the final decision on who fulfilled the criteria of resource-poor and very resource-poor in the project location. Local community members regrouped the villagers, members of the village association, local leaders and staff from the local implementing NGO.

This cross-referencing between existing systems, combined with a systematic review with the full participation of key local stakeholders (community members, local implementing community-based organization or NGO, and funding agency) is an efficient beneficiary selection process.

Evidence and outcomes

Because Concern’s target population in this particular project was the resource-poor and

very resource-poor, the selected interventions were geared towards improving the life of this particular target population. Households with a higher socioeconomic status were not included. The impact on the target population was very positive.

The project’s endline survey indicated an improvement in household food security among the resource-poor in the village. Concern demonstrated the change through a wealth-ranking exercise conducted during the final evaluation in October 2012. Significant changes in the livelihood status of the resource-poor and very resource-poor families were noted.

Additionally, a larger improvement was noted in the food security of female-headed and more resource-poor households than in that of better-off families. These results indicate effective targeting.

Promising practice: Official recognition by existing government mechanisms of a new group formed through a project is crucial for group member motivation and performance.

Description

The Concern Worldwide project did not only implement integrated farming activities, but also established community fisheries, forestry and self-help groups, as well as a village association. These newly established groups received training on natural resource management, along with other food security and nutrition trainings, in accordance with the project focus. The trainings assisted villagers to pursue multiple sources of income, get loans for small businesses or for coping with shocks, and protect their natural resources and the natural resources of the whole area. Another reason for the training was to help villagers gain national recognition.

Evidence and outcomes

The project has successfully advocated for official governmental recognition of the role of community forestry and community fisheries organizations in preserving natural resources, thereby connecting project interventions with existing government mechanisms. The organizations all gained recognition from the provincial and national authorities.

Promising practice: Effective capacity building of community-based organizations empowers them to confidently connect to local government funding mechanisms (in this context, the commune investment plan and commune development plan process).

Description

As a result of Concern Worldwide trainings, mentoring and support on food security programs, community-based organization members developed self-confidence and were empowered to speak up to advocate for their needs and rights as community members.

Evidence and outcomes

The Concern project report clearly stated that the participation of resource-poor villagers in the local political process had improved. The improvement was achieved not only in terms of plans developed and meetings attended, but also in terms of the confidence shown by beneficiaries in their interaction with commune authorities, and in their ability to advocate for their concerns within existing government processes.

Promising practices: Equipping local NGOs and community-based organizations with additional tools beyond the scope of the project becomes an important asset for local NGO institutional preparedness after the program.

Description

Concern worked with four local organization partners (Support Organization to Rural Farmers, Ponleu Kumar, Anakot Kumar, and Environmental Protection and Development Organization). They are all based in the target provinces. Concern placed importance on reviewing who does what and how together with the four organizations so that everybody's actions were coordinated within the project. From the beginning of the project, each organization had a clearly, jointly defined role and scope.

Concern provided additional refresher training and support to the four local partner NGOs. Although the focus of the project was on food security and nutrition, they also received training on disaster risk reduction, human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS), gender

mainstreaming, and meeting facilitation skills, which were topics requested by the NGOs.

Concern also provided orientation and regular updates to the local NGO partners on relevant policy changes (e.g. the National Program for Sub-National Democratic Development 2010 and the National Forestry Program). According to their needs, they also received orientation on cooperative development. This orientation allowed the local NGO staff to understand and set their own strategy to complement the government plan.

Before the end of the project, each organization received support to define a clear sustainability strategy for community development in its target areas.

Evidence and outcomes

Each organization successfully developed and submitted new proposals for other funding after its contract ended with Concern. This demonstrates an increased institutional capacity and ability to mobilize funding.

Concern found that working with the four partners with clearly established and agreed responsibilities created harmony and helped avoid duplication during implementation. This contributed to the project's effectiveness.

Concern Worldwide project strategic approaches

Selection of project beneficiaries based on participatory rural appraisal and government IDPoor system. The resource-poor and most resource-poor households and beneficiaries were identified using participatory rural appraisal tools. The identified households were agreed upon by the village association, local NGOs and Concern staff, and then cross-referenced with results from the government IDPoor system.

Integrated farming approach. The project provided a variety of on-farm activities that reinforced one another; for example, system of rice intensification (SRI), home gardening, and rearing fish, poultry and pigs.

Establishment of community-based organizations. The community forestry, community fisheries and village associations received training on natural resource



Self-help group established by Concern Worldwide project.

management, which helped them gain national recognition and protect their natural resources.

Rehabilitation of irrigation system. As part of the project, the irrigation system (spillway) was rehabilitated through cash-for-work activities, thus reducing seasonal labor migration.

Off-farm activity support. In an attempt to diversify the income of the project beneficiaries, the project supported off-farm activities for the landless population (e.g. small and mobile shops and income-generating activities, such as making cakes or handicrafts for sale.)

Social safety net for resource-poor and vulnerable groups. The project also supported social safety nets (e.g. rice banks and social protection committees to raise public funds to support the poorest of the poor, such as those with chronic illness and without family).

Predetermined partner roles and partner capacity building. Concern's project worked through four project partners, which necessitated defining the role and scope of each organization in advance to ensure project effectiveness. Additionally, the four local partner NGOs received refresher training and support on disaster risk reduction, HIV/AIDS, gender mainstreaming, meeting facilitation skills, and orientation on relevant policy changes and cooperative development. Each partner defined a clear sustainability strategy for community development in its target areas and also developed and submitted proposals for external funding.

Concern Worldwide project outcomes **Improvement in household food security.**

The project's endline survey indicated an improvement in household food security from before the project began. A larger improvement was noted in the food security of female-headed and more resource-poor households than in better-off families, which indicates good targeting and gender awareness.

Based on the results of a wealth-ranking exercise conducted during the final evaluation in October 2012, significant changes in the livelihood status of the resource-poor and most resource-poor families were noted. Results showed that 34% of households had moved up one or more wealth categories, 9% had moved down, and 57% had remained the same. The success of the project's income-generation activities, diversification of livelihoods, and access to capital were all cited as reasons for the improvement. Moreover, midterm review and value chain study assessments pointed to technical training and expansion of enterprise scale as the main factors leading to increased income.

The average period of food insecurity experienced by households in 2010 was 4.4 months, compared to an average of 3.03 months per household found in the 2012 survey. By the project's end in 2012, far fewer households were found to experience food insecurity for 5 months or more than in 2010. In addition, in 2012 no households reported food insecurity for 10 months or longer. Figure 2 shows the frequency of households suffering food insecurity in 2010 versus 2012. The distribution pattern of food

insecurity found in 2010 and 2012 was similar, with the majority of food insecurity occurring in the months of August, September and October. As in the 2010 survey, the incidence of food insecurity in 2012 built gradually after the main rice harvest. Food insecurity levels then increased sharply, peaking in September, before declining as the main rice harvest began again.

Capacity development of local institutions.

The project established a rice bank, community forestry committee, market coordination team, self-help group and community fisheries organization. The capacity of the community-based organizations varied by type, with rice banks and community forestry management committees demonstrating positive results, and market coordination teams showing the weakest results. The village associations' capacity also varied, but all groups showed strong motivation and reasonable administration skills. Self-help groups also varied widely in capacity, but those with strong cohesiveness demonstrated good sustainability.

Improved political participation of resource-poor villagers. Project documentation indicated that improved community participation in the local political process had been achieved not only in terms of plans developed and meetings attended, but also in terms of beneficiaries' confidence in their interaction with commune authorities and in their ability to advocate for themselves within existing government processes.

Social safety net for the resource-poor and vulnerable. The project included a social protection component with the following indicator: By the end of the project, 80% of the

destitute, as defined in the baseline, will receive social protection support. This objective was met through the development of rice banks and food distribution schemes and the work of village-level social protection committees. However, the number of destitute and disadvantaged poor was small, and there were doubts about the sustainability of the scheme.

Beneficiaries' perception of Concern Worldwide project effectiveness

The study team visited two project sites of Concern Worldwide's Strengthening Community Development and Local Governance in Pursat Province (funded by European Union [EU] non-state actors [NSA]). As part of this project, villagers were empowered to participate constructively in local planning to get their concerns and issues included in the local investment process. Additionally, food security and nutrition project activities included integrated farming with an emphasis on SRI and improvement of the village's irrigation system.

Beneficiaries appreciated the increased variety of foodstuffs in their daily diet. Due to the project, they now had vegetables from their home gardening and chicken and eggs from chicken raising to supplement their traditional diet of rice. Also, families who previously did not have sufficient rice throughout the year could now sell chickens, eggs and/or vegetables to buy rice for home consumption. When asked which food security and nutrition-related intervention had most impacted their lives, the beneficiaries most appreciated the knowledge of SRI techniques, with chicken raising also being mentioned frequently due to the small amount of land and other inputs needed.

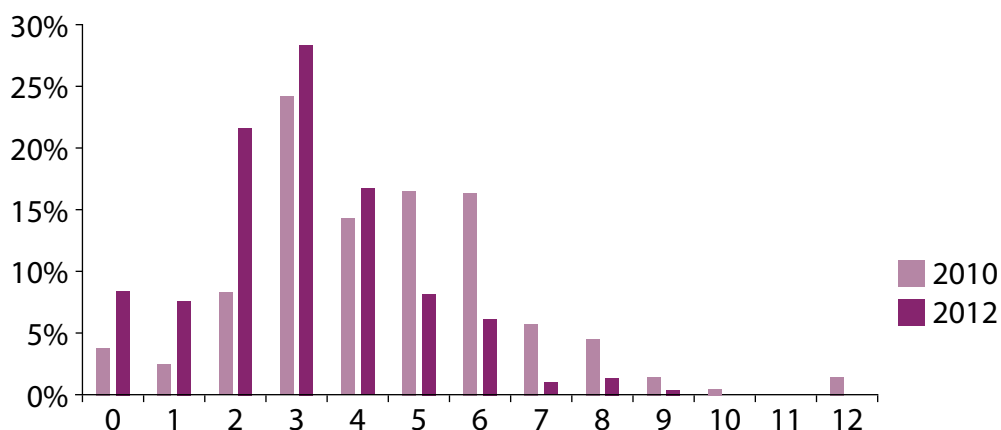


Figure 2. Frequency of number of months of food insecurity, 2010 vs. 2012, Concern Worldwide.

Interventions addressing the dimensions of food access and food availability: Economic and Social Relaunch of Northwest Provinces



Location:	Battambang, Siem Reap and Banteay Meanchey
Funding organization:	EU
Implementing organization(s):	Ministry of Agriculture, Forestry and Fishery and four other ministries, as well as around 50 contractors
Project period:	January 2006–December 2010
Goal:	To contribute to poverty reduction through increased household income, particularly through increased agricultural sector productivity and increased local community empowerment in select rural areas of Cambodia.
Objective(s):	Economic and social development of smallholder farmers and family members living in the project area, in ways that accrue equitably to both men and women.
Direct beneficiaries:	The target groups in the 14 target districts are identified as follows: <ul style="list-style-type: none"> • 40 of 96 communes = 68,000 households • 55,000 agricultural households = 280,000 people: <ul style="list-style-type: none"> - 140,000 people with a 4-month food deficit per year - 90,000 people with insufficient income to purchase minimum food requirements - 67,000 women aged 18–64 • 25,000 youths aged 15–17, including mine and unexploded ordnance victims in the target villages

Promising practice: A participatory village or commune action plan is an effective practice to promote beneficiary participation and project ownership.

Description

The Economic and Social Relaunch of Northwest Provinces (ECOSORN) project identified the main problems and challenges, key issues, and potential and opportunities of the village and commune together with the community members.

A participatory approach was then used to develop a village and commune action plan. This strategy was very effective for two reasons: (1) It ensured maximum beneficiary participation in the project planning and implementation; and (2) the strategy was in line with and fostered the decentralized planning process established at the commune level. In addition, the strategy underlined the importance of adapting the project to the real needs of the villagers.

The village and commune action plan also aimed to collect key information to validate and select Integrated Rural Development Module (IRDM) target villages, as well as to select activities consistent with ECOSORN's goal of adapting strategies and activities to the community's real needs and building confidence in the community and local authorities.

Promising practice: Customized IRDM training packages allow interventions to have a standardized training system while adapting to the needs and realities of the farmer beneficiaries.

Description

The ECOSORN project introduced the classification of the IRDM based on the village's agro-ecological system. Customized training packages for each IRDM type were provided, which were found very useful and were easily replicated.

Four modules from the IRDM approach were introduced in the project: rain-fed agriculture, irrigated agriculture, upland agriculture, and vegetable growing (value chain). The project also provided beneficiaries with agricultural inputs such as seeds and developed a database to inform decision-making and track progress.

Evidence and outcomes

The IRDM training package contributed to improved household food security. For example, rice security improved, with more than half of households reporting no shortage, compared to a baseline of 29% in 2006. The average rice shortage period was also reduced by almost half to 2.4 months.

Promising practice: Three indicator measurements—poverty level, food security, and adoption and dissemination rates—are the minimum set of indicators needed to compare food security and nutrition program baselines and endlines.

Description

Regular field monitoring helps an organization track what outputs have been delivered against the work plan and budget. It is important for a project to track a set of key indicators to measure the most important changes a project plans to achieve. This set of indicators is measured during the baseline and at the endline.

Indicator measurements established by ECOSORN during the project implementation period allowed the project impact to be measured and monitored, and changes observed. The project measured a set of clear and measurable indicators that can be replicated for future food security projects:

- **Indicators to measure the poverty level of the household.** Income category, poverty score and wealth ranking were identified as indicators of household poverty level. The poverty scoring of the beneficiaries was measured through the wealth ranking (assets owned by household). Higher scores corresponded to households with more assets.
- **Indicators to measure food security.** The following indicators were used: percentage of households with no rice shortage, average

months of rice shortage, and percentage of households with more than 3 months of rice shortage.

- **Indicators to measure adoption and dissemination rates of the project beneficiaries.** The dissemination rate was calculated through discussions with the nonpilot farmers who profited from the training of the pilot farmers or teacher farmers.

Evidence and outcomes

ECOSORN measurements of poverty level in the endline survey in August 2010 showed a significant reduction in the number of very low-income households from the baseline in 2006. The number of female-headed households forming part of the very low income category also decreased.

ECOSORN target villages showed an improvement of their situation from an average poverty score of 100.3 to 100.9 during the project period. This indicates that despite isolated shortcomings, the average rural village supported by ECOSORN competed with semi-urban villages of each province in terms of economic growth and improvement of social conditions.

ECOSORN measured the adoption rate for each technique introduced by the project; all techniques introduced had a 53% adoption rate, except for rice techniques, which had an adoption rate of 73%. The dissemination rate for nonpilot farmers was 13%.

ECOSORN project strategic approaches

The village and commune action plan. Before implementation, the project conducted a village and commune assessment to identify the problems, needs and potential of each village and commune. Based on the assessment results, a village and commune action plan was developed using a participatory approach. This strategy ensured the maximum participation of project beneficiaries in the overall planning of the project, which was in line with the existing decentralized planning process. The village and commune action plan aimed to collect key information to validate and select IRDM target villages. In addition, the village and commune action plan selected activities consistent with ECOSORN's strategies of working on the

community's needs and building confidence in the community and local authorities.

IRDM based on the agro-ecological system.

The project introduced the agro-ecological IRDM approach. Four different modules were introduced in the project:

- Module 1 was for rain-fed agriculture.
- Module 2 was for irrigated agriculture.
- Module 3 was for upland agriculture.
- Module 4 was for vegetable growing (value chain).

