
NO WATER
LIFE

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NAPA FOLLOW-UP PHASE II

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PREFACE

This album highlights key project activities which have been undertaken to address the impacts of climate change in Cambodia. The album also captures the best practices through the voices of the beneficiaries and sub-national administrations supported under the project to promote climate change adaptation in two target provinces: Kratie and Preah Vihear.

Besides providing water system facilities such as solar pumps, pump wells and farm tools, the project also introduces Integrated Farming Systems (IFS), supports the beneficiaries to form Water User Groups (WUG), and establishes Group Revolving Funds. It also provides technical support on agricultural practices, such as how to produce natural fertilizer and pesticides, how to introduce dripping irrigation systems, and how to plant new, suitable crops that are resilient to climatic changes. These techniques aim to enhance profitability by both increasing the yield and reducing production cost.

The project team, which includes relevant provincial and district level department of Ministry of Agriculture, Forestry and Fisheries and Ministry of Water Resources and Meteorology advance project implementation and provides coaching to the beneficiaries to ensure sustainability of project results.

The project also collaborates with the Ministry of Women's Affairs and its line department to mainstream the issues of gender, and the distinct roles of men and women, into climate change adaptation. This will help empower women and encourage equal participation in resilience-building activities.

On behalf of the team and the beneficiaries, I would like to thank our donors, Global Environment Facility (GEF) and UNDP for providing funding support in Phase I (started from late 2009 to the third quarter of 2013) and the Government of Canada and UNDP for Phase II (started from the third quarter of 2013 until December 2015).

Thanks also go to all of the technical teams from the Project Support Unit of the Ministry of Agriculture, Forestry and Fisheries, UNDP, Ministry of Women's Affairs, Ministry of Water Resources and Meteorology, their line departments and other stakeholders for their collaboration and support in the past years and the continuous support in future.

Phnom Penh, 29 January 2015

Mam Amnot
Secretary of State
Ministry of Agriculture, Forestry and Fisheries
and Project Director, Project Support Unit

Flood in Prek Taam village, Kratie province in 2014. The province is known as a flood prone area. Many provinces in Cambodia that are affected by flood are among the poorest in the country and are vulnerable to risk. Flood destroys rice fields, often the main source of income, ruins homes and damages other valuable infrastructure every year. Hundreds of people and livestock are annually evacuated to the hills, leaving their flooded rice fields and houses.

Every year, villagers could not farm in the damaged rice field because of inadequate water for crops. This had direct impact on their income and livelihood.
Keng Prasat village, Kratie province.

A Vulnerability Reduction Assessment (VRA) and a Rapid Gender Assessment (RGA) were conducted in Preah Vihear province in 2014 during the design of project interventions. The assessments identified villagers' needs and priorities and ensured that the different impacts of climate change on gender are addressed more effectively. In 2014, the project completed this assessment in the 16 new communes in both provinces.

A group discussion as part of Preah Vihear's VRA and RGA, focused on the important role of women in disseminating information on agriculture techniques that are resilient to climate change.

A group discussion during a commune-level workshop aimed to mainstream climate change adaptation and gender in the process of establishing a Commune Investment Programme.

Mr. Cheang Chun, Agriculture District Extension Officer, introduces the project, its objective and the selection criteria to the village beneficiaries. *Sambo district, Kratie province.*

An interview with villagers was undertaken to identify their Poverty level for both selection and monitoring purposes. 1,401 households in the two poorest categories of national classification were selected in 4 target districts to participate in the second phase of the project.

The project supports 5,500 households in 32 communes, 4 districts, located in Preah Vihear and Kratie province. Of these households, 62% are considered vulnerable based on national critaria, which include: 1. They have less than 1 hectare of rice fields and 2. They are widow, old (at least 60 years old) and/or have at least 5 children. 60% of these vulnerable households are women.

