

Country Name	The Project for Rural Drinking Water Supply in Memot District of Kampong Cham Province
Kingdom of Cambodia	

**I. Project Outline**

Background	In Memot District, Kampong Cham Province, the “Project for Rural Drinking Water Supply in Kampong Cham Province,” was carried out with the support of Japan’s grant aid and, as a result, the supply rate of safe water in the targeted 96 villages improved significantly from 9.5% to 82% (2009). Meanwhile, out of 52 villages, which were not covered by the above-mentioned project, only 5 villages had a safe water supply system in place and the safe water supply rate of the 52 villages accounted for just 6.5% (2009). This rate was significantly lower than the goal of the country’s rural water supply rate of 50%, which was a goal to be achieved by 2015 under Cambodian Millennium Development Goals (CMDGs).				
Objectives of the Project	To ensure and sustain safe and stable water supply by constructing water supply facilities and by strengthening operation and maintenance capacity of village level operation and maintenance organization.				
Outputs of the Project	<ol style="list-style-type: none"> <li>1. Japanese side           <ol style="list-style-type: none"> <li>(1) Well drilling and facility construction at 135 sites in 55 villages, Mobile Iron Removal Device set in 11 Communes</li> <li>(2) Technical assistance (hereinafter referred to as ‘soft-component’) for 1) formation of resident organization, 2) hygiene education, and 3) operation and maintenance</li> </ol> </li> <li>2. Cambodia side: land acquisition and development of access roads.</li> </ol>				
Ex-Ante Evaluation	2009	E/N Date	30 July, 2009	Completion Date	2 February, 2011
Project Cost	E/N Grant Limit: 369 million yen, Actual Grant: 223 million yen				
Implementing Agency	Department of Rural Water Supply (DRWS), Ministry of Rural Development (MRD)				
Contracted Agencies	Kokusai Kogyo Co., Ltd., Koken Boring Machine Co., Ltd.				

**II. Result of the Evaluation**

1 Relevance
<p>This project has been highly consistent with Cambodia’s development policy such as improvement of rural water supply as set in CMDGs, Rural Development Strategic Plan 2014-2018 and other documents, development needs for safe water in areas where people are relying on dug wells and surface water at the time of both ex-ante and ex-post evaluation. It was also consistent with Japan’s ODA policy (Country Assistance Program to Cambodia 2002) which prioritizes Basic Human Needs including support for water supply projects at the time of ex-ante evaluation. Therefore, relevance of this project is high.</p>
2 Effectiveness/Impact
<p>The project has largely achieved its objective “to ensure and sustain safe and stable water supply”. According to the implementing agency and other related organizations, all the 135 hand pump wells and 11 mobile iron removal devices constructed by the project are in good condition and functional. The water is supplied to approximately 40,500 people (indicator 1). According to the representatives of Water and Sanitation User Groups (WSUG) interviewed<sup>1</sup>, 60 households (approximately 300 people)/site in average use the water facilities constructed by the project. The wells are well used by the people. 84% of WSUG representatives interviewed said they used the water mainly for drinking and cooking purposes which are the intended purposes of the project, and 81 % said they used the water for daily use such as washing. There are few cases that the wells were used only for washing and cleaning due to its taste and type (hard water) while most of the interviewed WSUGs expressed their great contentment with the quality of water. Water quantity is sufficient in both dry and rainy seasons. After the project completion, the burden of women and children of collecting water has reduced because of improved access to safe water source, according to the interviewed WSUG representatives.</p> <p>As a result of the soft-component, hygiene behavior of people has improved and operation and maintenance (O&amp;M) capacities of WSUGs have been strengthened. From the interviews with the WSUGs, it was found that the number of households which set the toilet and the number of those who wash hands with soap have increased. 72% of members of WSUGs have built latrines while 4 years ago (i.e. before the project) only 19% of members of WSUGs had access to latrines. Most of women in WSUGs are in charge of regular cleaning of the well platform and they often advice other well users on good hygiene practice. Through the implementation of soft-component, WSUGs were established at all 135 sites and have been functional. The interviewed WSUGs and Provincial Department of Rural Development (PDRD, a provincial office of MRD) informed that WSUGs were trained and are able to do small repair and maintenance accordingly, such as changing of U-Seal (A disc which seals a screw of a piston). As a rule, the total cost of the repairs is borne by WSUGs. At the time of ex-ante evaluation, it was supposed that each WSUG opens a bank account for 200,000 Riel for O&amp;M purposes, which was collected from the water users as one-time advanced fee for O&amp;M. It was also supposed that fee for fixing facilities are paid when necessary (in case of breakdown) as water users have a mutual help spirit. At the time of ex-post evaluation, all WSUGs opened bank accounts, however, not all interviewed WSUGs have maintained the accounts well. Some WSUGs withdrew the balance from the banks and have kept it properly, while others have never updated the bank accounts and the balances have reduced due to the fee</p>

<sup>1</sup> The interviews with 32 WSUGs were conducted under this ex-post-evaluation survey. However, it was hard to gather all WSUG Members all together as most of WSUGs members were at the crop field, not at home.

charged by banks for inactive accounts. However, the interviewed WSUGs confirmed that money will be collected from the water users to purchase spare parts in case further money is necessary. As to the O&M practices, most of the facilities have been properly maintained and cleaned by well caretakers.