Each module had different specified training packages. The project also provided beneficiaries with agricultural inputs such as seeds and other materials. An IRDM database was developed to inform decision-making and track the progress of the project.

Community empowerment and gender.

The project established community-based organizations to promote the community's voice. These organizations also functioned as cooperatives that provided greater loan access in order to generate more income for the community. The new community-based organizations included a rice seed producers group, an animal feed group, a fish processing group, a water user group, a farmer water user group, a "community livestock pass on gift" (COLPOG) group and women's groups.

Most of the community-based organizations had women representatives in each group. The project worked to promote community participation, particularly of women, in the local planning process. The local integration platform aimed at facilitating the communication and coordination of many stakeholders (local authorities, project task force and beneficiaries) on various levels (village, commune, district, province and national). Local integration platforms were the conceptual meeting places of all stakeholders involved in the project at the commune and village levels. This included local authorities (commune councils, village chiefs, etc.), contractors, ECOSORN staff, and target beneficiaries (community-based organizations and villagers).

Land titles and demining. The project worked on demining areas in three target provinces with a high concentration of mines. The

demined land was then provided to landless households for cultivation. Land titles were provided to farmers, giving them full control over the land, which could be used as collateral to get loans (for starting new businesses). Land rights awareness was integrated into the secondary school curriculum with the aim to promote student awareness on the subject.

Infrastructure development and water sanitation. The project built roads, bridges and irrigation systems to improve water access, particularly for dry season rice cultivation. The project also provided households with water and sanitation facilities, such as wells, water storage bins and latrines.

Promoting youth employment and migration reduction. The project motivated the villagers, especially the youth, to attend vocational training, such as motorbike mechanics for men and hairstyling for women. This training aimed to enhance their professional skills and reduce migration, since the target provinces have a high rate of migration to Thailand.

Project exit strategy. In order to ensure sustainability, achievements in agriculture, livestock and fisheries were intended to mainly (but not only) rely on the survival of created groups for sharing skills, experience and projects. Recommendations were as follows:

- Existing farmer groups (pilot farmer groups and rice seed producer groups) and vegetable production associations should be directed towards formalization and registration of their groups through promotion, training (in group dynamics, financial management, etc.) and capacity building.
- Since the survival and development of rice seed producer groups is vital for the sustainability of increased rice yields, particular efforts should be made to support them in all domains (seed promotion and marketing, production management, etc.).
- The management of a common and adequate seed store plays a decisive role in the long-term sustainability of rice seed producer groups. Groups should be convinced of the necessity of this investment. Donors interested in co-financing these stores should be found and/or loans should be obtained from PRASAC Microfinance Institution.

- A similar approach should be adopted with pilot farmer groups and vegetable production associations, leading them to elaborate group projects. Some equipment or machinery may be provided by ECOSORN, but there should also be financial contributions from the members. If necessary, groups should be assisted to get loans.
- Strategies should be found to assist COLPOGs in operating correctly and resolving possible conflicts.

Specifically, phasing-out and handing-over options to ensure the sustainability of community development, gender awareness and rural development are the following:

- **Transfer of ownership to private sector.** Micro-enterprises, self-employment and producers' associations are developed; financial services operate as any normal service provider in the competitive market; information systems are attached to the partner project until cost recovery is ensured by the system itself.
- **Transfer of capacity to public sector and local stakeholders.** Local authorities have mainstreamed more activities in the commune development plans. Local authorities have the capacity to look for additional resources: alternative funds from donors, NGOs, etc. (initial proposals to be developed with ECOSORN support). Additional technical skills and increased knowledge enable a more supportive environment for local initiatives (community and private).
- **Setting up of operational links between various stakeholders.** Private and public partnerships are built, and networking is developed (engaged with ECOSORN support).

ECOSORN project outcomes

Poverty reduction in the target provinces.

The ECOSORN endline survey in August 2010 confirmed that only 27% of households remained in a very low income category (less than KHR 1,500,000 per year), which shows vast improvement over the baseline value of 60.5% in 2006. The female-headed households forming part of the very low income category also decreased from 74.9% in 2006 to only 34% in 2010.

The poverty scores of the beneficiaries were measured through wealth ranking (assets owned by household). Higher scores correspond to households with more assets. Overall, the global set of ECOSORN target villages showed an improvement of their situation over the period of the project, from an average poverty score of 100.3 to 100.9 (Table 1). This score puts the average rural village supported by ECOSORN on par with semi-urban villages in each province in terms of economic growth and improvement of social conditions.

Improved household food security. Rice security improved, with 52% (project target: 50%) of households reporting no shortage compared to a baseline of 29% in 2006. The average rice shortage period was reduced from 4 months to 2.4 months. Tables 2 and 3 indicate the percentage of households reporting no rice shortage and the average rice shortage period reported by households.

The project also measured the adoption and dissemination rate of technologies by direct and indirect beneficiaries. The adoption rate was 53% for all techniques introduced by the project; rice-related techniques had a better adoption rate at 73%. The dissemination rate was calculated through discussions with the nonpilot farmers who received training from the pilot farmers or teacher farmers. The results showed that the dissemination rate for the nonpilot farmers was 13%.

Seasonal migration. The project was designed to promote agricultural diversification and intensification and promote employment for project beneficiaries to work and earn income in their communes. In 2010, the duration of labor migration increased: 45% of migrants declared migrating less than 4 months and 48% more than 6 months (60% and 30% respectively in 2006). It was reported that migration destinations were further away in 2010 compared to 2006; only 7% migrated in the same district compared to 15% along the Thai border and 51% to Thailand (compared to 19%, 21% and 25% respectively in 2006). Table 4 shows the effect on household migration.

Parameter	Baseline value	Endline value
Average poverty score of target villages	100.3	100.9
Poverty score by province	Banteay Meanchey: 100.8	101.7
	Battambang: 101.2	101.5
	Siem Riep: 98.8	99.5

Table 1. ECOSORN poverty score achievements.

Parameter	Baseline value	Endline value
M1: Percentage of households with no rice shortage	30%	33%
M2: Percentage of households with no rice shortage	28.5%	75%
M3: Percentage of households with no rice shortage	22.1%	43%
M4: Percentage of households with no rice shortage	35.7%	56%
Overall	29%	52%

Table 2. Percentage of households by module reporting no rice shortage.

Parameter	Baseline value	Endline value
M1: Average number of months with rice shortage	4.3	3.9
M2: Average number of months with rice shortage	3.5	1.1
M3: Average number of months with rice shortage	4.4	2.3
M4: Average number of months with rice shortage	4.2	2.2
Overall	4.1	2.38
M1: Percentage of households with more than 3 months of rice shortage	67%	61%
M2: Percentage of households with more than 3 months of rice shortage	63.4%	16%
M3: Percentage of households with more than 3 months of rice shortage	61.9%	43%
M4: Percentage of households with more than 3 months of rice shortage	58.1%	34%
Overall	63%	39%

Table 3. Average rice shortage period reported by households, by module.

Parameter	Baseline value	Endline value
Percentage of family members working off-farm less than 4 months	60.30%	45%
Among those having a family member working off-farm, percentage getting off-farm jobs in the same commune	19.10%	7%

Table 4. Reduced seasonal migration of targeted households.

Interventions addressing the dimensions of food access and food availability: Improving the Livelihoods of Rice Farmers in Kampong Chhnang Province



Location:	93 villages across 16 communes of Kampong Tralach and Samaki Meanchey districts, Kampong Chhnang Province
Funding organization:	Asian Community Trust (ACT)
Implementing organization(s):	CEDAC
Project period:	1 April 2012 to 31 March 2013 (This project built on phase one from 1 April 2010 to 31 March 2012.)
Goal:	To contribute to the eradication of poverty and hunger through improved food security and enhanced livelihood options for subsistence rice farmers and to promote the sustainable use of natural resources.
Objective(s):	<ul style="list-style-type: none"> • Improve the agricultural production of subsistence farmer families through the promotion of integrated rice-based farming and animal husbandry. • Build the capacity of farmers and farmer organizations for delivering development services to community members, commune councils and other organizations. • Strengthen farmer groups in market-oriented agricultural development and agricultural diversification.
Direct beneficiaries:	<ul style="list-style-type: none"> • The most resource-poor and women farmers who are facing problems related to low rice production, high expenditures on chemical fertilizers and lack of agricultural diversification.

Promising practice: Utilization of model farms is an effective teaching methodology (learning by doing) that takes into consideration the realities of the beneficiaries.

Description

Project beneficiaries frequently have little or no “formal” education and learn best through activities that involve seeing, touching and experiencing, such as visiting model farms, which allow villagers to learn by doing. During the project period, farmer leaders and pioneer farmers developed demonstration farms for other farmers to visit and use as a learning tool. The model farmers learned how to plan and conduct training sessions, and became technically qualified to provide training and advisory services to other villagers. Due to the fact that the project promoted volunteerism and the model farmers shared their knowledge as a paid service or a voluntary service, it could be expected that these training activities would continue with little or no external support after the project financing ended.

Evidence and outcomes

Training provided to the farmers through the expert farmers and model farms motivated 3608 families out of the 6494 who were target project beneficiaries to apply new SRI innovations, and approximately 90% of them reduced or eliminated the use of commercial fertilizers.

Promising practice: Use of farmer promoters and farmer leaders is a promising way to disseminate skills and new practices to other farmers.

Description

The project focused on improving local human resources by facilitating trainings in target communities. At the time of this study, 449 key farmers and farmer leaders, including 271 women, had been trained by the project. These individuals played an important role in experimenting with new innovations and techniques and disseminating this information to other farmers.



Model farm supported by CEDAC.

Expert farmers and leaders often become key stakeholders and informants in the village, as visiting farmers come to see and learn the innovative techniques being practiced. They can also become a point of contact and communication with the local authorities, requesting animal vaccinations and informing the authorities of an outbreak of disease in the village's plants or livestock.

Evidence and outcomes

By September 2012, the project selected and trained 449 key farmers and farmer promoters, who effectively transferred their knowledge and experiences of farming techniques to all project beneficiaries (3608 farmers). Most farmer beneficiaries adopted several of the 12 practices, including using better seed selection practices. Farmers reported that applying SRI allowed them to increase yield, use less seed, recognize the value of easy uprooting, and reduce the use of chemical fertilizers and pesticides. The majority of farmers were using compost or organic manure. Farmers also reported being very impressed with the reduction of labor and time needed for nursery bed preparation.

Promising practice: Farmer networking promotes and provides knowledge, influence and opportunities (market, business, etc.) for farmers.

Description

Farmer networks connected farmers not only within their village, but also in their commune, in their district and at national level. These networks fomented dialogue between local authorities, groups and associations, and farmers.

The organization representatives and farmer promoters supported by the project were able to generate income to finance activities and services provided by farmer groups, village farmer associations and the farmer confederation. The income was generated by membership fees, credit services (interest rate charge provided to the members) and selling agricultural products to farmer markets. The project reinforced the ability of farmer producer groups (organic rice producer groups, rice mill cooperatives, animal feed processing groups and mill cooperatives) to manage and run their cooperative successfully.

Evidence and outcomes

The beneficiary families increased both their productivity and their income. Based on interviews with 25 cooperating farmers, the following increases were achieved:

- Average income for on-farm activities increased by 34.28%, from KHR 2,463,000 (US\$ 615) to KHR 3,307,300 (US\$ 827) per household for a period of 6 months (from April to September 2012).
- Earnings from selling agricultural products rose demonstrably:
 - Chicken sales increased by 104.53% (from KHR 336,400 to KHR 688,100 per family for a 6-month period).
 - Vegetable sales increased by 193% (from KHR 51,800 to KHR 152,000).
 - Income from pig sales increased by 14.58% (from KHR 818,500 to KHR 937,500).
 - Income from paddy sales increased by 10.86% (from KHR 1,510,400 to KHR 1,674,400).
 - Support from the project was vital in the continuous improvement, capacity building and overall success of rural business services, especially rice cooperatives.

Saving groups and credit associations (village farmer associations and confederations) also saw an increase in membership and capital. These associations contributed to improving living conditions and reducing poverty among members of the community through a reduction of money moving outside the community and an increase in income from interest-bearing loans.

Promising practice: Exchange visits are a low-cost and effective way to provide opportunities for farmers, farmer promoters and farmer leaders to gain additional experience and to observe successful techniques both on SRI production and on group management.

Description

Exchange visits were arranged for project beneficiaries, including farmer promoters and more active farmers, to visit other projects in the same and other provinces where project beneficiaries had similar situations but had successfully achieved livelihood improvement through agricultural production. When project beneficiaries returned from the exchange visit, they brought back the techniques they had learned. They could then try the new techniques in their village and disseminate these techniques to other farmers.



Exchange visit between farmers and beneficiaries.

Evidence and outcomes

The annual progress report indicated that through the exchange visits, the project beneficiary farmers obtained knowledge and understanding of homestead production techniques that they had never known or practiced before. Farmers were able to observe and exchange with successful farmers techniques such as air gardening (planting vegetables by filling used water bottles with soil and hanging them wherever possible; e.g. on a fruit tree or on the wall of the house) and box gardening (planting vegetables near the back of a foam box or bag and putting pipe in the middle of the back for watering). These techniques were found to be useful and well-adapted to challenges that farmers faced during droughts, as they require minimal use of water.

In addition, through practicing these homestead production techniques, the farmers were able to eat more nutritious food than before.

CEDAC project design process and beneficiary selection

The project was conceived through consultation meetings with representatives of target groups, especially farmer organization representatives and stakeholders such as commune chiefs, village chiefs, farmer associations, farmers, women and other key figures in the villages. The project team also met with villagers, including the most resource-poor farmers, who had not yet participated in the project's first phase.

Farmers and stakeholders were not only important actors in the project design; they were also key players in the implementation, monitoring and evaluation of the project. Farmers participated actively in testing and/or applying new ideas and setting up demonstrations on their own land using their labor, knowledge, skills and other resources. They also played an important role in disseminating innovations to other farmers as well as in influencing the direction of local development policies and strategies in supporting ecologically based family agriculture and farmer organizations.

CEDAC project strategic approaches

The key approach of the project was to provide training to farmers to become leaders and

build their capacity as local resources. During the project period, farmer leaders and other pioneer farmers developed their farms for demonstration and training for other farmers to visit and learn from. The farmer leaders learned how to plan and conduct training sessions and were prepared to provide training and advisory services to other villagers on a voluntary basis. Therefore, it was expected that these training activities would be sustainable with less external support after the project financing came to an end.

The project formed saving groups in each village, and when the groups started to function well, the members were encouraged to form village-based farmer associations and a confederation of saving groups. The representatives of farmer organizations and farmer promoters supported by the project were able to generate income to finance the activities and services provided to its members. Income was generated from membership fees, interest rates charged from the credit services provided to the members, and selling agricultural products to farmers' markets. The project reinforced the ability of existing farmer-producer groups (organic rice producer groups, rice mill cooperatives, animal feed processing groups and mill cooperatives) to run their cooperative business successfully. Support from the project was expected to be vital for the recently registered cooperatives to increase their capacity and potential to successfully operate rural business services, especially cooperative rice businesses.

The dialogue that was established between the farmers and local stakeholders during the project helped to mainstream the ideas of participatory local development and family-based ecological agriculture. The dialogue improved cooperation between farmers and local authorities, which was thought to possibly lead to financial support for the project's targeted groups (particularly the vulnerable groups). The dialogue was expected to continue in the villages and expand to other areas based on the needs of the people.

