

Final Report

June 2007 – November 2008



WATER AND SANITAION PROJECT - Battambang province, Cambodia

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I. GENERAL OVERVIEWS AND PROJECT MANAGEMENT

1.1. General Overviews

Around 36 % of the total populations in Cambodia (mostly the rural farmers) are living under the national poverty line and around 5% of them are even living in extreme conditions of poverty. They lack access to improved water supply sources and access to improved sanitation facility.

In particularly, people living in the target communities commonly contracted water-borne disease cases (most of them are children) every year such as diarrhea and typhoid diseases etc. Among the main root causes of the problems are: lack of financial resources, lack of access to clean water supply sources, poor hygiene behaviours, and poor sanitation practices in the communities including open defecation, which increase a disease burden on the local communities.

Over one and a half years, Ockenden Cambodia, its NGO partner (ADA), and the target communities have implemented the Water and Sanitation Project funded by the Kadoorie Charitable Foundation in **39 villages, seven communes, two districts, in Battambang province** mostly in accordance with the plan within the 18 month-timeframe and budget, aiming to tackle these kinds of problems' root causes.

The Project, over the period, has reached approximately **1,276 households** (6,635 populations) in terms of providing access to clean water supply sources, provision of water treated facilities, the establishment of household latrines, distributing household health kits and providing sanitation awareness and hygiene educations to the communities.

The achievements are summarised as follow:

- Construction of Community ponds (*8 community ponds for 310 families*)
- Ring Wells Equipped with Pumps (*20 wells for 300 families*)
- Family Latrines (*100 latrines for 100 families*)
- Rainwater Systems and Tanks (*50 Rainwater tanks for 50 families*)
- Water Testing (50 water points)
- Irrigation Drip Feed System (*36 Drip feed systems for 36 families*)
- Community toolkits (*5 sets for 2 CBOs*)
- Domestic Water Filters (*250 filters for 250 families*)
- Household Health Kits (*230 kits against the plan of 150kits for 150 families*)
- Basic Health Education Module & Extra Module for community health advisor (30 Community Trainers)
- Extra Module and Activities training delivery (1,560 people plus *80 kits for the poorest of the poor families*)

1.2. Project Management Process

Identification of the target areas

Ockenden Cambodia, its NGO partner (ADA) and the community leaders from the two CBOs in two districts in Battambang province conducted water and sanitation assessments to select the prioritized villages for the project implementation.

Community leaders, local authorities (commune and village authorities) and villagers under facilitation from ADA staff chose the construction sites collectively for all water facilities. For the sites where the land belongs to the private households, agreements between the land owners and the local authorities were made to ensure that the water points were publicly accessed by all users within the communities.

Feasibility Study and Project Design

To make sure that the projects proposed by the communities are able to be implemented from the technical points of views, the Technical Advisor conducted a series of technical feasibility studies with the villagers in the selected communities to define project activities, identify available resources in the communities and decide suitable technical options to be applied in accordance with different geological conditions of the target areas and people's preferences.

Technical designs were done with participation from the communities and consultation among the Technical Advisor, Ockenden Cambodia and Agricultural Development Action (ADA).

Extra designs for installing Water Filter Systems and Hand-Rowai pumps (Ockenden International UK fund) were developed in order to ease the access for the users not to go into the pond but can bring water from the outside through the extra system, keeping hygiene for the water points (ponds and wells).

Project Implementation

ADA organized a public bidding event for the implementation of rainwater system and tank (rainwater storage facilities), latrine, pond and well construction projects. Key project stakeholders such as the Provincial Department of Rural Development, Commune Councilors, CBO leaders, Ockenden staff and the private companies/contractors that received construction licenses from the government participated in the bidding process. Finally, two private companies were qualified and awarded contracts to implement the projects.

To build human capital in the communities, CBO leaders were trained by the Technical Advisor to construct some of the water facilities (well, latrine and rainwater system and tank projects) by themselves. The private companies shared some of workload for these activities to CBO leaders to do in order to meet the deadline of the project implementation.

A trainer who specialized in sanitation and health care was hired to deliver training in Basic Health Education & Extra Modules to the CBO leaders as community trainers in order to train a whole community.

For the rest of activities (capacity building, fencing the water point facilities, kit distribution fencing....) were implemented by the Ockenden Camboida, ADA and the community leaders.