This is one of the vulnerable families the project has supported. Ms. Tek Sarom said while holding her baby that she has six children and she is solely responsible for daily household work and farming. After the establishment of a solar powered pump and the water distribution network introduced by the project, she bought one jug of water which she put inside her fence and used it to grow some taro, herb and lemon grass. She is planning to grow more vegetables to support her family and earn extra income. Before the water supply system was built, she had to walk approximately 400 meters to get water from the small pond in the village, which required a lot of valuable time.

Project Advisor, Suos Pinreak, visited Mr. Say Ho, one of the project beneficiaries in Pong Ro village, Preah Vihear province. He is particularly vulnerable to the changing climatic conditions. He spent 5,000 Riels (US$1.25) for a 200-liter container of water. He grew some vegetables to support his family buthis crops were dried in dry season because the water supply was not sufficient. After the project built solar pump near his house, he does not worried about water supply anymore and he can keep various type of his vegetable green.

Two wind pumps in Teok Krohorm and Oksan villages, Preah Vihear province, were established under the pilot project in 2012. Though the system is still operational, it was concluded that the wind pumps were not a good alternative to solar energy. This is because there is insufficient wind during the dry season when the needs for water are at its peak. Thus, under this project, solar pumps were built for the beneficiaries in other areas instead. The community pond here was also established with support from the project for household use, gardening, livestock and irrigation.

The construction of solar pumps at Thmey village, Kratie province. The small ponds and existing old pump well in this village can only supply water in the rainy season. Insufficient water during the dry season had impacted farmers' productivity and is one cause of their migration to Thailand to look for alternative jobs. With the building of community resilience, the aim is to enable villagers to generate extra income, reduce migration and reunite the families.

Solar pump built in late 2014 at Kok Srolao Primary School, Preah Vihear province. The pump benefited 8 households and 271 students and teachers at school. It will also be used as a learning site for the school to better educate students about climate change adaptation.

Mr. Sorn Bundin, Director of Kok Srolao Primary School receiving vegetable seeds from the project team to plant at the school compound. This site will be a learning space for the provincial team to conduct training and raise awareness of climate change with practical experiments such as the integrated farming system.

In 2014, to improve access to water for daily consumption and farming, the project provided 35 solar pumps, 20 in Kratie and 15 in Preah Vihear province. Each of them cost approximately US$9,000.

In addition, the project supported 15 pump wells and 2 community ponds in 37 villages in Preah Vihear province, benefiting 1,481 households.

With these additional inputs, the majority of the beneficiaries started home gardening and earned an average income of 30,000 - 50,000 Riel (US$7.5 – US$12.5) per day from selling their vegetables in the local market. This is an increase of 100% compared to their income prior to the project's support.

Water user groups (WUGs) were established to manage those water supply systems. User fees of around 300,000 Riels (US$75) per month were collected on a monthly basis from group members, and revolving funds were provided by the project to constitute capital that can be further invested into the infrastructure will help ensure sustainability of the project achievements.

H.E. Oum Mara, Governor of Preah Vihear province (second from left) distributes vegetable seeds to members of the Farmer Field School after the inauguration of new pump wells supported by the project. From right: Mr. Poeung Tryda, Director of Department of Agriculture and Mr. Suy Serith, Deputy Governor, Preah Vihear province. ©Photo by Vong Savath.

After the inauguration ceremony, the provincial authorities led by the Governor of Preah Vihear visited a drip irrigation system installed with support of the project. ©Photo by Vong Savath

Under the project, villagers were trained in planting techniques and drip irrigation systems which were built starting in late 2012. Based on the research from the International Development Enterprise, this system saves 43% of water, 38% of labor and increases yield by 15%. ©Photo by Vong Savath

A core group meeting with the villagers in Preah Vihear province aims to better understand the impact of climate change on farming and to share experience and lessons learnt on climate change adaptation. The core group included representatives from 6 ministries and various development partners, including Government of Canada, EU, UNDP, UNCDF and ADB, and civil society representatives working on climate change and disasters.