The overall strategic approach of the project was to strengthen the position of the community-based organizations in the village through various activities, such as support

from a national farmer network, the Farmer and Nature Net, that would allow these groups to be self-sustaining without further external support. These groups would also be able to determine the kind of development activities required to further improve their situation and livelihood.

CEDAC project outcomes

Farmers who applied new innovations on SRI.

3608 families out of the 6494 who were project beneficiaries applied new innovations on SRI, and approximately 90 percent of them reduced or stopped using commercial fertilizers.

Established innovating farmers. 110 farmers were selected and participated in 12 training sessions to become model farmers who implement agricultural innovations.

Key farmers and farmer promoters. By September 2012, the project had selected and trained 449 key farmers and farmer promoters.

Practices applied (Table 5):

- Most farmers adopted 3–5 of the 12 practices.
- In comparing rice crops before and after SRI, farmers increased yield, used less seed, recognized the value of easy uprooting, and reduced the use of chemical fertilizers and pesticides.
- Most farmers were using compost and organic manure: 3061 out of 3608 farmers who applied SRI were using organic manure

and another 20 farmers applied liquid fertilizers.

- Farmers adopted wide-space principles, varying from 20 centimeters (cm) to 30 cm, according to the level of soil fertility in their field and village. All reported unusually high tilling and most reported being very impressed with the reduction of labor and time for nursery bed preparation.
- Most of the farmers used better seed selection practices.

In Sdok Kaba village, Kampong Chhnang Province, the number of farmers who applied SRI techniques gradually increased from year to year, as shown in Table 6.

Training and coaching for village-based saving groups. Three series of 12 one-day training sessions (attended by 50 participants) were organized by the project. The training focused on sharing the progress of saving groups, mobilizing farmers to join the groups and raise capital, and group management and leadership. The participants also learned about basic accounting and how to effectively manage information from the group.

Training for women group leaders. The main purpose of the training was to strengthen the capacity of women’s decision-making, both in the household and in the community, as well as to improve the participation of women in community leadership. In the reporting period (April–September 2012), training sessions (two series, four learning groups, eight training

Item	Before 2005	2010	2011	2012
Area of rice field	1 hectare (ha)	1 ha	1 ha	1 ha
Rice yield	1 ton	2.7 tons	3 tons	3.3 tons (expected)
Use of chemical fertilizers	50 kilograms (kg)	0	0	0
Use of seeds	120 kg	20 kg	20 kg	20 kg
Use of natural fertilizers	0.9 ton	3 tons	4 tons	5 tons
Amount of paddy sold	lack of food for 3 months	900 kg	1 ton	1.3 tons (expected)

Table 5. Improved SRI practices.

Practice	2006	2007	2008
SRI (one seedling transplanted in rows)	5 families (1 ha)	12 families (4 ha)	34 families
SRI (two–three seedlings but not transplanted in rows)	non-adopting families	around 100 families	around 100 families

Table 6. Increased adoption of SRI.

sessions) were organized by the project for 120 participants. The topics of the training focused on sharing the experience of the best women leaders in managing and leading the group, social development, and introduction to the best rice field practices.

Training and coaching for confederations of saving associations. In order to support the confederations in managing community-led saving and credit activities, two learning groups in six training sessions were organized for 45 participants, including 26 women. The topics of the training focused on sharing the progress report from each confederation, sharing experiences on management and leadership, and collecting and managing information. During the training, the participants showed clear understanding of saving, lending and payment activities. Additionally, they learned about association management and member recruitment. It was noted that all gained an understanding of the principles of management and leadership.

Saving groups and credit associations (village farmer associations, confederations). These groups have seen an increase in membership and capital. They have contributed to improved living conditions and reduced poverty among members of the community through a reduction of money leaving the community and an increase in incomes from interest-bearing loans (Table 7).

Saving groups across the country established by CEDAC. By December 2008, 4769 saving groups had been established with 70,480 members, including 42,557 women. The total savings had accumulated to around KHR 6440 million in 2691 villages, 510 communes and 83 districts across 16 provinces (Figure 3). The new target provinces in 2008 were Siem Reap, Battambang, Banteay Meanchey, Kratie and Stung Treng. To assist the project, the program also employed 297 saving group animators and facilitators, 87 of them women, to support the village-based saving groups. By December 2008, 31,416 members had borrowed around KHR 6468 million in total from the groups.

Innovation	Total	Percentage difference compared to 2011
Village-based farmer association		
Number of village-based farmer associations	67	34% increase
Total members of village farmer associations	3,511	24% increase
Women members	2,516 (71.66%)	
Total capital	KHR 2,046,186,000	
Saving groups		
Number of saving groups	160	5% decrease (some groups merged into village farmer associations)
Number of villages	86	
Total members of saving groups	3,630	14% increase
Women members	2,611	
Total capital	KHR 2,081,242,100	
Women's groups		
Number of groups	47	
Number of villages	47	
Total members	1,380	
Total capital	KHR 424,841,200	

Table 7. Increased capital of saving groups and credit associations.

However, it bears noting that 676 saving groups were dissolved during the year.

Beneficiaries' perception of CEDAC project effectiveness

The research team organized two one-day field verifications to collect beneficiary feedback on the agricultural and savings training provided by the project. One visit was conducted in Spean Dek village, Thlok Vien Commune, Samaki Meanchey District, Kampong Chhnang Province, and was comprised of a focus group discussion with nine farmers and individual interviews with another six farmers. This village had received agricultural training from the project. The second visit was to Steung village, Peany Commune, Kampong Tralach District, Kampong Chhnang Province, and was comprised of a focus group discussion with 10 farmers and individual interviews with another 6 farmers. This second village had received training in saving groups from the project.

Beneficiary perceptions from Spean Dek village (agricultural techniques):

All the project beneficiaries interviewed commented that they have noticed the following:

- They have increased rice production by applying SRI techniques. They also grew a variety of vegetables and raised animals for family consumption or sale.
- They earned more income since joining the project.
- They had more food and more variety of high-quality food, including pork, chicken, beef, fish, fresh vegetables and fruit. One interviewee said she had the same amount of food to eat, but it was of a higher quality

compared to before the project intervention.

Other comments by different project beneficiaries interviewed were as follows:

- raised fish for family consumption or sale to other villagers
- increased rice production by 100% by using SRI on her 1-ha rice paddy, in comparison to former habits
- stated that in the past, 40% of her chickens died, compared to 10% now, and that her rice production had doubled after applying SRI techniques
- had suffered from rice shortages for 5 months per year, but now she sells rice to the association
- stated her daughter can continue to study at university because she earns money from selling rice
- used to lack rice for family consumption every year but now she can sell rice.

Three different project beneficiaries interviewed confirmed that their production increased because CEDAC provided training on agriculture techniques to villagers, such as SRI, animal raising and vegetable growing, and that was why they could make those changes. (Three interviewees did not answer the question.)

Household income had increased (from KHR 648,000 to KHR 2,000,000 per year) from selling surplus rice since joining the project. All interviewees confirmed they had surplus rice to sell because CEDAC provided agricultural technique training, especially SRI techniques, which allowed them to increase rice production every year using fewer seeds.

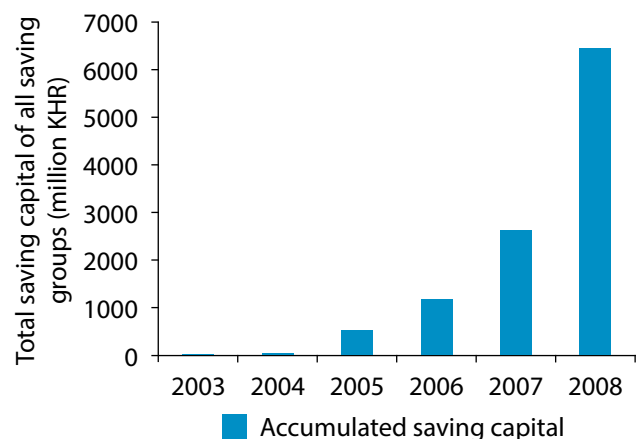
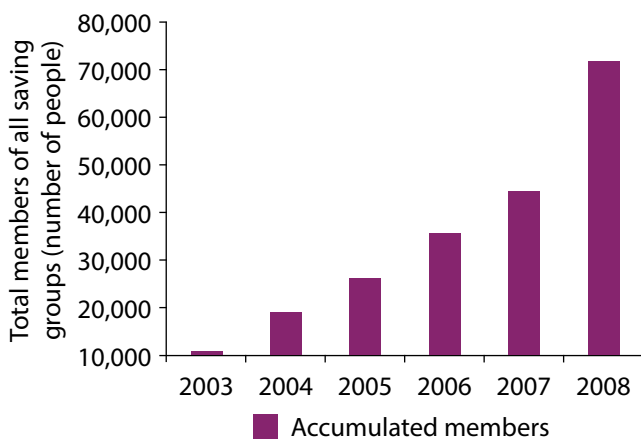


Figure 3. Increases in saving for CEDAC groups.

Intervention addressing the dimensions of food availability and food utilization: Enhanced Homestead Food Production



Location:	Pursat and Prey Veng
Funding organization:	EU's Food Facility Project to HKI
Implementing organization(s):	Centre for Livestock and Agriculture Development; Organization to Develop Our Villages; Provincial Department of Agriculture and Provincial Health
Goal:	To improve food security, nutritional practices and livelihoods in targeted area.
Direct beneficiaries:	6300 vulnerable households, with a beneficiary population of approximately 31,500.

Beneficiary perceptions from Steung village (saving group):

Beneficiaries appreciated the access to loans with low interest rates from their saving group to invest in agricultural activities. They reported that resource-poor families were now able to borrow to create or improve small businesses.

Three project beneficiaries interviewed reported the following:

- Some stated that their livelihoods improved since they joined the project, and their households now received interest from the saving group as well as income from small business ventures.
- Others said there was no change because they had a small rice paddy and small businesses.
- One received loans from a saving group to create a small business for household income; another woman reported no livelihood change because she got a loan to repair her house.

Two project beneficiaries interviewed said that they did not get involved in other project activities to improve their livelihoods.

They were able to sell products because CEDAC provided technical training, such as agricultural techniques, how to produce fertilizer, and getting loans from a saving group to invest in animal raising.

Promising practice: A routine monitoring and evaluation system allows projects to track and report their results, while also adapting to unforeseen events.

Description

Many of the organizations interviewed felt that a well-designed monitoring and evaluation system characterized most effective interventions. HKI employed a routine monitoring system that collected data from sampled village model farms and households every 4 months. Routine monitoring and evaluation mechanisms allow projects to adapt to unexpected challenges and record results for accurate and timely reporting.

Data from two rounds of project monitoring were used to make a comparison of the project status. Two different questionnaires were used for monitoring: "Village Model Farm Form" to gather information at the village level and "Household Monitoring Form" to obtain information at the household level.

- The "Village Model Farm Form" included the following information: vegetables (varieties and quantities), trees (seeds, seedlings, saplings), poultry and eggs produced; and distribution, sales and income generation. Information on rice production was also collected from the "Village Model Farm Form."
- The "Household Monitoring Form" collected similar information at the household level, and also gathered data on gardens, fruits produced and sold, and consumption (fruit, vegetables and poultry).

Evidence and outcomes

Village model farms served as community demonstration and educational sites for improved agricultural practices. Having a solid monitoring and evaluation system allowed the project to discern increases in production and capitalize on the positive characteristics contributing to the augmentation. There was a notable increase in the variety of vegetables, fruits, seeds, vegetable seedlings and other tree saplings that village model farms produced, distributed to households, and in some cases, sold to local markets after 1 year of project implementation. Moreover, the diversity of village model farm agricultural inputs created diversity in household and beneficiary food production, thereby increasing the quality of individuals' diets in the community. The village model farm's reliable productivity supported community members by providing agricultural inputs and making micronutrient-rich food available and accessible.

Promising practice: Use of garden classification systems allows farmers to choose the most appropriate gardening techniques for their needs and abilities.

Description

The garden classification system (traditional, improved or developed) is a useful tool to measure differences in household vegetable gardening:

- Traditional gardens are scattered plots with a limited number of traditional vegetables (e.g. gourds) that are grown seasonally.
- Improved gardens generate a number of vegetables that are cultivated seasonally in a fixed plot.
- Developed gardens produce a wider range of vegetables in fixed plots throughout the year.

Evidence and outcomes

An increase was reported in the cultivation of developed and improved gardens by the project beneficiaries. This signifies that beneficiaries have the capacity to produce a wider range of fruits and vegetables throughout the year, making micronutrient-rich food more available and accessible at the household level.

HKI project strategic approaches

Capacity building for local partner NGO staff and local authorities. Capacity building was provided to local NGO partner staff in relation to project approach and key interventions to improve their understanding of the project prior to implementation. Local authorities (commune council and government staff) also attended the project orientation, helping to disseminate information about the project, develop a relationship with the local authorities and foment future cooperation.

Village model farmers approach. A total of 300 village model farms were established. Each one served as an archetype, a center for training for group members, and a source of agricultural inputs and technical information for 20 designated households. The key role of village model farmers was to produce agricultural inputs for household gardens and raise small livestock, such as chickens and ducks, for distribution to target households on a commercial basis.

Women's groups. Two women's groups that included 20 of the most resource-poor families worked in collaboration with each village model farm. These groups were established to train, support and enable women to set up and implement year-round household production of nutritious plants and animal-source foods with a diversity of crops.

Routine monitoring data collection system. HKI's routine project monitoring system collected data from sampled village model farms and households every 4 months. Data from two rounds of project monitoring were used to make a comparison of the project status. Village model farms and households included in the monitoring rounds were a cross-section of the sample from different villages. Two different questionnaires were used for monitoring: The "Village Model Farm Form" gathered village-level information about the area; varieties and quantities of rice, vegetables, seeds, seedlings, saplings, poultry and eggs produced, distributed and sold; and income generated. The "Household Monitoring Form" obtained household-level information on the type of garden; source of seeds; and

number of varieties and quantities of poultry, eggs, vegetables, fruits and rice produced and sold. Information was also obtained on the household consumption of fruits, vegetables and poultry products.

HKI project outcomes

Creation of village model farms. Village model farms served as community demonstration and education sites for improved agricultural practices. Additionally, village model farms provided agricultural inputs and technical information for their 20 designated households; they produced seeds, seedlings and saplings of rice, vegetables and fruits. One year into project implementation, the number of varieties of vegetables, fruits, seeds, vegetable seedlings and other tree saplings that village model farms produced, distributed and sold to local markets had notably increased. This diversity also increased the quality of household and beneficiary diets by making micronutrient-rich food available and accessible in the community. The village model farms' reliable productivity supported community members by providing agricultural inputs.

Increased cultivation of improved and developed gardens. An increase was reported in the cultivation of developed and improved gardens by the project beneficiaries, which implies that beneficiaries had the capacity to produce a wider range of fruits and vegetables throughout the year, making micronutrient-rich food more available and accessible on the household level.

Foods rich in vitamin A available in household gardens. Program monitoring data shows an increase in vegetables rich in vitamin A available in the household gardens (Figure 4).

Additional income from raising poultry. There was a decrease in the number of households who consumed chickens, ducks and eggs produced from their homestead gardens and poultry. It was observed in the field that one of the main reasons for not consuming eggs was that a majority of eggs were used for hatching, providing farmers with a greater number of chicks and eggs to sell. Instead of consuming chicken, duck and eggs, a considerable proportion of households decided to sell or trade their output.