Technical Monitoring

Field technical monitoring activities were conducted by the Technical Advisor, Ockenden Cambodia, ADA and the CBO leaders. The monitoring activities were carried out to ensure that materials, construction steps and specifications of the designs were followed by the companies.

During the field visits to the projects, the Technical Advisor, Ockenden Cambodia, ADA, CBO leaders and the contractors were participating in checking the projects' outputs and quality compared with the agreed designs. If the achieved outputs were not satisfied, the contractors were to make correction and/or replace with the new equipments or materials.

Project Evaluation

Ockenden Cambodia, ADA and the CBOs established a joint evaluation team to evaluate the projects' impacts. On average, the team randomly selected 26% samples of beneficiaries from each project for the interviews. Some key findings are shown underneath the achievements of the projects.

SECTION II: PPROGRESS AND ACHIEVEMENTS MADE

2.1. Capacity building to Cambodia Civil Society Organisations & Ockenden

Over the 18 months of the project, Ockenden Capacity Building Unit and external resource people have provided training and organised workshops to strengthening the CBOs on their institutional management capacity, agricultural skills, networking, and natural resource management... These activities were designed to assist the CBOs to be able to cope with the current emerging issues and tasks.

<i>No.</i>	<i>Date</i>	<i>Courses</i>	<i>Topics covered</i>	<i>Total</i>	<i>Female</i>
1	25-26 Nov2008	Agri-eco sufficiency-food security	-Climatic constraints/change affecting agricultural productivity of the grassroots community -Shortage of Natural Resources and Solutions - Sustainable development and environment - Forest conservation and development. -Eco- agricultural practices	28	8
2	27-28 Nov 2008	Home Gardening planning-CBO strategic planning	Community leaders from 11 different CBOs discussed and identified the current issues which they face in their respective community related to: - Migrant Rural farmers - Economic enterprise development, -Food Security, - Energy security and - Climate change Then they all discussed and proposed strategic solutions and made plans for their communities.	21	9
3	7-9 May 2008	Commune Council Partnership Strengthening	-Introduction to partnership, - Advantage of working in partnership, -Steps of building partnership with Commune Councils - Networking and sharing learning - Planning	15	3
4	6-7 march	Local Resource Mobilisation	- Nature of non-profit and profit organisations - Identification of fund raising sources - Fund raising strategy - Deployment of donation boxes - Promotion Campaign - Celebrate fund raising events	13	4
5	From 27- 29 February, 2008,	Admin and Accounting System	(1) Office and administrative management (structure, job description, staff contract, staff appraisal, staff development, staff recruitment, compensation/ benefit, material management, daily work management, document management and communication;	14	3

			(2) Cash management, budgeting, accounting, controlling, reporting and auditing. All the topics were discussed by big groups and small group. All participants paid attention to the course as they realized that this course was very important.		
6	24-25 Jan 2008	Gender Awareness Training	- Sex and gender - Roles of women and men - Women in development & - Gender in development	37	23
Total				128	50

2.2. Equipment and materials

2.2.1. Construction of Community ponds (8 ponds)

The objective of the project is to dig 6 small ponds (20m x 15m x 3m) and 2 big ponds (40m x 40m x 3.5m) by Dec 2008, providing villagers in the target communities access to water for consumption and vegetation.

Agriculture Development Action (ADA) and two CBOs have undertaken the project in the construction sites in Kouk Trom, Prey Chork, Toul Ta Men, Chnal Man, Pen, Mouk Rea, Sdok Provoek 1 and Sdok Provoek 2 villages in Koh Krolor and Mong Russei districts, Battambang province.

Activities undertaken included:

- Chose the construction sites collectively for the community water pond digging.
- Re-conducted feasibility study to make sure the project can go ahead.
- Prepared project documents (technical designs and specifications) plus extra design for installing Water Filter System and Hand-Rowai pump
- Explained details of the design and helped contractor in constructing of all Water Filter System for the ponds.
- Conducted a public bidding event
- Signed a contract with the company that won the bid
- The company started constructing the ponds using machineries
- Conducted monitoring to the process of project implementation, ensuring that the company followed the designs.
- CBO leaders collected cash contribution from communities,
- Community undertook grass planting on the slopes of the dikes around the ponds to prevent soil erosions and making fences around the ponds to prevent cattle from entering
- Set up a Water Point Committee with 3 to 5 members for each water pond in order to mobilise villagers to do maintenance/repairing work and hygiene education