The project team visits to the beneficiary to better understand the improvements made on their livelihood and their feedback on the water network distribution. From left: Ung Dara Rat Moni, Policy Advisor of the NAPA Follow-up project and Chan Ratha, Chief of the Office of Gender Equality, Ministry of Women's Affairs.

Mr. Mao Sarat, 54 years old, is one of the beneficiaries at Tham Cheat village, Preah Vihear province. He is happy to see the fruitful results of his efforts in planting cabbage. "Thank the project and donors for providing me enough water to adapt to the changing climate," Sarat said.

"I expect 50% increase [900,000 Riels (US$225)] in income this year," said 68 year-old Tourn Sakon, from Kulen Cheug village, Preah Vihear province.

In the past, Mr. Sakon walked 200 meters to fetch water from a pond in his village. Now that there is solar power and water connected to his house, he pays much more attention to growing diverse types of vegetables.

In 2014, he said the income was not much because he did not have much knowledge on agricultural techniques. This year, the project team together with the Provincial Department of Agriculture plan to give more trainings on resilient farming, such as integrated farming systems.

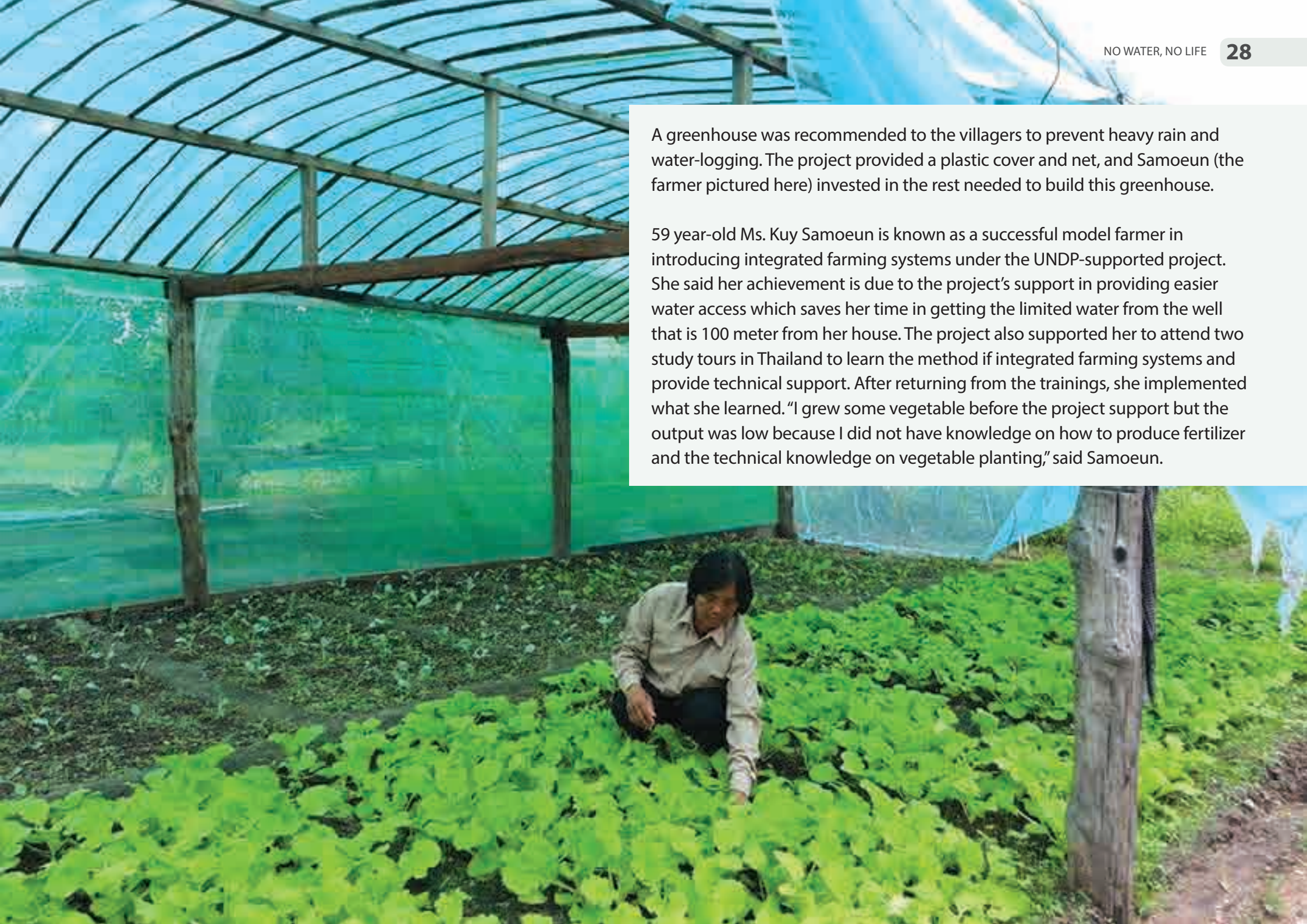
Sakon said he is ready for more crop diversification to increase his income and improve his family livelihood within his 600 square meter plot of land.