Increase in village model farm income from homestead production. Village model farms were key actors in the project, providing agricultural inputs and technical assistance to farmers. Village model farmers acted as role models for other farmers, teaching them to replicate their homestead gardens. It is worth noting that the households did not only increase their production and consumption of micronutrient-rich foods from 2010 to 2011 but were also able to generate income from both garden and poultry production as well. The surplus of the vegetables and fruit as well as eggs and chickens from homestead production could be sold in the local market to supplement household income. The median income from both garden and poultry production increased from US\$ 15 in 2010 to US\$ 25 in 2011 (Figure 5).

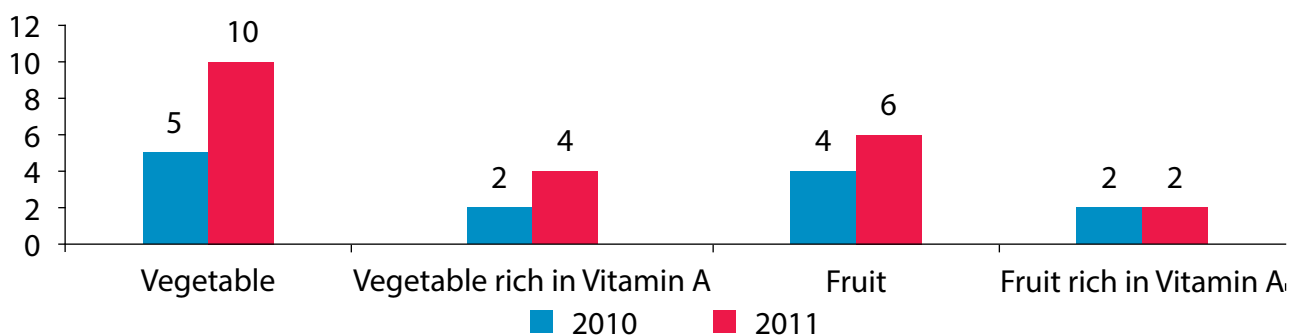


Figure 4. Increases in vegetables rich in vitamin A in household gardens.

Project beneficiaries used the income earned from their enhanced homestead food production to purchase additional food for household consumption. A small proportion of households also used the income earned from the sale of garden products on other important household expenditures such as education, production and medicine. It was reported that 87% of the households used the added income to purchase additional food (Figure 6).

The project also contributed to the empowerment of women, as women’s involvement in homestead food production and income contributed to their overall empowerment. The women had more control over household resources from the income generated for their homestead food production activities.

Beneficiaries’ perception of HKI project effectiveness

The HKI project finished 1 year before this study began, and the research team had difficulty locating direct project beneficiaries for field verification. Many families who participated in the HKI homestead food production project had migrated out of the village to work in either Thailand or in other provinces during the data

collection period. Beneficiaries whose husbands had migrated received remittances and had stopped homestead food production, spending the money on buying food from the market. The remaining beneficiaries were receiving support from the United States Agency for International Development (USAID) Helping Address Rural Vulnerabilities and Ecosystem Stability project (known by the acronym HARVEST).

Despite these indicators of uncertain long-term outcomes, focus group discussions pointed to the positive changes resulting from the project. HKI promoted people growing vegetables and raising chickens and pigs near their homes, provided rice seeds, and educated them about health care. The community reported that the higher yield increased household income. Resource-poor families and families with children under 5 years old received more benefits than others from the project, indicating proper beneficiary targeting. Other resource-poor beneficiaries received materials and seeds by joining the project. The beneficiaries reported that HKI selected only 20 villagers in each location to participate in the project, and this limited number caused some resource-poor households with small children to not join.

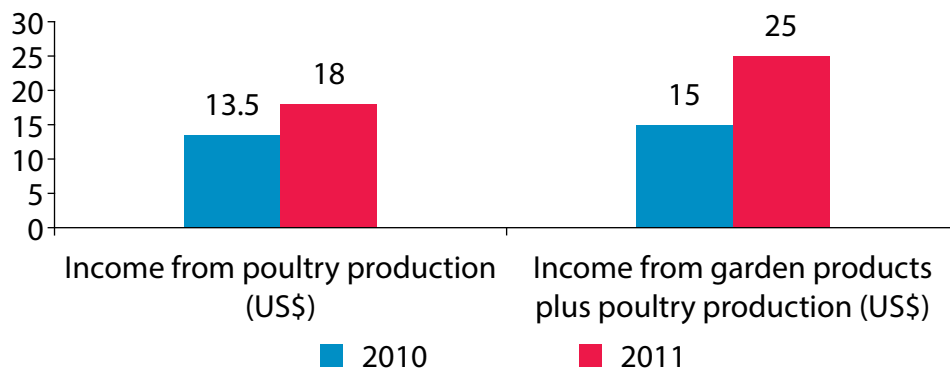


Figure 5. Households’ increased income from poultry and gardening.

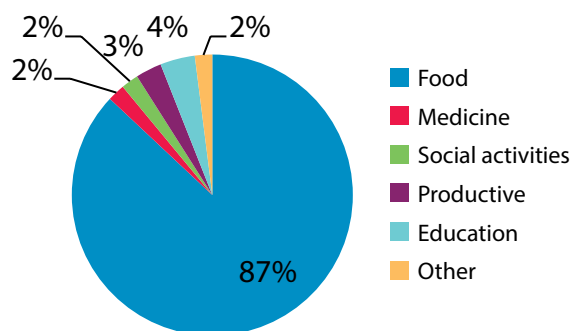


Figure 6. Types of products purchased with generated household income.

Interventions addressing the dimensions of food use and utilization: Reducing Under-Five Morbidity and Mortality in Cambodia through Good Nutrition and Clean Water



Location:	Kampong Chhnang
Funding organization:	USAID
Implementing organization(s):	International Relief and Development (IRD)
Project period:	October 2006–September 2010
Goal:	To reduce under-five malnutrition-related morbidity and mortality in a sustainable and replicable manner.
Objective(s):	<ul style="list-style-type: none"> • Decrease the prevalence of moderate and severe malnutrition among children under the age of 3 years. • Increase the percentage of infants breastfed immediately after birth. • Maintain the percentage of infants exclusively breastfed for the first 6 months. • Improve the quantity and nutritional quality of complementary foods given to young children. • Decrease the incidence of diarrheal diseases in children under three.
Direct beneficiaries:	Total population: 53,000; 6000 children under the age of five; 23,500 women of reproductive age.

Promising practice: The positive deviance or hearth model successfully contributes to the reduction of child malnutrition and promotes child development.

Description

IRD implemented the positive deviance or hearth model with the combination of three main interventions: (1) positive deviance inquiries combined with community-led rehabilitation feedings for malnourished children; (2) follow-up home visits with coaching and counseling on nutrition practices to the parents and caregivers; and (3) project-established mother support groups that provided collective feeding and peer-to-peer education activities.

Evidence and outcomes

The IRD program report demonstrates that the model successfully contributed to the promotion of normal child development. On average, the nutrition of children who had participated in the project improved from 24% to 31%. IRD attributes the reduction of children's malnutrition to the model. The project report showed that mild, moderate and severe malnutrition rates all decreased.

The main limitation of this approach is that it is intensive and demanding on the time of mothers and the community. IRD noted that some mothers were too busy to bring their children for feeding sessions. The model could be adapted to better fit the schedule of the mothers. There is evidence to suggest that the model would potentially be more successful if combined with food security interventions, and this project shows that it can be effectively integrated with food availability and water and sanitation interventions.

Promising practice: A mass communication strategy (awareness campaign) combined with peer-to-peer education (one-to-one education) produces notable results.

Description

IRD proved once again the globally accepted concept of combining mass and interpersonal communication into its behavior change communication (BCC) strategy to improve the nutritional status of children under five.

IRD BCC campaigns conveyed messages on early and exclusive breastfeeding, complementary feeding, expanded

involvement in childcare, and maternal health and nutrition (including hygiene and diarrhea prevention). Campaigns used different mass media channels, including written and audiovisual. Usually, these methods targeted a wide audience and did not allow interaction between the project and the intended audience, posing a difficulty for evaluating the success of the message transmission. The advantage of the mass communication was that it reached a large number of the target audience in a timely and repetitive manner.

In addition to the mass communication, IRD also used interpersonal communication. For instance, IRD employed peer-to-peer household education, which allowed more tailored education on specific messages for each household and allowed more exchange and instant verification of the quality of the message being transmitted. The same messages from the campaigns were repeated during this peer-to-peer education, focusing on one or two messages at a time. IRD also complemented its communication strategy with village health support groups, local leaders and community support groups. Such small groups allowed more exchange on how different members of the community perceived and planned to apply the recommended behaviors in their own lives. Such community exchange was a powerful method to establish new behaviors as a norm in the community. Since the messages were repeated in different formats, people were more likely to be convinced to try and adopt the new behavior or practice.

Evidence and outcomes

The IRD BCC strategy successfully reached its objectives to educate mothers in improving their complementary feeding practices due to combined mass communication and interpersonal communication strategies. At the end of the project, project indicators showed that complementary feeding practices of mothers with children 6 months and older increased three to five times a day. In addition, the diversity of foods eaten by children improved and the percentage of mothers preparing special food for their children increased.

Promising practice: Working within the scope and structure of the local government permits the project to be more effective in promoting nutrition.

Description

The IRD project promoted and supported the government nutrition program of deworming, use of vitamin A and antenatal care. The Ministry of Health Nutrition Department has a clear national strategy and guidelines on infant and young child feeding. The IRD project intervention and strategic approach implemented the guidelines and contributed to the achievement of the national policy. The IRD project trained community support groups and local authorities on community mobilization aiming to improve attendance at health center outreach services.

IRD also contributed to the Ministry of Health Community Health Policy in its nutrition project. It established eight Village Emergency Referral Systems (VERS) to mobilize funding to assist in the referrals to the health center.

Evidence and outcomes

IRD results have demonstrated the success of using the approach of working within government priorities, guidelines and policy. IRD project indicator results were very promising. There was increased access to health center outreach activities through the creation of eight VERS. The community raised US\$ 658 after 15 months of the project and referred 47 cases to the health center. Health center midwives and 103 traditional birth attendants were trained on nutrition counseling for new mothers. IRD trained 270 community support groups, 202 breastfeeding and nutrition educators, and local authorities on nutrition, diarrhea prevention, hygiene and sanitation.

Promising practice: Holistic approaches combining nutrition with food security and water and sanitation interventions are powerful ways to improve the nutritional status of children.

Description

The International Food Policy Research Institute, USAID and other influential international development organizations stress the importance of using multisectoral projects to

efficiently reduce malnutrition, as factors are interlinked, which is also visible through the United Nations Children’s Fund’s Determinants Nutrition Security Framework: “The framework captures the substantial empirical evidence demonstrating that economic growth or action in a single sector cannot solve the problem of malnutrition.”⁷

IRD used a multisectoral approach in its project, looking to approach malnutrition in a holistic manner by implementing activities to improve water quality, reduce diseases linked to malnutrition and improve overall food availability. This strategy was implemented via the construction of wells, latrines and water filters aiming to reduce diseases related to malnutrition, while simultaneously providing motivation and resources for households to plant home gardens with the objective of providing food access and availability.

Evidence and outcomes

The project reported that the water and sanitation component constructed 147 pump wells, 15 ring wells and 113 latrines and distributed 940 water filters and 125 rainwater collectors. More than 20,000 bars of soap were produced by community soap makers.

In terms of food availability, 1000 home gardens were planted (over 50 percent by families with malnourished children).

All these inputs from the project made it easier for the beneficiaries to have water for domestic use and for family homestead production.

Food security and nutrition experts who attended the food security and nutrition workshops agreed that the more a project affected several determinants of food security and nutrition, the greater the impact. In this case, improving potable water access, hygiene practices and sanitation had an impact on the nutritional status of children. Therefore, promoting holistic approaches has a greater probability of having long-lasting impact on people’s food security and nutrition.

IRD project strategic approaches

Positive deviance or hearth model. The model consisted of developing messages based on positive deviance inquiries combined with

community-led nutrition rehabilitation feedings for malnourished children. Follow-up home visits with children and mothers allowed for further coaching on nutrition practices. IRD also organized mother support groups to continue collective feeding and peer-to-peer education activities. In addition, the project organized cooking demonstrations for non-hearth households and school-age girls.

BCC media combined with peer counseling.

Another approach was the organization of BCC campaigns to convey messages on early and exclusive breastfeeding; complementary feeding; “good caring” (expanded involvement in childcare); and maternal health and nutrition, including hygiene and diarrhea prevention. The campaigns were combined with peer-to-peer household education and village health support groups, training for local leaders, and community support groups. School drama and community video shows were organized as well.

Training of local community members for education and mobilization.

The project trained 270 community support groups, 202 breastfeeding and nutrition educators, and local authorities (district office, commune council and village chief) on exclusive breastfeeding, household registration, community mobilization, nutrition, diarrhea prevention, hygiene and sanitation. The project also trained health center midwives and 103 traditional birth attendants on nutrition counseling for new mothers.

Promotion of use of and access to health center and rural health services through VERS and support health center outreach activities.

In order to improve access to primary care, the project supported community support groups and local authorities to help mobilize the community to attend health center outreach services, including deworming, immunization, vitamin A, antenatal care and health education. In addition, the project established eight VERS to mobilize funding to assist villagers upon referral to a health center.

Integration of water, sanitation and home gardening activities.

Hygiene and diarrhea prevention education was carried out through the integration of water, sanitation and home

gardening activities, along with the training of community soap makers, who produced more than 20,000 bars of soap. The project improved access to clean water through the construction of wells, distribution of ceramic water filters and promotion of solar water disinfection.

IRD project outcomes

Improved nutrition status of children. The average child nutritional status improved from 24% to 31.4%, mild malnutrition decreased from 36.3% to 33.6%, and moderate and severe malnutrition decreased from 39.6% to 35%.

Breastfeeding activities. There was little change in exclusive breastfeeding: 91.3% of children aged 0 to 5 months compared with a baseline of 92.8%. Improved complementary feeding practices for mothers with children 6 months and older, increased feeding frequency (three to five times), improved diversity of foods eaten by children, and increased percentage of mothers who prepared special food for their children were reported.

Access to food for families with malnourished children. In all, 1000 home gardens were planted, over half by households with malnourished children.

Access to clean water. The project constructed 147 pump wells, 15 ring wells and 113 latrines and distributed 940 water filters and 125 rainwater catchments, so the population had access to water sources (wells) and sanitation (latrines) and the use of solar disinfection and ceramic filter systems.

Improved access to primary health care.

Access to health center nutrition outreach activities (deworming, immunization, vitamin A distribution and antenatal care) increased with the establishment of eight VERS, which after 15 months had a total income of US\$ 658 (total loan US\$ 558), with 47 cases referred to the health center.

Interventions addressing the dimensions of food use and utilization: Clean Water Supply in Psar Khleang Village, Kampong Khleang Commune



Location:	Psar Khleang village, Kampong Khleang Commune, Siem Reap Province
Funding organization:	Tonle Sap Sustainable Livelihood Project (TSSL) funded by ADB
Implementing organization(s):	Commune councils of Kampong Khleang Commune with support from Project Implementation Unit in Siem Reap
Project period:	June 2009 to September 2009 (construction work)
Goal:	To provide enough clean water to beneficiaries for household use; to reduce sickness caused by using unclean water.
Direct beneficiaries:	110 households lacking clean water for household use.