Achievements:

- All 8 ponds [6 small ponds (size: 20m x 15m x 3m) and 2 big ponds (size: 40m x 40m x 3.5m)] in the two target districts were completely dug and the locations of all ponds are situated in central points, making it easy for all users around to go and get water.
- 7 out of 8 ponds were constructed with water filter systems and equipped with Ro-Wei pumps (extra-designs) to make water clear and to ease access for the users to get water (no need to go down to the pond, but can get water through the Ro-Wei pump). Another pond was without water filter system, but installed with Ro-Wei pump (a kind of pump that can bring water from the pond)
- So far, water in 6 ponds is clear enough for the villagers to use. Water in 2 ponds is muddy due to the type of soils (sandy clay) and villagers use water from these two ponds mainly for watering their crops. In the dry season when water is very shortage, villagers will use a kind of substance to make water clear.
- According to the project monitoring, there are a total of 310 families living in 8villages, in 5 communes, in the two target districts have benefited by the use of water from the ponds.

Table 2: recipient families

Project	# of ponds	Average number of recipient families per water facility	Total recipient families
Small pond	6	30	180
Big pond	2	65	130
Total	8	-	310 recipient families

- Fencing & grass planting work (a part of community participation):
 - Fencing work around the water points to prevent animals from entering into them is a part of community participation. This work has so far been completed 100% for 5 water ponds. The CBOs are continuing to complete the work for the rest of 3 other ponds by the end of January 2009 as they are free from rice harvests.
 - The grass planting on the slopes of the dikes around the water ponds is to prevent soils erosion and the work has so far been completed for one pond. The work for the rest of seven ponds will be undertaken at the beginning of the next rainy season starting in May 2009.
- A water point committee which consists of 3 to 5 members for each water pond was established in order to mobilise villagers to do maintenance/repairing work and hygiene education

Project Impacts

During the end project evaluation, the evaluation team selected samples of 40 beneficiaries of the pond digging project for the interviews. Key findings showed that:

Saving time: Villagers have less worry in finding water as they have access to ponds/wells nearby their houses. 62.5% of the respondents stated they used to spend 5 hours a day collecting water from sources located 5-6 km away, now they spend around one hour only to collect water, therefore; they said they save up to 4 hours for doing farming activities. 37.5% other respondents stated that they already had access to nearby water sources even before the project got started but are very happy as they have more reliable water sources.

Water using: 69% of the respondents said that they use water from the ponds mainly for drinking, cooking food and washing; besides using water for their households, 24% of the respondents stated that they also use water for animal rearing; and the rest of 7% also use water for watering their crops.

Water treatment: 50% of the respondents boiled water as a way of making water safe for drinking. The main reasons cited were that they're afraid of contracting diseases and boiling water could make water safe for drinking. This is an increased rate of a positive change in behaviour in safe drinking practice. 45% still drink water from the source without treatment as they said they were very busy in earning a living. The rest 5% drink rainwater that they stored

Less Positive: Water in 2 ponds is not clear due to the type of soil in the area, and for the time being villagers use water for irrigating their crops. Ockenden and partner will work with community to find way to make water in these two ponds clearer.

2.2.2 Ring Wells Equipped with Pumps (20 wells)

The objective of the project is to construct 20 ring wells equipped with Ro-Wei pumps to provide villagers access to clean water for consumption by December 2008.

Agriculture Development Action (ADA) and two CBOs with assistance from the technical assistance from the advisor have undertaken the project in 20 villages in Koh Krolor and Mong Russei districts, Battambang province.

Activities undertaken included:

- Villagers selected construction sites collectively, ensuring free access for all users in the surrounding facilities.
- Prepared project documents.
- Conducted a public bidding event.
- Stakeholder discussion on the technical designs and specifications.
- Signed a contract with the company.
- The company started construction work at the identified sites. The activities include:
 - Produce cement rings

- Ground digging (digging holes to put cement rings)
- Platforms construction & placing the cement rings
- install Rowia pump (kind of home made pump)
- Conducted monitoring to the construction process
- Set up a Water Point Committee to mobilise resources and villagers in doing maintenance/repairing work and hygiene education

Achievements:

□ 20 wells across 20 different villages in the two districts of Battambang were completed 100% (the work includes: completed ground digging and putting concrete rings into the dug holes, finished construction of concrete platforms and all the wells were equipped with Ro-Wei pumps.