Another beneficiary who is expanding her land to grow more vegetables after there is adequate water supply from solar pump the project provided. Besides yard long bean, she grows banana, jujube, herb, bitter melon, cassava, mango, cucumber, pine apple and sugarcane. She also raises fish and chicken. *Tham Cheat village, Preah Vihear province.*

Small-scale fish raising strategy using plastic bags to save water. The villager changes the water every five days, and when the water is taken out of the plastic bag it is used to water other vegetables. The project has worked closely with the Provincial Department of Agriculture to provide training on fishing approaches, like this one, animal husbandry practices, and strategies for managing water usage to support their family and increase their income.

The project provided 49 pulling carts, 38 in Kratie and 11 in Preah Vihear, to the villagers who could not directly access the water network to transport water home. Their house is either far from the pumping station or is not connected with the water network distribution.

To access water from the new system, non-group members have to pay the user fee to the Water User Group. The fee for a 200-liter pulling cart is 500 Riels (US$0.125), 100 liters is 300 Riels (US$0.075) and 30 liters is 100 Riels (US$0.025). The fee goes directly into the group and will be kept in the bank to be loaned to the group members in the future. For members who have access to the water distribution network, the fee is determined by the group ranging from 1000 Riels – 2000 Riels(US$0.25 – US$0.5) per cubic meter.



A greenhouse was recommended to the villagers to prevent heavy rain and water-logging. The project provided a plastic cover and net, and Samoeun (the farmer pictured here) invested in the rest needed to build this greenhouse.

59 year-old Ms. Kuy Samoeun is known as a successful model farmer in introducing integrated farming systems under the UNDP-supported project. She said her achievement is due to the project's support in providing easier water access which saves her time in getting the limited water from the well that is 100 meter from her house. The project also supported her to attend two study tours in Thailand to learn the method if integrated farming systems and provide technical support. After returning from the trainings, she implemented what she learned. "I grew some vegetable before the project support but the output was low because I did not have knowledge on how to produce fertilizer and the technical knowledge on vegetable planting," said Samoeun.

"Excluding all expenses, my net income in 2014 was 8 million Riels (US$2,000)," said Ms. Kuy Samoeun during the visit by the project team. She expects the net income will increase in 2015. She grows about 20 types of vegetables such as morning glory, yard long bean, eggplant, chili, and various types of cabbages. She also raises fish and 20 cows. Photo from right: H.E. Mam Amnot, Project Director, project team and Samoeun on the far left.

In 2013, Samoeun won the first price of the Farmer Annual Forum organized by the Ministry of Agriculture, Forestry and Fisheries under the category of Integrated Farming System. The prize included a plowing machine and US$300. She made space available on her plot of land to build a community learning center to share lessons learnt with others in her village and from other provinces.