Promising practice: Connection of project activities with existing government mechanisms is a key to sustainability.

Description

The commune investment plan, which is established and coordinated by the commune council every year with participation from villagers, was used as the starting point for ADB TSSL to identify the priority needs of the community. In this particular community in Psar Khleang village, lack of clean water was identified as the priority issue. ADB TSSL created the intervention around providing a clean water supply to the village.

ADB TSSL created the project management committee with wide participation from community members (commune councilors, village chief and village representatives). Project management committee members were trained on project management skills (project design, implementation, monitoring, etc.).

Evidence and outcomes

The project responded to the real needs of the target community with active participation from the villagers.

ADB TSSL built the infrastructure to provide a clean water supply to 110 out of 370 households in the village via a tower for water treatment, storage and distribution (capacity 20,000 liters) and two water collection ponds (capacity 1.36 million liters). Women now had more time for income-generating activities and taking care

of children. Households reduced expenses by not having to buy water from a private water supplier.

The project management committee was actively involved in all levels of the project: project design, implementation, monitoring and contracting, which was combined with ongoing training. The project had a successful exit strategy by including local authorities in the planning, execution and long-term strategy.

Promising practice: Conduct a feasibility study prior to the project startup.

Description

Before project startup, a project team comprised of an infrastructure advisor, a provincial project team, and commune councils or focal persons appointed by commune councils conducted the feasibility study with participation from villagers. The main purpose of this feasibility study was to define together with the “project owner” (commune councils and villagers) the appropriate locations for implementing the project—the place for constructing the water tower, the place for digging ponds, the source of water to pump, and that these locations were not prone to flooding to ensure long-time service of the project. At the same time, the study also sought to minimize the negative impact on the environment and livelihood of villagers; for example, the location for a new water tower or pond had to be on public land, not on land owned by a villager. If it could not be avoided,

the project had to negotiate with villagers to compensate the owner. The last purpose of the feasibility study was to assess the project's cost-efficiency—how many people would be served for the cost of building the infrastructure.

Evidence and outcomes

Due to the feasibility study, the project design and implementation was smooth. The location of infrastructure was defined correctly and in agreement with local authorities and villagers. ADB TSSL did not notice any conflict during the implementation.

ADB TSSL strategic approaches

Community involvement in project process.

The project was identified through selecting the priority plan in the commune investment plan. A project management committee was established with participation from commune councilors, the village chief and village representatives elected in a village meeting. The project management committee was responsible for coordinating a village meeting to develop a project description, coordinating and cooperating with project support staff, and conducting a project feasibility study.

Involvement in project design. With support from the project implementation unit at the provincial level, the project management committee supplied the project-related information (objective, beneficiaries, process, phase-out strategy, etc.) in the template provided, and the infrastructure advisor was responsible for drawing the technical design for the construction work.

Contractor bidding. The existing commune procurement committee created the advertising announcement and organized a bidding meeting to select the contractor to construct the physical output of the project, with active participation from the project management committee.

Coordination of water distribution and building maintenance. One commune councilor was assigned by the project management committee to manage the water tower and monitor the water distribution after the construction was completed. This commune focal person joined water suppliers (two people in the community who were selected through

bidding) and was trained on the management and maintenance of the project equipment.

ADB TSSL outcomes

Creation of project management committee.

One project management committee was established with the participation of the commune council, village chief and elected village representatives. The project management committee members participated in a capacity-building session on project management and monitoring to ensure the project implementation ran smoothly and successfully.

Infrastructure to supply clean water. In 2009, a tower for water treatment, storage and distribution with a capacity of 22,000 liters was built; two water collection ponds with a combined capacity of 13,600 cubic meters or 1,360,000 liters were created; and pumps and distribution pipes were installed as part of TSSL. In total, 110 of the 370 households in the village received a clean water supply that did not exist before the project. These families reduced expenses; they used to buy water from private water suppliers at KHR 2000 for one-third of a cubic meter and now pay the same price for three times as much. Since women of the beneficiary families didn't have to venture out to find clean water any more, they had more time to earn other income and take care of their children.

Improved health. Diarrhea was not reported among the 110 families that benefited from the project.

Commune budget supplemented. Through this project, the commune council earned an additional KHR 1,300,000 per year, which could be used to develop the commune. By 2013, the commune had earned a total additional income of KHR 5,200,000 from the water supply project, which was used for a 400-meter laterite road in Ta Chroneang village, Kampong Khleang Commune, as well as for a soil upgrading project for the commune office.

Intervention addressing the dimensions of food availability, food access, food utilization and stability: Integrated Community Development Program



Location:	Battambang, Kampong Thom and Siem Reap provinces
Funding organization:	Caritas Cambodia
Implementing organization(s):	Caritas Cambodia
Project period:	Long-term funding since 1994
Goal:	To achieve community empowerment, improved livelihoods, community-based disaster preparedness and advocacy.

Promising practice: A village development association ensures knowledge transfer, monitoring and sustainability.

Description

A village development association was created to be the focal point for knowledge transfer and information to the farmers, as well as to assist the project team with follow-up activities. The creation of a village development association was also a key exit strategy plan to ensure the sustainability of the project after phasing out.

The village development association approach increased the participation and ownership of the community. It was noted in the project that villagers participated and showed interest in all village development association activities.

Evidence and outcomes

Almost three-quarters of village development association members reported being satisfied with their group. The community members have always helped each other, and the formal setting of the village development association strengthened social cohesion and solidarity. More than three-quarters of the associations were capable of leadership in their community. Half were clear about their duties, despite some guidance needed from Caritas until they were able to independently carry out all their functions. All of the associations applied the suggested bookkeeping systems and opened bank accounts. Finally, 15 village development associations were planning to register as farmer cooperatives with the provincial agriculture department by the end of the year 2013 to promote their products.

Almost three-quarters of the most resource-poor population in Kampong Thom were included in the village development association and received technical and financial support for small business, multicrop agriculture (planting) and fish farms. Caritas noted that the quality of life for this population had improved.

In addition, under the leadership of the village development association management committee, the families in 24 village development associations set aside monthly savings in a savings fund. The savings fund helped members borrow money with low interest for small business purposes in the village, rather than borrow from a lender with high interest rates. Nonmembers were also able to borrow from the savings fund with low interest or without interest—in particular, vulnerable populations such as disabled persons, seriously ill community members, and disaster-affected families (house fire, flood and storm). The village development association prepared the terms and conditions for using the savings fund, the objectives of the interloaning activities, the interest rate, and eligibility for borrowing.

Promising practice: An integrated farming system produces longer-term change and impact on household life.

Description

Integrated farming systems were designed as a response to monoculture approaches that didn't meet the majority of household nutritional needs or guarantee resistance to shocks. Integrated farming combines activities

such as home gardening, composting, herbal insecticide production, fish and/or chicken raising, fruit tree cultivation, and SRI techniques to increase rice yield on farmland.

Evidence and outcomes

The integrated farming system increased household income through improved farming skills, capacity and business planning. Most of the 554 families who received technical training for farming applied the techniques taught by the project. Home gardening training included how to prepare vegetable gardens (how to prepare the rows and how to plant and care for the vegetables), how to compost, and how to make compost liquid. For home gardening, Caritas indicators showed that about two-thirds of families ate fresh vegetables every day and earned an average of KHR 50,000 per month to support their family. Fish farm training included pond preparation, breed selection, feeding and general care. Chicken and pig raising training included cage construction, breed selection, vaccination, feeding and care.

Caritas Cambodia project strategic approaches

Caritas Cambodia's strategic approach consisted of ensuring food security and nutrition among resource-poor households and improving their livelihoods through the formation of self-help groups known as village development associations. Village development associations were organized as animal food selling groups, rice selling groups, fishing groups, handicraft groups, dry season rice groups, chicken raising groups and pig raising groups. In Kampong Thom, Caritas Cambodia targeted 1892 of the 6195 families in six communes (30.84% of the population).

Caritas Cambodia considers its role as a temporary facilitator and gradually passes on the flag to the community through four key phasing out steps: group formation, group stabilization, group development and group sustainability.

Caritas Cambodia project outcomes

Community participation and ownership.

Caritas Cambodia noted that villagers participated in the community development process and showed interest in all village development association activities:

- 70% of village development associations were satisfied with their group.
- 79% of village development associations could lead and take responsibility in their community.

- 100% applied the bookkeeping systems and opened bank accounts.
- 50% were clear about their duties.
- 15 village development associations were planning to register as farmer cooperatives with the provincial agriculture department by the end of 2013.

Increased access to low- or no-interest loans for the villagers.

Under the leadership of the village development association management committee, monthly savings of 1951 families in 24 village development associations reached a total savings of US\$ 21,653 by the end of 2012. The savings fund helped members to borrow money with low interest to run small businesses in the village rather than borrowing from moneylenders with high interest rates. Nonmembers were also able to borrow from the savings fund with low interest or without interest. Vulnerable populations, such as disabled persons, the sick and disaster-affected families were prioritized. The terms and conditions of using the savings fund, objectives of the interloaning activities, interest rates, eligibility for borrowing, and other procedures were determined by the village development association.

Improved women's participation in community meetings and increased livelihood.

Caritas noted an increase of up to 85% of women's participation in community meetings and decision-making. Additionally, 65% of village development association leaders were women, and 70% of women leaders were very active and influential with the local authorities (village chief and commune council). Recently, one female village development association leader became a member of the commune council. Women were no longer entirely dependent on their husbands. They had jobs as merchants (selling vegetables, groceries, poultry, fish, Khmer noodles, sweets and white rice) and farmers (raising pigs, chickens and fish), as well as planting vegetables and other crops and carrying out handicraft activities. Caritas highlighted that women were now contributing to the household income and sending their children to school. The people in the community were aware of gender issues and they had reduced domestic violence.

Inclusion of the most vulnerable segment of the population. Seventy percent of the most resource-poor population in Kampong Thom were included in the village development

association and received technical and financial support. Encouragement from the village development association was necessary for this segment of the population to continue to participate in the project. Caritas noted that the quality of life was better than before for the most vulnerable.

Increased knowledge of community's environmental impact. One topic of discussion in the monthly village development association meeting was raising awareness of the importance of the environment. Caritas noted that the community now understood about environment pollution and had reduced dropping garbage into the river or lake; reduced deforestation activity (especially the forest along the river and lake that is the habitat for many aquatic species); and increased the use of natural fertilizer with a corresponding reduction in the use of chemical fertilizers.

Establishment of clear business plans for small business owners. Business plan training helped villagers understand how to prepare plans on how to run a business, and how to calculate fixed costs and profit. In 2011, among the 711 members trained from the 22 villages, 70% were able to organize a business plan, while 60% opened and earned profits from a small business. Small businesses included buying and selling vegetables, groceries, fish and white rice, as well as pig raising, chicken raising, dry season rice cultivation and crop growing.⁸ Table 8 shows the average household income earned by small business owners.

Increased household income from farming and improved farming skills and capacity. Among the 554 families who received technical training for farming, 65%–75% applied the techniques taught by the project. Home

gardening training included how to prepare a vegetable garden, how to compost and make compost liquid, and how to prepare rows and plant and care for the vegetables. For home gardening, Caritas indicators showed that 65% of families had fresh vegetables to eat every day and were earning an average of KHR 50,000 per month. After fish farm training and chicken and pig raising training, Caritas measured the morbidity and mortality rate of animals and found that 72% of chickens, 72% of pigs and 56% of fish did not suffer from disease or death.

Improved irrigation water system. Caritas formed 15 user groups for managing the irrigation system. Fifteen ring wells were constructed in five villages; six culverts and one roof were constructed.

Beneficiaries' perception of Caritas Cambodia project effectiveness

The study team visited two project sites of Caritas' Integrated Community Development Program in Kampong Thom Province: Bo Phoeung village, Kompong Ko Commune, and Boeung Andaek village, Tbeng Commune. All of the interviewees stated that they earned more income from selling their products since joining the project. The products and activities were the following: selling dry season rice crops, growing home gardening products, poultry raising, and other income-generating activities established through borrowing from the savings group. When asked which intervention they appreciated the most, respondents specified the savings and lending activities, because the community now had access to loans with very low interest rates, flexible repayment schemes and no collateral required. These loans helped more resource-poor families cope with shocks because they could access funds during a crisis or borrow to start a small business.

Type of small business	Average income per month (KHR)
Selling white rice	230,000
Cake selling	180,000
Grocery selling	150,000–220,000
Buying and selling fish	200,000
Buying and selling chicken	220,000
Selling sweets	210,000
Selling Khmer noodle	180,000
Pig rearing	500,000 (in 4 months)
Growing and selling fresh vegetables	50,000

Table 8. Average household income earned through small business.

ADDITIONAL LESSONS LEARNED AND RECOMMENDED PRACTICES

Interviews with organization field staff and beneficiaries yielded first-hand accounts of perceived best practices that were often not captured during the formal analysis of the projects' impact. In the hopes that the feedback offered can be useful to future projects, the research team would like to mention that project length, village animal health workers and seasonal calendars were referenced anecdotally by beneficiaries and/or field staff as successful factors in a sustainable project.

Project length

Interviews with project beneficiaries indicated that longer projects were more appreciated. Projects that lasted less than 5 years (without coaching) did not allow villagers to gain enough confidence in new methods. Interviews with organization staff suggested that projects lasting less than 3 years were not sustainable.

Village animal health workers

An interview with the village animal health worker in Tayek village, Tayek Commune, Sotr Nikum District, Siem Reap Province, demonstrated that training specific members of the community on vaccination could improve the health of the entire community. The village animal health worker received training on how to diagnose animal diseases and give vaccinations from Srer Khmer and the District Office of Agriculture. Villagers always called on him to provide vaccination services or to treat their sick livestock. Many customers were from other villages and communes, showing that there was a need for trained and trustworthy village animal health workers. The vaccinations provided the village animal health worker with a source of income, as well as helping the community members protect their livestock and other animals against disease.

Seasonal calendar

One organization cited the seasonal calendar as one of the most useful tools in terms of disaster risk reduction. A seasonal calendar is a participatory tool that helps beneficiaries explore seasonal changes in gender-specific workload, disease, income, expenditure

and weather, as well as other elements.⁹ The calendar tracks the trends of events, activities, income and problems that occur during the year, acting as a communal memory. Based on the information in the calendar, villagers can make informed decisions about which activities should be done and when and how the activities should be carried out. This allows households and communities to organize activities in accordance with their agricultural and income-generating activities. Seasonal calendars are normally drawn on a large sheet of paper with the months of the year listed along the top, with the cycle of each element marked below the months.

If the seasonal calendar is well prepared and involves full participation from the community, it can be very informative and can help villagers remember to prepare for regularly occurring events or activities so that their household living conditions do not deteriorate. Seasonal calendars can also be used to keep a record of natural resources that the community depends on, such as fish varieties found at certain times of year. A regularly updated seasonal calendar can be used as a monitoring tool to study natural resource trends. It can also be presented to concerned authorities and government agencies when asking them to take appropriate action.

Time constraints

One of the main limitations of this study was the short amount of time allotted for its completion. The study began near the end of 2012, a period with many holidays in Cambodia, which complicated the organization of workshops and field visits. Tight deadlines limited the number of NGOs that could be interviewed, as schedules sometimes could not be reconciled. As a result, some projects or organizations could have been overlooked in the intervention matrix. To mitigate this risk, a draft of the matrix was shared with food security and nutrition experts during two consultative workshops held on 4 December 2012 and 29 March 2013 at the Cambodiana Hotel in Phnom Penh.