□ the average depth of the wells is 7 meters. Water yield is enough in 19 completed wells for villagers to use. One ring well was required the company to use tools to drill deeper than 7 m to obtain enough water yield.

□ On average, there are around 15 families using water from each well. It's same as the water pond project, ring wells users save much time in collecting water for household consumption, doing home vegetable garden and animal rearing.

□ To ensure the long lasting use of the facilities, the Water Point Committee with 3 members for each water point (for all 20 wells) was set up and trained by the Technical Advisor, the private company and ADA staff in doing maintenance/repairing work. The committee members will also undertake hygiene education to the users around the water points.

□ Fencing the water facilities is a part of community's participation. So far, 60% of the total water points were fenced. The fencing activities are being carried out for the rest of 40% of wells.

Project Impacts

The evaluation team selected samples of 111 beneficiaries of the ring well project for the interviews. Key findings showed that:

Similar to the pond digging project, all respondents 100% responded that since they have access to the ring wells, they do not worry in finding water anymore. They spend 15 minutes or 1 hour they can get enough water for the family consumption.

53 % of the respondents answered that they use water from the ring wells mainly for drinking, cooking food and washing; 33% of the respondents stated that they also use water for animal rearing; and the rest of 14% also use water for watering their crops.

84% of the respondents boiled water before drinking. The main reasons cited were that they're afraid of contracting diseases because they believed

that under groundwater have raw mineral substances. 16 % of the respondents still drink water by their habits without treatment.

***Less positive:** According to villagers who used two ring wells (in two villages Koh Krolo CBO) said that water has bubbles and the smell is not so good. ADA staff collected water samples from all the wells including these two wells to be tested in the lab. Please see the tests' results below.*

2.2.3. Family Latrines (50 for Prey Trolach Community, 50 for Koh Krolor Community)

The objective of the project is to improve sanitation in the communities through providing vulnerable families access to latrines (100 facilities) as well as basic hygiene education by Dec 2008.

Activities undertaken included:

- Prepared project documents (technical designs and specifications).
- Conducted a public bidding event at the same time as the above mentioned projects.
- Technical Advisor, ADA and Ockenden staff, Commune Councillors discussed the designs and specifications with the contractor and signed a contract with the company.
- CBO leaders under facilitation from ADA selected poor families to receive a latrine.
- The company started construction work at the identified sites, the work included:
 - Groundwork(digging holes)
 - Constructing & placing cement rings
 - Constructing platforms
 - Constructing roofs, walls and doors of the facilities (while in Prey Trolarch, CBO has undertaken this work)
- Conducted monitoring to the construction process
- CBO leaders collected a total cash contribution.
- Providing instruction and basic hygiene education to users.

Achievements:

- CBO leaders in the two target districts selected 100 poor families in 18 villages who could not afford to have a family latrine to get benefit from the project.
- 100 latrines have been completely built 100% of the work (the work includes: Digging a two-meter deep hole, putting concrete rings, building a concrete platform and building the body/shelter of the latrine (building roofs, walls and doors of the facilities).
- Basic health education (hygiene education, cleaning facility, washing hands after going to the toilet) and instruction for the use of the facility were delivered to all the recipient families. They have now been using the facilities.

- Using the monetary contribution of the recipient families, ADA and CBOs distributed a cleaning brush and a water jar to each of all 100 families.
- According to the monitoring of CBOs, all 100 households who received latrines use the facilities (on average, there are 6-7 people per family use one latrine).

Project Impacts

The evaluation team randomly selected samples of 51 beneficiaries of the latrine project for the interviews. Key findings showed that:

Use of Latrine: All 51 respondents (100%) said that before they had no this kind of facility as they could not afford to have it. At that time, they used their garden around the house, bush and field nearby to defecate. Now their whole respective family members use the latrines and have observed that the presence of flies in and around their houses reduced. They also stated that by using these facilities, they can avoid the threats from venomous snake biting (if they go to the bush).

Basic Health Education: 73% of the respondents said that they know how to use and clean the facilities, washing hands after going to the toilets, and covering food to prevent the spreading agents (flies) from going into it. They practice this knowledge every day. 27% of the other respondents stated they didn't remember the topics but they also clean their latrines and wash hands.