Samoeun is also a leader of the village Water User Group (WUG) consisting of 17 members from 17 households. 6 of them grow vegetables, 2 of them raise pigs and the remaining 9 families grow smaller number of vegetables. In 2014, she said the WUG collected a total of 1,079,500 Riel (US$270) in user fees and keeps it in the bank. This money is dedicated for maintenance of the system and loans to the group members.

A visit by Jennifer Baumwoll (second right), Project Coordinator of the Canada-UNDP Climate Change Adaptation Facility and MoWA's representatives in Preah Vihear province to document the progress of the project implementation and meet with beneficiaries.

Von Rom, Teuk Krahom Commune Council, shared experiences on VRA and CCA mainstreaming in local planning to a core group of National Committee for Sub International Democrative Development Secretariat.

The meeting with the Daikla Farmer Water User Community (FWUC) at Vathanak Commune, Kratie province. The aim of the meeting was to understand the needs, the challenges and provide inputs to the FWUC to strengthen and sustain their group. The project supported two irrigation systems in Kratie province in 2014, Daikla and Othjoung, which irrigate 541 hectares of paddy fields and benefit around 248 households.

Ms. Net Soksan (in the middle with scarf), a member of Vattanak Commune Council, Kratie province and the villagers came together to share the experiences they faced during flood and drought. They expressed appreciate to the project in providing the irrigation system. They expect to increase their farming activities with the expanded irrigated areas, enabling them all to have food security, generate more income and increase resilience to the impacts of climate change.

From left: Mr. Leang Seng, Deputy Director of Department of Agriculture, Mr. Eang Phalkun, Deputy Director of Department of Water Resources and Meteorology and Daikla FWUC members.

Project team visiting the construction site of Othjoung irrigation system in Dar Commune. Representative from Provincial Department of Water Resources and Meteorology (PDoWRAM), Provincial Department of Agriculture and Governor of Chetr Borey District showing the map of the irrigation scheme.

The Project Director discussing the impacts of flood and the benefits of the project-supported irrigation scheme with the beneficiaries, along with representatives from Ministry of Water Resources and Meteorology and PDoRAM.

On site discussion with female farmers who are requesting the expansion of the canal systems for better water management between upstream and downstream users.

Group photos with some of the beneficiaries, the provincial and district, and Project Support Unit team at the Othjoung irrigation system.

From right: Mr. Hok Kimthourn, Project Manager, H.E. Mam Amnot, Project Director, Vong Lo, Deputy Director of PDoWRAM visiting on-going construction of Kamping Pouy irrigation system, *Choam Ksan commune, Preah Vihear province.*

A meeting with the beneficiaries near the Kamping Pouy irrigation system.

Canal made of concrete for resilience to flood, was built in 2012 to ensure continuous access to water in dry season for paddy rice cultivation. *Bos Leav village, Kratie province.*

36 rainwater harvesting tanks were provided to the beneficiaries under the project and demonstrated in 18 villages. *Preah Vihear province.*

Ms. Roun March's life has improved since she began growing vegetables around her house in Tham Cheat village, Preah Vihear province. She has been able to earn an average of 20,000 Riels (US$5) a day from selling her vegetable to the local market.

"I now no longer have concern about the water problem as I had in the past. All I have to concentrate on now is growing a variety of vegetables," said March, a single mother of two children.

In the past, there was not enough water due to the dryness of the well dug and she could not do much planting. She worked in other peoples' rice fields to get money.

Now Ms. March does not have to sell her labor to others anymore. She said she will keep working hard and through that she hopes to make more money. "Working hard – not to please anyone but for my own sake," said March.

In 2015, the project will expand the support to at least 500 households in the same target villages. These households were not selected during the beneficiaries selectiom process but were benefited from the water supply systems after they were built. These households includes some of the most poor and vulnerable people. The project support includes the integrated farming package such as farm tools, seeds, fingerlings, piglets, chickens and technical training to make sure that they can do climate resilient farming.

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