Not only do food security and nutrition practices directly encompass the work of two government line ministries (Ministry of Agriculture, Forestry and Fisheries and Ministry of Health), but they can also fall under the jurisdiction of other ministries that can play a direct or indirect role in one or more of the four dimensions of food security and nutrition. Examples might include the Ministry of the Interior, the Ministry of Social Affairs, the Ministry of the Environment, or the Ministry of Planning. The study team was only able to meet with a few of these ministries, though the study will be shared with all interested parties.

During the results-sharing workshop on 29 March 2013, it was noted that although food security and nutrition are often placed together and overlap in some ways, they are both large fields of study with different indicators, best practices and measurements of success. It was noted that these study results mainly focused on food security interventions. In this report, nutrition was limited to the food security dimension of food use and utilization. It was agreed by workshop participants that nutrition initiatives are larger and more complex than several specialized interventions that fit into this food security dimension, such as cooking classes and vitamin supplement initiatives.

However, the research team was not able to meet with medical clinics, nutrition experts and organizations specializing in nutrition during the time allotted.

Additionally, time constraints made it necessary to limit the scope of the study to the five provinces surrounding the Tonle Sap Lake, even though there are many interesting projects being implemented by AAS along the Tonle Sap and Mekong rivers. Many projects in these areas were mentioned as promising, and could be successfully implemented along the Tonle Sap Lake; however, those projects were not within the scope of this study.

Comparison difficulties

Another limitation encountered by the study team was the diverse range of project objectives, definitions of success, and monitoring and evaluation indicators, which made comparison among interventions difficult. The majority of projects were comprised of multiple interventions that addressed one or more of the four food security and nutrition dimensions to varying degrees, and the selection of successful interventions was further complicated by the different needs and resources of the target villages. While some interventions worked well in one region (e.g. within the Tonle Sap floodplain), it could be argued that they would not be appropriate for other regions.

These comparison difficulties led to the decision to choose projects for field verification that included all four food security and nutrition dimensions. This allowed the beneficiaries to choose which intervention had the greatest impact on their food security. This decision yielded valuable results, as the study could have overlooked small but successful interventions that only affected one dimension of food security. The study team attempted to mitigate this limitation by carrying out field verifications during Stage 2 of smaller projects using similar methodologies to identify successful interventions.

Beneficiary migration and low education levels

It is clear from beneficiary feedback that resource-poor households in the region are eager to join program activities; however, migration can hinder the participation of the most vulnerable households. During this study, migration among the resource-poor and the most resource-poor was repeatedly reported by data collection staff in both Pursat and Kampong Thom provinces as an obstacle, due to the difficulty of finding project beneficiaries remaining in the village after harvest. Additionally, the field work was conducted between 08:00 and 16:00, when many villagers, particularly men, were busy in the field. As a result, the number of male focus group discussion participants was lower than expected in all villages except Bo Phoeung village in Kampong Thom.

Field data collectors also pointed out that the majority of the respondents, particularly those interviewed individually, had little education and very short memories. Beneficiaries had difficulty explaining the changes in their lives, and could not specify which activity or intervention brought about the improvement. Beneficiaries struggled to extrapolate project benefits beyond the concrete and material items received from the project to less tangible benefits such as capacities gained through training.

CONCLUSIONS AND RECOMMENDATIONS

The promising practices listed in this document were identified through conversation with project staff and funding organizations, evidenced by project documents and positive results recalled by project beneficiaries regarding their food security and nutrition.

From the project design through the final evaluation of each intervention, it is very important to ensure beneficiary “view” at each level: feasibility study, monitoring and evaluation, targeting, participation, and accountability. It is recommended that project monitor indicators warn of undue pressure being put on aquatic agricultural systems, such as by overfishing. If such indicators are taken into account, then best practices can be defined—practices that are naturally sustainable and don’t cause stress or bring imbalance to the aquatic agricultural system where they are implemented.

Identifying best practices in marketing and linking beneficiaries to the private sector was another result that workshop participants were interested in seeing, but which was not included in this report. Low commodity prices, cheap imported vegetables and the control of market prices by foreign merchants were some of the challenges that were discussed. Further research in this area would be appreciated by food security and nutrition experts.

Finally, all workshop participants were in agreement that there are chronic issues that cannot necessarily be addressed through food security and nutrition initiatives. These issues include droughts and floods endemic to aquatic agricultural systems, poor roads, and the need for a reliable water source accessible to all members of the community. Initiatives to share best practices within the food security and nutrition community (one of the objectives of this report) will help guide future interventions and will have greater and longer-lasting impact on the food security and nutrition of households dependent on aquatic agricultural systems.

NOTES

- ¹ World Bank. 2009. *Cambodia Poverty Profile and Trend 2007*.
- ² International Food Policy Research Institute. 2010. *Global Hunger Index*.
- ³ [UNDP] United Nations Development Program. 2010. *International Human Development Indicators*.
- ⁴ ADB, USAID, Oxfam America, World Bank, ActionAid Cambodia, Fisheries Administration (Danida Natural Resource Management and Livelihoods Programme), CEDAC, Caritas Cambodia, Concern Worldwide, World Vision, Helen Keller International (HKI), EU (ECOSORN), Srer Khmer, RACHA.
- ⁵ Ministry of Planning, Royal Government of Cambodia. <http://www.mop.gov.kh/>
- ⁶ World Bank. 2002.
- ⁷ Garret J and Natalicchio M. 2011. *Working Multisectorally in Nutrition: Principles, Practices, and Case Studies*. Washington, DC: International Food Policy Research Institute.
- ⁸ Caritas Cambodia progress report on Kampong Thom integrated development program, January to December 2011.
- ⁹ FAO Seasonal Calendar: An Example from a Participatory Household Food Security and Nutrition Project in Ethiopia. <http://www.fao.org/Participation/tools/seasonal.html>
- ¹⁰ In Kompong Kdei village, the study team could not gather enough men to conduct a male focus group discussion because the majority of the beneficiaries had migrated for temporary work to other provinces or to Thailand.

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ANNEX A: QUESTIONNAIRE FOR MEETING WITH NGOS IN PHNOM PENH WORKING ON FOOD SECURITY AND NUTRITION IN TONLE SAP REGION

Organization:

Contact person:

Date:

A. Identifying successful activities and projects

- What are your organization's best practices to design, plan, implement, manage, monitor and evaluate a food security and nutrition project? What results is the organization proud of? What do you think is working best? Can you elaborate how this activity or aspect of the project was done?
- What area did the most successful project(s) cover? (Which province, district, commune, village; how many households?)
- Who were the beneficiaries? How were they identified or selected?
- What resources were required to implement the activity or project?
- How long has the activity or project been implemented with the beneficiaries? How many beneficiaries maintained a secure level of food security and nutrition or continued project activities after the project ended?

B. Identifying factors that contributed to the success of the activity or project

- What are factors or elements that you think contributed to the success of that aspect or activity of the project?
- Who benefited the most from the project and why (as a way of getting at the specific communities, households and individuals with which the project was most successful)?
- Were there any unanticipated impacts from the project? What were they? How did you find out?
- What were the challenges faced by the project? How were these overcome (to understand if they refined any part of the project, identified good learning during implementation, etc.)?
- If you have a chance to replicate successful aspects or activities of this project, would you adjust any part of the activity or project before having it re-implemented?

ANNEX B: QUESTIONNAIRE FOR NGO FIELD STAFF

Study on Household Food Security and Nutritional Outcomes in the Tonle Sap Region

Interview with NGO field staff of _____ name of organization _____

Sex: Male Female Age: _____ years Position _____

Work experience:

No. of years worked: _____ years

No. of years in development sector: _____ years

No. of years in current position: _____ years

Education:

Field of study _____

Degree: < Bachelors Bachelors > Bachelors

Other training:

List three trainings related to current position that you think help you do the job effectively:

No.	Training course name	Key learning	Year attended	Trainer institution

1. Role and responsibilities of current position _____
2. How many villages are under your responsibility?
3. How often per month do you go to the village?
4. How did you gain people's interest to participate in your project? How has people's trust in you and the project been built?
5. How did you start the project (for example, began with something simple and built up or introduced a package)?
6. Did you demonstrate it first at the organization's expense or ask the farmers to do it at their own expense?
7. How much follow-up support (mentoring) was given (how frequently and for how long)?
8. How did you use the information from monitoring and evaluation to feed back to the farmers and were the farmers encouraged to modify and experiment or just given a set procedure to follow explicitly?
9. Have you observed any positive changes in the villages you are responsible for as the result of the project? List the five most significant positive changes:
 - 1 _____
 - 2 _____
 - 3 _____
 - 4 _____
 - 5 _____

10. Among the changes you listed, which has had the most positive impact on the food security and nutrition of the beneficiaries? _____
11. Why do you choose this change as most significant? _____
12. What do think caused the change to occur in the village? _____
13. What are the interventions (not limited only to those implemented by your NGO) you think addressed the food security and nutrition of the people in your target village? Please explain.

Intervention	Explanation

14. Were there any challenges and/or problems that affected your interventions in the village? How did you address them?
15. What would you like to change and/or adjust in your implementation to make it more successful?

ANNEX C: FOCUS GROUP DISCUSSION QUESTIONNAIRE

Study on Household Food Security and Nutritional Outcomes in the Tonle Sap Region

Introduction: We are a team to study and learn from you on the activities and/or projects you have been participating in to improve your household food security and nutrition. You have been participating with _____ (name of organization) _____ for _____ years. We would be grateful if you could answer a few questions for us:

Date: _____ Facilitator: _____ Note Taker: _____

Questions:

1. What project or activity are you involved in? How did you get involved?
2. List five significant positive changes you have experienced in your food security and nutrition since you became involved in these activities.
 - 2.1 Among these positive changes, which one is the most significant to your food security and nutrition? Why?
 - 2.2 What activities do you think helped to bring the most positive change that is significant to your food security and nutrition? Why?
3. Who has benefited the most from the project? Why?
4. Who has benefited the least from the project? Why?
5. Do you see challenges in continuing these activities in the future by yourself? What challenges? What would you do to overcome those challenges?
6. Do you have any suggestions or recommendations to the organization for improving this or a similar project?
7. Are there any resource-poor families in your village that have not participated in a development project like you? How many?
 - 7.1 Why didn't they participate or why haven't they been selected or included in the development project?
 - 7.2 What would you like to suggest the organization do to include them?
8. Is there anything else you would like to tell us about project activities?

ANNEX D: INDIVIDUAL INTERVIEW BENEFICIARY QUESTIONNAIRE

Study on Household Food Security and Nutritional Outcomes in the Tonle Sap Region

Introduction: We are a team to study and learn from you on the activities and/or projects you have been participating in to improve your household food security and nutrition. You have been participating with _____ (name of organization) _____ for _____ years. We would be grateful if you could answer a few questions for us:

- Growing rice Area for home gardening
 Capturing wild fish Fish pond or cage culture
 Cattle/cow raising Poultry raising
 Other income-generating activity (specify) _____

Are you a member of any group and/or community-based organization? Name them.

Questions:

1. **Food acquisition:** annual pattern of income level and source, food acquisition strategies.

1.1 Has your annual pattern of income changed? (If no, why?)

If yes, please explain the pattern of changes and estimate average change between before joining the intervention to last year.

Which activity or intervention do you think has helped to make this change the most? Why?

1.2 How do you get the food that you eat each day nowadays? Is it different from before joining the project? (If no, why?)

If yes, please explain how the new way to find or obtain food is different from the old way and what has changed.

Which activity or intervention do you think has helped to make this change the most? Why?

2. **Food production:** annual patterns of food production, food production practices, diversity of produce, production yield and marketing.

2.1 How do you produce food nowadays? Is it different from before joining the project? (If no, why?)

If yes, please explain how it (rice, fish, poultry, vegetable, fruit and other kind of products) has changed. (E.g. gain more quantity, produce more variety of food, or what?)

Which activity or intervention do you think has helped to make this change the most? Why?

2.2 Have you sold any of your products recently? Which products? How much (average for a season, month or year) did you get from selling those products compared to before you participated in this project?

Which activity or intervention do you think has helped to make this change the most? Why?

3. **Food consumption patterns:** dietary diversity (intake of nutrients and calories), intra-household food allocation, annual patterns of food consumption.

3.1 Has your pattern of food consumption changed compared to before you joined the project? (If no, why?)

If yes, please tell us what kind of food you ate more and how often. (Did you eat more fish, chicken, pork, beef, fruit [> 2 kinds] and vegetables [> 2 kinds] last year?)

3.2 Has the health of your children changed since you joined the project? How? (Not too thin, no skin inflammation or itchiness, livelier, etc.?)

Which activity or intervention do you think has helped to make this change the most? Why?

3.3 How often do your children have diarrhea compared to before joining the project?

Which activity or intervention do you think has helped to make this change the most? Why?

4. **Coping mechanisms to sustain food security and nutrition:** vulnerability to disasters, ability to cope with shocks.

4.1 Has your method of dealing with drought (long drought) and flood changed compared to before you joined the project? (If no, why?)

Which activity or intervention do you think has helped to make this change the most? Why?

4.2 What will you do if an income earner in your family can no longer earn income or earns less income than needed in the family? What did you do before participating in this project?

Which activity or intervention do you think has helped to make this change the most? Why?

5. Of all the activities or projects you listed, what activity has been the most useful to you? Please explain with examples.

6. Who has benefited the most and who benefited the least from the project? Why?

7. Do you see challenges in continuing these activities in the future by yourself? What challenges? What would you do to overcome those challenges?

8. Are there any resource-poor families in your village that have not participated in the development project like you? How many?

8.1 Why didn't they participate or why haven't they been selected or included in the development project?

8.2 What would you like to suggest the organization do to include them?

Thank you for your valuable time and input.

ANNEX E: QUESTIONNAIRE – TSSL PROGRAM WATER SUPPLY PROJECT IN SIEM REAP

Study on Household Food Security and Nutritional Outcomes in the Tonle Sap Region

Questions:

1. What made the commune council select this water supply project to implement?
2. What kinds of support (financial, material, technical, etc.) do you get and from whom to implement this project? How often do you get those supports?
3. What are significant positive changes you have experienced after having this water supply running well?
4. Have the changes significantly affected the food security and nutrition of the people in the commune? How?
5. Who has benefited the most and who benefited the least? Why?
6. Do you see challenges in continuing these activities in the future? What challenges? What would you do to overcome those challenges?
7. Do you have any suggestions or recommendations to the organization to adjust or change the implementation if they want to implement this or a similar project again?
8. Thank you for your valuable time and input.