Disease cases: 55% of the respondents expressed that through the practice of basic hygiene, they realized that common disease cases of diarrhea and typhoid reduced substantially among their family members. Other 45% of the respondents said that the situation in their families still remains the same as before.

Less positive: 5 families said that smell sometimes comes out of their latrines.

2.2.4 Rainwater Systems and Tanks (Rainwater Storage Facilities) (20 for Prey Trolach Community, 30 for Koh Krolor Community)

The objective of the project is to provide (50) vulnerable families access to clean water through construction of rainwater system facilities.

Activities undertaken included:

- Prepared project documents (technical designs and specifications).
- CBO leaders and ADA selected poor families to receive a rainwater system and tank.
- TA provided technical training on how to construct the rainwater Systems & tanks to the CBO leaders to enable them to undertake the construction.
- ADA and Ockenden signed a contract with CBOs.
- Koh Krolor community, the project is undertaken by the contractor and In Prey Trolarch, the project is undertaken by the CBO staff.

- The company started construction work at the identified sites in Koh Krolor district and in Prey Trolarch, CBO staff undertook the work by themselves.
- The main tasks of the project consist of:
 - covering the house's roof with iron sheets
 - installing drainpipe to carry rainwater from the roof to the water tank
 - building a water tank (cement concrete)
- After the completion of the facilities, instructions for the use of the systems were given to the beneficiary families.

Achievements:

□ 50 poor families were selected to receive a rainwater storage facility each (10 families are disabled and poorest families in the communities, and CBO leaders made exception not to collect contribution from these families as they could not afford to contribute).

□ By the start of the project, the Technical Advisor provided training to the 8 CBO leaders from the two CBOs on technical designs, specifications, types of materials to be used and building practices.

□ In the original plan, the private companies were responsible to undertake the project, but later on, after the CBO leaders of the two communities received training and gained enough practical experiences in constructing the facility then the companies decided to hand over the project to the CBO leaders to implement.

So far, the CBO leaders have completely built 50 rainwater storage facilities (the work includes: - covering the house's roof with iron sheets - installing drainpipe to carry rainwater from the roof to the water tank - building a concrete water tank). Each facility has a storage capacity of 3,200 liters of water and it also has one tap for users to get water.

□ Through the implementation of this project, CBO leaders have gained technical experiences and are confident to carry out this kind of project independently to serve their communities, hence building human capital in the community.

□ Since the last rainy season, water in the tank has been available/ stored. The 50 recipient families have used water from the facilities mainly for drinking. They now have access to the nearest water source (at home).

Project Impacts

The evaluation team randomly selected samples of 28 beneficiaries of the rainwater storage system project for the interviews. Key findings showed that:

100% of the respondents answered that they all have the nearest water sources (at home) and especially the disabled families have less worry. They all used water from the storage systems during the dry season for drinking only. In rainy season, while rainwater was plenty, they also used water for

cooking and washing. They estimated that water in the tank lasts for 5-6 months.

Before they joined the project, 54% of the respondents stated that they used to boil water for drinking as they were afraid of contracting diseases. But this figure dropped to 25% after they have received the project as they believed water is safe for drinking.

2.2.5. Water Testing (plan year 1=25; year 2=25)

In the last 3 months, when all 20 water facilities were completed, ADA started collecting water samples from across those facilities to laboratory to be examined or tested their quality. The tests were undertaken to find out chemical substances and micro-organs (bacteria...). The tests' results showed that:

Microbiological tests: (coliforms)

- Among the 20 ring wells:
- The tests of water samples of 8 wells showed excellent results as they have no coliforms at all.
 - The tests on water samples of 8 wells found out low levels of coliforms which were categorized as low risks
 - The tests on water samples of 4 wells found out medium levels of coliforms which were categorized as medium risks.

The biologist who undertook the tests recommended that all the water users (especially the ones who use water with low and medium risks) should boil water as a good way to make water safe for drinking and keep hygiene around the water points.