ANNEX F: PROJECTS SELECTED FOR FIELD VERIFICATION

Donor/NGO	Partner	Project name	Province
ADB	Commune council	Clean Water Supply Project under TSSL	Siem Reap
Asian Community Trust	CEDAC	Improving Livelihood of Subsistence Rice Farmers in Samaki Meanchey and Kampong Tralach Districts	Kampong Chhnang
Caritas	-	Integrated Community Development	Kampong Thom
Concern Worldwide	Support Organization to Rural Farmers/Ponleu Kumar	Strengthening Community Development and Local Governance in Pursat (EU NSA)	Pursat
HKI	Local NGOs	Homestead Food Production	Pursat
Oxfam America	Reproductive and Child Health Alliance (RACHA)	Saving for Change	Siem Reap
USDA/CRS	Srer Khmer	Integrated Farming and Marketing System Project	Siem Reap

ANNEX G: FOCUS GROUP DISCUSSIONS AND INDIVIDUAL INTERVIEWS DURING FIELD VERIFICATION

NGO	Province	District	Commune	Village	Male focus group discussion participants	Female focus group discussion participants	Total focus group discussion participants	Male individual interviews	Female individual interviews	Total individual interviews
Caritas	Kampong Thom	Kompong Svay	Kompong Ko	Bo Poeng	13	15	28	1	9	10
			Tbeng	Boeung Andeng	6	16	22	5	5	10
HKI	Pursat	Bakan	Romlech	Kompong Kdei	10	9	9	3	4	7
Concern	Pursat	Korko	O Sandan	Thnoeng	8	10	18	4	6	10
Concern	Pursat	Bakan	Khnar Totoeung	Pteas Sla	7	19	26	1	9	10
CEDAC	Kampong Chhnang	Kampong Tralach and Samaki Meanchey	Peany and Thlok Vien	Steung and Spean Dek	4	15	19	0	12	12
			Kien Sangke and Tayek	Chi Keak and Tayek	3	15	18	1	4	5
Srer Khmer	Siem Reap	Soth Nikum	Kien Sangke and Tayek	Chi Keak and Tayek	3	15	18	1	4	5
RACHA	Siem Reap	Puok	Muk Pen	Kuok Reang	2	6	8	0	3	3
Total					43	109	148	15	52	67

ANNEX H: NONGOVERNMENTAL AND GOVERNMENT ORGANIZATIONS INTERVIEWED

No.	Organization/Agency	Name	Position
1	ActionAid	Ms. Sen Kimtheng	Program and Policy Coordinator
2	ATSA	Ms. Pay Sodavy	Director
3	Caritas Cambodia	Ms. Nay Vichheka	Planning, Monitoring and Evaluation Manager
4	CARD	H.E. Srun Darith	Director of Food Security and Nutrition Department
5	CEDAC	Mr. Sim Samoeun	Executive Director
	CEDAC	Mr. Him Noeun	Program Officer
6	FAO	Mr. Oum Kosal	Food Security Expert
7	HKI	Mr. Hou Kroeun	Program Manager
	HKI	Ms. Ly Sokhoing	Database Manager
8	Ministry of Agriculture, Forestry and Fisheries	Mr. Mak Soeun	Director of Extension Department
9	Ministry of Health	Dr. Ou Ket Vanna	Program Manager Nutrition
10	Ministry of Interior	Mr. Yin Malyna	Director of Department of Local Administration
11	Oxfam	Mr. Luy Piseyrith	Program Officer – Farmer-Led Agriculture Innovation for Resilience
12	Srer Khmer	Mr. Pov Sovann	Executive Director
	Srer Khmer	Mr. Victor Onions	Advisor
	Srer Khmer	Mr. Sours Sokha	Senior Project Manager
	Srer Khmer	Mr. Troy Bogaart	Project Manager
13	World Vision	Mr. Leng Vireak	Senior Manager

ANNEX I: PARTICIPANTS IN CONSULTATIVE WORKSHOP (DECEMBER 2012)

Name	Gender	Organization
Khat Bora	M	Fintrac
Heng Chhong Horng	F	Buddism for Development Kampong Thom
Ly Khom	M	Buddism for Development Kampong Thom
Hong Sophea	M	Fintrac
Brian Wind	M	Oxfam
Suon Sokheng	M	CRS
Sarah Gilbert	F	CRS
Sen Kimtheng	F	ActionAid
Chea Sinath	M	ActionAid
Nay Vichhekar	F	Caritas Cambodia
Hot Chanthy	F	Caritas Cambodia
Victor Onlons	M	Srer Khmer
Sim Samoeun	M	CEDAC
Ou Brohs	M	CRS
Privan Lympanboon	F	Food Security and Nutrition Study Consultant
Ashley McInnes	F	WorldFish
Kim Miratori	M	Concern
Pan Sodavy	F	ATSA
Patrica Goscia	F	Consultant for AiDA
Conedarge Alvanes	F	Gender Consultant-AiDA
Suos Sokha	M	Srer Khmer
Saytreuk Phaline	F	World Vision
Rafaramalala Volanarisoa	F	CRS
Chea Seila	F	WorldFish

ANNEX J: PARTICIPANTS IN CONSULTATIVE WORKSHOP (MARCH 2013)

Name	Gender	Organization
Pow Aing	M	Gret
Min Sophoan	M	Agronomes et Vétérinaires Sans Frontières
Hong Sophea	M	Fintrac
Saranak	M	CARD
Leung Chench	M	Farmer Livelihood Development
Him Khartrick	M	CEDAC
Pou Sovann	M	Srer Khmer
Victor Onions	M	Srer Khmer
Hou Kroeun	M	HKI
Pan Sodavy	F	ATSA
Uy Chanthorn	F	Heifer
Sarah Gilbert	F	CRS
Ham Samnang	M	Translator
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Leak Chowan	M	Ponleu Ney Kdey Sangkhum
Oum Kosal	M	FAO
Eam Ry	M	Cooperation Committee for Cambodia (local NGO)
Kim Miratori	M	Concern
Khat Bora	M	Fintrac
Sim Chan Borina	F	Ponleu Kumar Organization
Hak Kiri	M	Alliance Association for Rural Restoration
Huot Chhun	M	Action for Research and Development
Samrith Uth	M	Environmental Protection and Development Organization
Ly Khom	M	Buddism for Development Kampong Thom
Rin Rasmey	F	Cooperation Development for Cambodia
Hong Sambo	M	Promvihearthor Organization
Chea Sinath	M	ActionAid
Saphorn Molida	M	Mlup Baitong

ANNEX K: MAPPING OF INTERVENTIONS IN TONLE SAP REGION

Donor organization	Implementing agency	Province	Project title	Strategic objectives of project	Strategic approach (activities)	Key achievements	Criteria in selecting or defining target beneficiaries	No. of households covered by the project	No. of villages covered by the project	No. of communes covered by the project	No. of districts covered by the project	Status of the project	Contact name	Website
Asian Development Bank (1st loan)	Ministry of Agriculture, Forestry and Fisheries	Kampong Chhnang, Pursat, Battambang, Siem Riep, Kampong Thom	Tonle Sap Environmental Management Project (TSEMP)	The goal of the project was sustainable management and conservation of natural resources and biodiversity in the Tonle Sap basin. Its objective was to enhance systems and develop the capacity for natural resource management coordination and planning, community-based natural resource management, and biodiversity conservation in the Tonle Sap Biosphere Reserve.	To accomplish its objective, the project had three closely interrelated components: (1) strengthening natural resource management coordination and planning for the Tonle Sap Biosphere Reserve; (2) organizing communities for natural resource management in the Tonle Sap Biosphere Reserve; and (3) building management capacity for biodiversity conservation in the Tonle Sap Biosphere Reserve.	The project area encompasses the Tonle Sap Biosphere Reserve and parts of the five adjoining provinces. It comprises the core areas, the buffer zone, and the transition area that extends to and is ultimately bounded by Highways No. 5 and No. 6. In 1998, about 2.9 million people lived in the project area, of whom about 38% were below the poverty line. About 10% depended wholly on fishing and about 40% had fishing as a secondary occupation. More than 1.2 million people lived in the area bordered by the highways; the population of the core areas was estimated at 4200 and that of the buffer zone at 66,000.	Institutions related to the Tonle Sap Biosphere Reserve were engaged for capacity development.	N/A	N/A	N/A	N/A	Completed	Mr. Hem Chanthou	http://www2.adb.org/Documents/PAMs/CAM/33418-CAM-PAM.pdf
Asian Development Bank	Ministry of Interior and subcontracted private sector and NGO to deliver services	KPN, Pursat, Battambang, Siem Riep, Kampong Thom	Tonle Sap Sustainable Livelihoods Project (TSSL)	To finance livelihood-enhancing activities, selected as an outcome of community-driven development processes, in communes located either fully or partly in the buffer zone and core areas of the Tonle Sap Biosphere Reserve. The project's expected impact was to improve livelihoods.	(1) Support community-driven development by (a) establishing a community livelihood fund for the commune to respond to livelihood proposals from communities; (b) designing and implementing livelihood investment packages. (2) Safeguard core area review and recommend policy and management of natural resources in core area. (3) Build skills and awareness for sustainable livelihoods through capacity building to CARD to enhance its coordination role with relevant ministries and NGOs.	Almost 50% of the social infrastructure subprojects built roads (239 kilometers). Irrigation subprojects constructed a small dam, 13 water gates and 27 kilometers of canals. In all, 54 school classrooms, 17 commune council offices, 31 community fisheries offices, community meeting halls, health centers, solar installations, and a rural electrification scheme were financed. The main focus of the income-generating subprojects was livestock husbandry (nearly 60% of all income-generating subprojects—mostly pigs, but also cattle, poultry and fish). Fish processing and sauce production were popular, as well as vocational training and equipment (e.g. for tailoring, hairdressing, motorcycle repairs). Credit also supported purchases of small boats and handicrafts and production of noodles, fruit and vegetables. The income-generating subprojects benefited 135,106 resource-poor people, about 80% of whom were the most resource-poor. The average income-generating subproject cost was just over US\$ 5000. The community fisheries subprojects (average cost about US\$ 3600) provided equipment (153 boats, 9 sets of gear to enable community patrolling, plus assistance for operational costs) and 33 subprojects included the rehabilitation of fish sanctuaries (22), replanting of flooded forest areas (20 hectares), installation of observation towers (4), and renovation of 33 community fisheries offices.	Followed Ministry of Interior decentralization and deconcentration process.	54,857	316	37	N/A	Completed	Mr. Yin Malina	http://www.adb.org/projects/search/519
Asian Development Bank	Ministry of Water Resources and Meteorology is executing agency, with Ministry of Economy and Finance as chair of steering committee, which consists of Ministry of Water Resources and Meteorology; Ministry of Rural Development; Ministry of Agriculture, Forestry and Fisheries; and Ministry of Interior	Kampong Chhnang, Pursat, Battambang, Siem Riep, Kampong Thom, and two districts of Banteay Mean Chey province adjacent to Tonle Sap	Tonle Sap Lowlands Stabilization Project (TSLSP)	Technical assistance to conduct feasibility-level design of a range of environmentally sound, sustainable livelihood activities selected by affected communities in the target communes, including water conservation and small-scale irrigation infrastructure; other small-scale infrastructure and natural hazard risk-reduction measures; improvements in extension for agriculture, forestry, crop diversification, participatory irrigation management and livestock (including aquaculture); nonfarm income-generating activities; and vocational training and research.	(1) Livelihood survey in Tonle Sap lowland area using participatory rural appraisal tool; (2) selection of subprojects to be agreed by ADB and Ministry of Water Resources and Meteorology; (3) feasibility study of selected subprojects and report to ADB and steering committee.	Participatory rural appraisal results, feasibility study of subproject, environmental impact assessment of selected subproject reported. Tonle Sap Lowland Rural Development Project developed for funding by ADB.	N/A	N/A	N/A	N/A	N/A	Completed	Mr. Hem Chanthou	http://www.adb.org/projects/37287-012/main

Donor organization	Implementing agency	Province	Project title	Strategic objectives of project	Strategic approach (activities)	Key achievements	Criteria in selecting or defining target beneficiaries	No. of households covered by the project	No. of villages covered by the project	No. of communes covered by the project	No. of districts covered by the project	Status of the project	Contact name	Website
Asian Development Bank	Ministry of Water Resources and Meteorology is executing agency; Provincial Department of Ministry of Water Resources and Meteorology; Ministry of Rural Development; Ministry of Agriculture, Forestry and Fisheries; Ministry of Interior is implementing agency; German Development Service providing technical assistance	14 commune councils in Kampong Chhnang, 13 commune councils in Pursat, 13 commune councils in Kampong Thom	Tonle Sap Lowlands Rural Development Project (TSRDP)	The project's goal was to improve livelihoods in three provinces in the Tonle Sap basin, as summarized in the project design and monitoring framework. Rural communities would use the improved coverage and quality of rural infrastructure (irrigation, roads, village-level postharvest facilities and markets) and new opportunities resulting from the application of new skills in the pursuit of on-farm and off-farm enterprises to improve their livelihoods.	(1) Improve rural infrastructure through (a) improvement and development of social infrastructure; (b) improvement of agricultural water management infrastructure; and (c) improvement of rural roads and communication infrastructure. (2) Increase livelihood options for rural communities through financial services and technical services. (3) Effectively manage project implementation.	All 40 of the target communes receiving a block grant from the project. Construction work for nine subprojects, which would irrigate 2154 ha, were almost completed. Rural road construction had progressed to 40% of the planned activities. Agriculture activities included a total of 11,069 farmers, including 6581 women (66% of total participants), who participated in a series of trainings, and a total of 15,561 villagers (indirect beneficiaries), including 8975 women (58% of total beneficiaries), participated in field days. Off-farm activities, developed by two Deutsche Gesellschaft für Internationale Zusammenarbeit agriculture business experts, were integrated into the work plan and implemented. Activities under this component were to be implemented in the remaining 16 targeted communes in 2012.	N/A	68,000	N/A	40	9	Ongoing	Ministry of Water Resources and Meteorology Tonle Sap Lowlands Rural Development Project ADB Loan No. 2376-CAM (SF)/ADB Grant No. 0092-CAM (SF)	http://www.tslrdp.org/
Asian Development Bank	Ministry of Agriculture, Forestry and Fisheries is executing agency and implementing agency	Banteay Mean Chey, Kampong Chhnang province, Kampong Thom, Siem Riep	Tonle Sap Poverty Reduction and Smallholder Development Project (TSRSDP)	Increase agricultural productivity and improve access to markets and credit in 196 communes in four provinces in the Tonle Sap basin.	1239 livelihood improvement groups for both the farm and off-farm groups set up and operational. Two project-financed commune extension workers (one male and one female) placed in each commune and hired by the commune council to assist with establishing and supporting the livelihood improvement groups. Upgrading postharvest management to reduce postharvest losses and improve processing, particularly in village rice mills, and marketing will involve providing funding for new support services, capacity development and equipment. Funding of the development and upgrading of rural infrastructure to support increased agricultural productivity, diversification and market access, with the investments determined by the commune investment plans. Establishment of group revolving funds to enable the project beneficiaries to exploit the technologies and training made available through the project. Assistance to microfinance institutions to bring affordable and sustainable microfinance to resource-poor households and groups for farm production and livelihood activities, including trade, processing, and storage and marketing. Piloting the establishment of e-kiosks in district centers to provide local farmers and business persons with access to websites that provide current information on markets, pricing and technology. Development of subdecree for farmer associations based on the Royal Decree, preparation and pilot testing of guidelines for the management of farmer associations and the preparation of the associated training materials required. Support for project management, including provision of vehicles, motorcycles, training to staff and authorities, and setup and maintenance of website.	Project implementation just started in early 2011.	Households in the project communes with 1.0 ha or less were considered resource-poor smallholders and potential for increased agricultural productivity were the focus of the proposed investment project.	630,000	N/A	196	28	Ongoing (1 March 2010–28 February 2017)	Mr. Hem Chanthou	http://www.ifad.org/operations/projects/design/98/cambodia.pdf
USAID (awarded to Fintrac)	17 local NGOs (see USAID HARVEST project worksheet for more detail on the NGOs)	Battambang, Kampong Thom, Pursat and Siem Reap	Cambodia HARVEST	The overarching goals of Cambodia HARVEST were to improve food security, strengthen natural resource management and resilience to climate change, and increase the capacity of the public and private sectors and civil society to support agricultural competitiveness. Specific objectives included increasing incomes for 70,000 rural households; accruing economic benefits for 140,000 people; developing income-generating activities for 7000 "extreme poor" households; diversifying cropping systems for 31,500 households; and generating US\$ 28 million in incremental new agricultural sales.	Agricultural technical extension including SRI, diversified cropping system, demonstration farming module, horticultural income, training, natural resource area improvement, training on improved nutrition practices, development of marketing group to improve marketing skills and access to market, supporting natural resource-based community-based organizations (e.g. community forestry and community fisheries), working with government at national level on policy review and development for good agriculture practice and food safety.	To date, Cambodia HARVEST has worked directly with a total of 8973 lead clients with the majority on established field demonstration sites across all program areas: 7438 agricultural clients, 400 aquaculture and fishery clients, 667 forestry clients, 285 input supply clients, 21 rice miller clients, 88 school garden clients, 57 food security and nutrition commune partner clients, and 17 microfinance institution clients.	N/A	17,763 households and 183 institutions	N/A	N/A	N/A	Ongoing	Mr. Hong Sophear and Mr. Khath Bora	http://www.cambodiaharvest.org/about.aspx

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Oxfam America	Srer Khmer	Pursat, Siem Riep	SRI as part of farmer innovation	Improve rice farming technique following SRI system and reduce cost-increase yield, thus improving food security of resource-poor farmers with small farms.	Work with local NGO and government, deliver extension services, farmer field schools and farmer-to-farmer approaches. Focus on SRI and alternative crops, build model ready for scale-up, address policy environment and gender implications, and link with scalable "bottom-up" initiatives.	Farmers who adopted SRI system grew bigger, stronger plants that could better withstand flooding, pests and drought and gave higher yields: up to 1.1 tons/ha with fewer inputs.	Farmers who were industrious in field work, volunteering, commitment and honesty; rice field owners; settled in the village; farmer who has resources (for labor); marginalized groups (have disability or HIV, widowed, etc.); both of literate and illiterate farmers; happy to share experience	2749	52	10	3	Ongoing	Luy Piseyrih	http://www.oxfamamerica.org/articles/yem-neang-spreads-the-word-in-a-new-way-to-grow-rice/
Oxfam America	RACHA in Banteay Mean Chey, Preah Vihear province; Save Cambodia's Wildlife in Kampot, Kep province	Banteay Mean Chey and Preah Vihear province	Saving for Change	Savings-led microfinance	Work with local NGOs; deliver savings-led microfinance services; build model ready for scale-up; build national coalition with CARE, Pact, CRS and Oxfam; address gender implications; link with other scalable initiatives, like SRI extension.	15%–20% of savings re-loaned for consumption.	N/A	41,000 members	N/A	N/A	N/A	Ongoing	Brian Lund	http://www.oxfamamerica.org/articles/saving-for-change-helps-communities-in-cambodia-address-financial-difficulty
ActionAid Cambodia	Help Old Age and Miserable People, Alliance Association for Rural Restoration, Rural Friend for Community Development	Kampong Thom and Pursat	Organize and mobilize community people to practice climate-resilient sustainable agriculture and access and control over natural resources	Enhanced realization of the right to food for smallholder farmers, artisan fishers and people dependent on natural resources for food in the target areas, through climate-resilient sustainable agriculture, as well as increased access to and control over natural resources.	Promoting and using the human rights-based approach, which emphasizes three main components: empowerment, solidarity and campaign.	Community successfully demanded community fishing area back from concession to private fishing lots. Farmer trainers trained and extended training on SRI and integrated farming to five more farmers each year, using their own field as classroom for other farmers to learn model farming. Food security increased.	Households with < 2 ha, active, open heart to share, have time to spend with others, willing to convert their farm as school for others to learn and extend the idea to another five farmers	15,830	44	13	4	Ongoing	Ms. Sen Kimtheng	
Fisheries Administration (Danida Natural Resource Management and Livelihoods Programme)	Agricultural Technical Service Association (ATSA)	Pursat	Community Aquatic Resources Enhancement for Farmland	Improve food and nutritional security for poor communities, improve community resilience to climate change and climate variability, conserve and improve aquatic biodiversity, and build capacity for more sustainable aquatic resources management.	Build habitat for aquatic organisms by installing concrete rings in rice fields, canals and ditches. Two CARE ring systems: shallow and deep system. Training and coaching by ATSA field staff.	The pilot trials (2008 and 2009) have been very successful with over 900 CARE rings installed in three provinces; communities highly satisfied with project. Farmer data showing significant increases in aquatic resources available for consumption.	(1) Have rice farm land; (2) interested and willing to try; (3) have labor and time to care for the refuge in the CARE ring.	107	3	2	2	Ongoing until 2013	Pan Sodavy	http://www.atsacambodia.org/Report%20on%20Quick%20impact%20study%20CARE%20Rings%20Jan%2010%28update%29.pdf
CEDAC	CEDAC	Kampong Chhnang	Improving Livelihood of Subsistence Rice Farmers in Samaki Meanchey and Kampong Tralach District	To contribute to the increase of food production and income, as well as improved social conditions, for 5000 subsistence rice farmer families by promoting agricultural intensification and diversification, as well as community-led marketing and saving.	Integrated farming using multipurpose farm; networks to help long-term stability; SRI; producer group formation; rice miller cooperative; Farmer and Nature Network storage of rice bought from farmer.	Ongoing	N/A	N/A	N/A	N/A	N/A	Ongoing	Mr. Sim Samoeun	http://www.cedac.org.kh/home.asp
World Bank	CEDAC	Siem Riep	Livelihood Enhancement and Association of Poor in Siem Riep	To increase incomes and improve livelihoods for the rural resource-poor in target village.	(1) Creating and strengthening self-managed institutions of the resource-poor; (2) providing them access to finance; and (3) linking them to markets and key value chains to empower these groups and build their bargaining power in the market.	Ongoing	N/A	N/A	N/A	N/A	N/A	Ongoing	Mr. Sim Samoeun	http://www.cedac.org.kh/home.asp
Caritas Cambodia	Caritas Cambodia	Battambang, Kampong Thom, Siem Riep	Integrated Community Development	Community empowerment, improved livelihoods, community-based disaster preparedness, and advocacy.	(1) Form village development association; provide capacity building, exposure visit, workshop. (2) Provide technical and financial support to resource-poor households for agriculture and income-generating activities at household and social economic level. (3) Provide food relief to the most vulnerable, such as elders, orphans, people living with HIV/AIDS, disabled. (4) Work on disaster preparedness, response and rehabilitation. (5) Work on lobbying, networking and capacity building.	Currently 111 village development associations formed in these three provinces; their progress toward the five steps varies.	(1) Resource-poor, listed as IDPoor and agreed by village development association; (2) have commitment; (3) have element for income-generating activity; (4) follow policy of their group.	N/A	N/A	N/A	N/A	Ongoing	Ms. Nay Vichheka	www.caritascambodia.org

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Concern Worldwide	Four local NGOs (Support Organization to Rural Farmers, Environmental Protection and Development Organization, Ponleu Kumar, Anakot Kumar)	Pursat	Strengthening Community Development and Local Governance in Pursat (EU NSA)	To support the achievement of Cambodia's Millenium Development Goal 1 (Eradicate extreme poverty and hunger through participatory community development processes) by promoting the development interest of the most resource-poor in 100 villages in Pursat Province and increase their representation and participation in the development process.	(1) Support all kinds of on-farm activities; e.g. SRI, home gardening, fish, poultry and pig raising, integrated farming; (2) natural resource management; e.g. nontimber forest products, supporting community forestry and community fisheries organizations to gain recognition and secure natural resource area; (3) rehabilitate irrigation system using cash for work (thus reducing out-migration); (4) support off-farm activities for landless population; e.g. small and mobile shop, income-generating activities (making cake to sell, handicraft-making group); (5) support social safety net; e.g. rice bank, social protection committee to raise funds from public to support vulnerable resource-poor; e.g. chronic illness without children or relative to support them; (6) support institutional building; self-help groups and village associations (to deal with the larger issues; e.g. land and natural resource area).	(1) 100 village associations have increased their capacity (e.g. ability to support groups, resource mobilization, accountability, external linkages) to support livelihood improvements of their members. (2) 20 small-scale irrigation systems were rehabilitated; 1043 ha of wet season land area has access to irrigation (393 ha before the rehabilitation) and 312 ha of dry season land area has access to irrigation (75 ha before rehabilitation); rice yield for wet season has increased from 1.6 to 2.88 tons/ha. (3) 44 integrated farming systems established during 2011–2012 with a total of 1104 farmers trained on integrated farming system techniques; 40% of the trained farmers have applied integrated farming system techniques. (4) 40 SRI demonstration plots established during 2011–2012 with a total of 741 farmers trained; 53% of the trained farmers have applied SRI techniques. (5) 2569 households of 188 self-help groups accessing capital from 78 village associations under agreement between village association and self-help group (US\$ 58 per member). (6) A total of 20 market committee teams established and trained on business planning; each market committee team has US\$ 608 for running small businesses and allowing members to access capital for income-generating activities; 652 families benefited from market committee team services, including 448 women heads of households. (7) Five product exhibition events were held in 2011–2012 with a total of 106 producers, including 38 females. (8) In total, during 2011–2012 590 most resource-poor households have benefited from cash for work. (9) 75 social protection committees were established during 2011–2012; 278 destitute persons were identified in target area and 82% of them have received support from these. (10) 31 new rice banks were established with 3714 families accessing rice.	Resource-poor and most resource-poor using participatory rural appraisal tools to identify resource-poor households agreed by village association, local NGO and Concern staff, also referring to government IDPoor system.	39,129 direct beneficiaries (17,608 women and 21,521 men); 15,060 indirect beneficiaries (8283 women and 6777 men)	100	25	5	Ongoing (phasing out) until Nov. 2013	Mr. Kim Miratori	http://www.concern.net/sites/www.concern.net/files/resource/2012/03/5632-evaluation_-_hunger_and_poverty_-_cambodia.pdf
World Vision	World Vision Cambodia	Battambang, Siem Riep, Kampong Thom	Food and Water Security Program as integral part of Area Development Program	Vulnerable boys and girls and their families have sufficient nutritious food and clean water all year round. The most resource-poor families are able to sustain their livelihoods and decrease their vulnerability.	Improve access to safe water; improve farming practice using agricultural economic development tool; facilitate participatory family development of plan and access to loan or grant to implement the plan; promote integrated farming; promote small-scale irrigation improvement; promote rice bank; promote family pond; build capacity on disaster risk reduction and climate change, emergency response to disaster; promote saving group using accumulating savings and credit association model.	Ongoing with 66,500–85,500 households in three provinces.	N/A	N/A	N/A	N/A	N/A	Ongoing	Mr. Lay Vereak and Ms. Saytreuk Phauline	http://www.worldvision.org.kh/fws.html

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Helen Keller International	Centre for Livestock and Agriculture Development (CeLAgrid), Organization to Develop Our Villages (ODOV), Provincial Department of Agriculture, and Provincial Health Department	Battambang, Pursat, Kampong Chhnang (2009–2011)	Homestead Food Production	The project aims at improving food security, nutritional practices and livelihoods among 4500 vulnerable households, with a beneficiary population of approximately 23,000.	Capacity development to local NGO and provincial department partners, establish village model farms that serve as an archetype, a center for training group members, and a source of agricultural inputs and technical information. Village model farm owners are to produce agricultural inputs for household gardens as well as raise small livestock such as chickens and ducks for distribution to target households on a commercial basis. HKI provided training to NGO partner and Provincial Department of Agriculture officials, and they became trainers for village model farmers, who in turn trained households with the assistance from NGO and government staff. HKI trained NGO and Provincial Health Department staff on nutrition education, and then those trainers provided training to village health volunteers, who conducted nutrition awareness with households.	After four rounds of intervention, participating households had the capacity to produce a wider range of fruits and vegetables throughout the year, making micronutrient-rich food more available and accessible; they changed gardening practices to improved gardening, generating income from selling vegetables and fruits as well as eggs and chickens from homestead food production in local markets to supplement household income. During Round 1, the median income from both garden and poultry production was US\$ 15, and income rose to US\$ 25 in Round 4.	(1) Household with at least one < 5-year-old member; (2) have land = 1200 square meters for village model farm and = 100 square meters for household; (3) have labor to work in homestead farming; (4) interested in project.	4300 households and 193 village model farms	N/A	N/A	N/A	Completed in 2011	Mr. Hou Kroeun and Ms. Ly Sokhoing	http://www.hki.org/research/CmbNutrBul_vol8_iss6_Oct2011.pdf http://www.hki.org/research/CmbNutrBul_vol8_iss7_Nov2011.pdf
EU	Consulting firms, local contractor firms, provincial government departments, and five NGOs (Agriculture Development Denmark Asia, Village Focus International, Gender and Development for Cambodia, Cooperation for a Sustainable Cambodian Society, and East West Management Institute)	Battambang, Banteay Mean Chey province, Siem Riep	Economic and Social Relaunch of Northwest Provinces in Cambodia (ECOSORN)	The overall objective of the project is to contribute to poverty reduction through increased household income, particularly through increased agricultural sector productivity, and increased local community empowerment in selected rural areas of Cambodia.	Training, in-kinds given for hygiene and sanitation improvement, vocational training for job opportunities, demining mined areas, addressing issue of land titles, formation and capacity building of community-based organizations.	The adoption rate for new technologies was an excellent 52%–80% (rice, upland crops, animals and vegetables). Yields (rice, vegetables) increased by 70% on average, which is outstanding. Livestock in 12,550 households were vaccinated. 341 households were trained and supported in raising fish in ponds and rice-fish culture. The project completed vocational training for 1833 youths. 229 silkworm breeders, 106 silk weavers, and 43 group leaders were trained. 1057 people received training in fish processing. Off-farm income, ranging from US\$ 30 to US\$ 60 per month, was generated for 30% of all beneficiaries. 155 kilometers of rural road construction was achieved, linking 143 villages and 22,252 households. 6694 latrines were built for sanitation, 1309 rainwater jars constructed, and 142 wells and 8 ponds dug for domestic water supply. Eight of nine irrigation schemes were completed. 513 ha of land was cleared, and the land was allocated to 1309 households with an additional 8484 households indirectly benefiting from the clear land. 42,214 land titles were distributed to the owners in 43 villages in target communes.	N/A	N/A	N/A	N/A	Completed	Mr. Chan Saruth	http://www.ecosorn.org/glance.php	



This publication should be cited as:

CGIAR Research Program on Aquatic Agricultural Systems. 2015. Promising practices in food security and nutrition assistance to vulnerable households in the Tonle Sap Region, Cambodia. Penang, Malaysia: CGIAR Research Program on Aquatic Agricultural Systems. Program Report: AAS-2015-03.

About the CGIAR Research Program on Aquatic Agricultural Systems

Approximately 500 million people in Africa, Asia and the Pacific depend on aquatic agricultural systems for their livelihoods; 138 million of these people live in poverty. Occurring along the world's floodplains, deltas and coasts, these systems provide multiple opportunities for growing food and generating income. However, factors like population growth, environmental degradation and climate change are affecting these systems, threatening the livelihoods and well-being of millions of people.

The CGIAR Research Program on Aquatic Agricultural Systems (AAS) seeks to reduce poverty and improve food security for many small-scale fishers and farmers depending on aquatic agriculture systems by partnering with local, national and international partners to achieve large-scale development impact.

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