Chemical Test Results and Characteristics

The tests carried to make analysis on 12 different chemical substances of each water sample. The WHO standard was applied. The tests were conducted on all samples collected from the 20 completed ring wells showed that the levels of the 12 chemical substances of all 20 samples were equal to or less than the standard of WHO which were very good results (no threat). All the detailed results of all samples could be provided when required. Please see the result of one water sample (collected from a well in Prey Trolarch village) as the following:

		Level of Chemical Substance	Directives of OMS (WHO's standard)
Akalinity	CaCo3	500 mg/l	≤ 500 mg/l
Ammonium	NH4	0.00 mg/l	≤ 0.50 mg/l
Fruoride	F	0.55 mg/l	≤ 1.5 mg/l
Iron	Fe	0.45 mg/l	≤ 0.30 mg/l
Nitrate	NO3	0.572 mg/l	≤ 50 mg/l
Nitrite	NO2	0.036 mg/l	≤ 3 mg/l
Maganese	Mn	0.018 mg/l	≤ 0.1 mg/l
Sulphate	SO4	12 mg/l	≤ 250 mg/l
Arsenic	As	0.00 mg/l	≤ 0.05 mg/l
Conductivity		822 µg/cm	≤ 1500 µg/cm
PH		6.60	in between 6.50 to 8.50
Turbidity		4 NTU	< 5 NTU

2.2.6 Irrigation Drip Feed System (36)

The objective is to construct 36 drip feed systems for the (36) poorest families to cultivate crops in dry season and show to the people in the community about the low cost simple techniques in watering crops.

Activities undertaken included:

- Conducted a 3-day study tour (4 ADA staff and 2 CBO leaders) to Svay Rieng province to learn about techniques in construction of the garden drip feed system.
- Selected 6 poorest families to undertake the project in year one.
- ADA staff conducted training on the construction of the systems and management to more villagers who interested in the system.
- Constructed the systems using PVC tubes and water jars.
- Distributed vegetable seed to the selected families

Achievements:

□ There were 6 poorest families involved in planting crops (cucumber, Chinese radish, long bean, egg plant...) in the six different places where the garden drip feed systems were constructed. Each garden drip feed system has capacity to irrigate crops on the land surface from 300m² to 500 m².

□ three families in Prey Trolach community, their produces were able to supply family consumptions and had surplus to sell for some extra-income of around \$100. While other three in Koh Krolor, their crops grew very well but most of them were fruitless, therefore; they could only produce for family consumption. This may cause by seed selection as they bought canned seeds from Thailand without knowing the expiry date and quality.

□ through piloting the project with the first 6 families, ADA, CBO leaders, the recipient families analyzed good and bad points and achievements of the project implementation. The results of the pilot project are encouraging the CBOs to go on expansion of the activity to other families in the communities as the weaknesses can be addressed with no need any extra-cost.

□ ADA and CBO leaders selected 20 poorest families to join the project. Training on installation of the irrigation drip feed system, seed selection and cultivation were delivered to them. 22 kits of drip feed systems were purchased and distributed (2 kits were provided to the two existing recipient families who wanted to expanse their farming activities and 20 other kits for newly selected families). They are now starting to install the irrigation system in their respective farming land.

□ ADA and CBO leaders are selecting 10 more families to join the project. ADA is putting a purchase order for 10 kits. Preparation for the training is underway and ready to be started by the end of December 2008.

Note: by the end of the project, in total, there will be 38 kits of irrigation drip feed systems purchased and 36 recipient families will benefit from the project.

Project Impacts

Based on the pilot project implemented by the six families (detailed above), the results encourage the expansion of the project to 30 more new families.

2.2.7 Community toolkits (plan year 1=5) (2 kits for Prey Trolach CBO, 3 kits for Koh Krolor CBO)

The objective is to provide 5 community toolkits to the two CBOs to repair any water facility which is broken down.

During the first year, ADA purchased five sets of toolkits. Each set of toolkits consists of one hoe, one spade, one hammer, one axe; tap meter, set of spanners, and cement mixing tools. Three sets were delivered to Koh Kralor CBO and two other sets of toolkits were delivered to Prey Tralach community (Moung Rousey district). These kits are for the CBOs to repair any broken water facility.

In the second year, During the construction of water storage facilities, the CBOs needed some more materials such as iron concrete frames for making concrete rings and some more extra tools (2 more sets of spanners. ADA purchased those materials and tools and distributed to the CBOs.

2.2.8 Domestic Water Filters (250)

Domestic water filter is kind of bucket with a special filter that can make water safe for drinking.

The objective is to improve access to clean water for the vulnerable families in 17 target villages, through the provision of domestic water filters by Dec 2008.

Activities undertaken included:

- Selected poor families
- Purchased the domestic water filters
- Instructions for the use of the domestic water filter were made to the beneficiaries before distribution.
- Distributed the domestic water filters
- Followed up the use of filters

Achievements

□ CBO leaders facilitated by ADA staff selected 250 poor families. (100 Families were selected in Prey Trolach Community, 150 Families were selected in Koh Krolor Community). ADA staff and CBOs provided instructions on how to use the water filter to the beneficiaries then distributed the domestic water filters (250) plus latrine cleaning brushes (250) to a total of 250 families in two respective communities of two districts. Each family received one domestic water filter and one latrine cleaning brush.

□ According to monitoring by CBO leaders and ADA staff, all beneficiaries have used the domestic water filters to treat water for safe drinking within their households.

Impacts

The evaluation team randomly selected samples of 53 beneficiaries for the interviews. Key findings showed that:

66% of the respondents said that by using the water filters, they could make water safe for drinking and could save much time as they had no need to boil. 34% of the respondents said that the quantity of water filled was not enough for the big families to drink and the filters and the taps did not work properly (got stuck).

CBO leaders stated that the majority of the recipient families used the filters lasting around three to four months.

2.2.9 Household Health Kits (150 families)

The objective is to distribute household health kits to vulnerable families in 18 villages, aiming to reduce mosquito-borne diseases.

Activities undertaken included:

- Selected poor families
- Purchased kits
- Conducted instructions for the use of the insecticide treated nets, basic hygiene awareness.
- Distributed the kits to the selected families, each kit consists of one mosquito net (insecticide treated net), one food cover, and one plastic water pot.
- Followed up the use of the treated nets.

Achievements

□ The CBO leaders in the two districts selected a total of 150 poorest families. Training on how to treat the mosquito net with insecticide and the use of it was provided to the beneficiaries. The 150 kits [each kit has one mosquito and net treated liquid (insecticide)] were delivered to the 150 family headed households selected from the two communities.

□ ADA and Community Based Organisation leaders followed up the families in Prey Trolach and Koh Krolor communities who received the kits, found out that all visited have used the kits properly according to instructions.

Impacts

The evaluation team randomly selected samples of 40 beneficiaries for the interviews. Key findings showed that

100% of the respondents said that they always use the insecticide treated mosquito nets since they received them.

80% of the respondents realized that insecticide treated mosquito nets are more effective than the normal ones and the substance lasted for around 3 months. The rest of 20 % respondents said they are the same as the normal ones.

85% of the respondents said that by using the mosquito nets, their households' members have avoided malaria and dengue fever cases. But 15% of respondents said that they were not sure or did not aware of the situation.

Less positive: CBO leaders observed that most of the recipient families, their household size too is large to sleep in the net.

2.3. Establishment of Community Structures

ADA, Ockenden Cambodia and the two CBOs conducted two separate workshops in the two Community Based Organisations. The objectives of the workshops are:

- to strengthen CBO structures and leadership in effective community development,
- to reflect the project management and achievements,
- to learn from strengths and weaknesses and improve the project implementation.

The first workshop with 39 participants (11 women) was conducted in Prey Trolarch CBO on 8th September 2008.

The second workshop with 47 participants (20 women) was held in Koh Krolor CBO on 9th September 2008.

The participants were CBO leaders, projects' beneficiaries, Self Help Group leaders, Cow Bank Committee members, Water Point Committee members and local authorities.

The workshops conducted reflections on the last annual programme plans and budget management, achievements, management and leadership of the committee members from all projects and lessons learnt.

Questions and debates over these topics were carried out in order to improve further the project implementation and methodologies in the next year.

All participants agreed that all CBO leaders and the project committees have to take on roles and responsibilities in project managements to upgrade transparency, accountability, communication among the communities and with outside agencies. More importantly, they agreed to examine their existing problem solving mechanism in order to address on time to issues that happen at all stages of the project implementations, aiming to improve the effective management and achievements of their work.

Furthermore; in order to share learning from the concrete project implementation, in each of the workshops, five project committee members (1 SHG leader, 1 Cow Bank Committee member, 1 leader from the irrigation drip feed system project, 1 Water Point Committee member and 1 health agent) were invited to share their experiences regarding fund management, vegetable productivity, maintenance of water facilities and circulation of health education to the communities. Cross learning and experiences were exchanged among the communities.

2.4. Provision of Education

2.4.1 Basic Health Education Module

The objective is to train 30 key health agents in order to provide training on basic health to villagers in the target communities.

ADA contacted the Provincial Health Department and District hospital for designing training lessons, and for technical assistance in delivering basic health training to key health agents.

A skilled health trainer from one NGO (LMDS) was hired to deliver two separate training sessions on basic health education to:

- 30 participants from the two CBOs in the first session.
- 26 participants from the two CBOs in the second session.

Topics covered were hygiene awareness, using latrine, food and sanitation, ways of treating water for safe drinking and prevention from waterborne diseases. The health agents play an important role in basic health education to the communities.

2.4.2. Extra Module and Activities

Extra module and activities were undertaken to strengthen the existing key health agents and CBO leaders on health circulation methodologies in order to enable them to pass on health education among the target communities. The extra module session took 2 days to finish. There were 36 key health agents and CBO leaders participated in the session.

2.4.3. Extra Module and Activities (practiced at the community level)

The 30 key health agents (15 from Prey Trolach CBO, 15 from Koh Krolor CBO) who completed the two courses conducted circulation campaigns of health education in 39 villagers across the two districts, reaching a total of 1,560 villagers (943 women).

Ockenden and ADA, in the second year, selected 65 poorest of the poor families and 15 CBO families to receive a special health kit each (the kit has one mosquito treated net, one kittle and water bowl)

SECTION III: PROBLEMS ENCOUNTERED & SOLUTIONS

Over the duration of the project implementation, heavy rains disturbed the transportation of construction materials to the sites in Prey Trolarch community which had slowed down, particularly, the progress of ring well construction project. To address the problem, CBO leaders mobilized the villagers and ox-carts to transport the materials to the construction sites from the point where heavy vehicles could not continue further.

The rains also caused soil erosions into some ring wells in Koh Krolor, making water not clear or water in the wells may get contaminated. The negotiation with the company was held to discuss the issues, and finally the company agreed to make renovations (abided by the contract).

SECTION IV: SUSTAINABILITIES

CBO leaders, villagers and local authorities have participated in all the stages of the project management process since the start of the activities. The project has encouraged participation from the community in terms of thinking, labour and monetary contributions, hence creating a strong sense of participation and ownership of the community.

Through out the cycle of the project implementation, the project has equipped the community leaders and project committee members with technical skills, management capability, materials and repairing tools. The project also involved them into real construction activities and management of the project, enabling the community to gain enough practical experiences. Therefore; human capital in the communities was built and strengthen further to continue the work.

More importantly, the project is under the management of the existing experienced CBOs that they have had both human and financial resources to continue and maintain the facilities, ensuring the long lasting benefits for the communities. The water point committees created a part of the existing CBO management structures and they have functioned well since the beginning of project implement, this means that a strong link, network and self-problem solving mechanism in the community were established. Furthermore; the two CBO have expressed their confidence that they have enough experiences and inputs to carry on the project.

SECTION V: CHANGES OF PLAN

There were two changes made to the original plan:

- First change was the extra design to equip ponds and wells with the Hand-Rowai Pump which was agreed by donor to use extra funding support from Ockenden International UK.
- Due to too much rain fall in year one, Ockenden and ADA agreed to more some of the plan from year one to year two and moved some of the heavy construction works to do in year one during the dry season.

A part from the above changes, there was no other major change to the project to be reported.

SECTION VI: FINANCIAL STATEMENT

Donation from KCF for project was **\$95,889.00** and Ockenden International UK funding support was **\$10,600.00**; hence making the agreed budget for the 18 months for the Water & Sanitation project was **\$106,489.00**.

The total expenditure to date was **\$105,093.69** (spent on KCF fund was **\$94,522.85** and Ockenden International UK was **\$10,570.84**); the remaining budget from the three years is **\$1,395.31** (KCF remaining \$1,366.15 and Ockenden International UK remaining 29.16).

Ockenden received from KCF to date was **\$86,301.00** of which **\$94,522.85** from KCF fund was spent till end of November 2008; hence the remaining (10%) for KCF to disburse after approval of this final report is **\$8,221.85**.

Please find more details in Annex I: Final Financial Report