As to impacts, statistics record of water borne diseases in Memot District shows that in overall, the number of cases of water related diseases in Memot District have been significantly decreasing since 2010, particularly the cases of diarrhea and typhoid. 78% of the interviewed WSUGs acknowledged reduction of water borne diseases owes to the access to safe water from the wells constructed by the project. Positive impact is observed that the reduced time of fetching water enabled women to use time saved for farm activities. Beneficiaries (WSUGs), local authorities and PDRD are of the opinion that the project has contributed to the significant improvement of their livelihood, health status improvement and cost and time saving in particular. No negative impacts were found in land acquisition/resettlement or natural environment.

Therefore, effectiveness/impact of this project is high.

#### Quantitative Effects

Indicator	Year 2008 (before the project) Actual value	Year 2015 (target year) Target value	Year 2014 (year of ex-post evaluation) Actual value
Indicator 1: Safe water supplied population in the target sites (Safe water supply rate)*	2,100 (6.5%)	30,660 (92.7%)	Approximately 40,500 **2

\*1 The water supply rate is calculated based on an estimate that each deep well with hand pump can supply water to a population of 210.

\*\*2 Since data on the population of target 55 villages in 2014 was not available, actual safe water supply rate in the year cannot be calculated.

Source: WSUGs

### 3 Efficiency

The outputs of the project were produced mostly as planned (The scope was changed from “136 sites in 52 villages” as set in the Basic Design to “135 sites in 55 villages”)<sup>2</sup>, and both the project cost and the project period were within the plan (ratio against the plan: 60%, 83%). Therefore, efficiency of this project is high.

### 4 Sustainability

The operation and maintenance (O&M) of the facilities constructed by the project has been carried out by WSUGs with the support from Tbong Khmum Provincial Department of Rural Development (PDRD)<sup>3</sup>, Memot District Office of Rural Development (DORD) of PDRD, and DRWS. DORD is in charge of establishment of WSUGs and instructing O&M activities, while PDRD supervises and supports DORD. The role and responsibility of Tbong Khmum PDRD has been maintained with clear structure, and the number of staff is sufficiently allocated. There is no change in the roles and responsibilities of the related parties.

DRWS of MRD has confirmed that the technical officials of Tbong Khmum PDRD have enough technical capacity for repairing the wells for all types of defects/damages and in providing technical support to WSUGs for the O&M of the project water facilities.

The annual allocated national budget to PDRD has been increasing annually and Tbong Khmum PDRD has additional budget from Provincial Hall, however, the amount is not sufficient for implementing O&M activities. Although the budget is not sufficient, Tbong Khmum PDRD has made high commitment and given high priority in supporting the rural water supply sector. As mentioned above, in case that repair is necessary, WSUGs confirmed that money will be collected from the water users to purchase spare parts, however, some of WSUGs failed to shoulder the cost in the past as mentioned below.

As to the current status of O&M, according to Tbong Khmum PDRD, 135 pump wells function well. Although 23 wells were mal functioning as of August 2014, they have been repaired by the time of ex-post evaluation with technical support from PDRD and with financial support for spare parts by PDRD as the relevant WSUGs could not afford to repair them. However, there are some problems. First, no fences exist. At the site visit during the ex-post evaluation, no animals were found around the water facilities, and therefore the risk of contamination of water by animals is low for the time being. However, at the time of ex-ante evaluation, fences were scheduled to be built by the Cambodian side to avoid such risks, and building fences is general practice. Second, although PDRD explained a system to follow up the status of wells, according to WSUGs, DORD has not regularly monitored the facilities, and PDRD and DORD visit the wells only when the major repair is needed and informed by the WSUGs<sup>4</sup>. Third, there are some concerns on the procurement of spare parts in the future. Many spare parts provided by the project remain and are in good condition, since most of the wells have never been mal-functional. However, most of the well hand pumps have already reached its usage life and they will need to change spare parts (pistons and U-Seals). WSUGs face problems with spare parts. Spare parts are only available in Phnom Penh and this causes a burden for the WSUGs to procure them on time. Moreover, the locally procured spare parts which are of low quality can be used only for a few months. Sometimes, this repair process last only few days or up to 2-3 months.

As there are some concerns on financial aspect and the current status of O&M, the sustainability of this project effect is fair.

### 5 Summary of the Evaluation

<sup>2</sup> The total number of sites reduced because one site was found to have existing well already, and the number of villages increased as a result of unsuccessful drilling.

<sup>3</sup> The Provincial Department of Tbong Khmum is newly established in December, 2013 after the separation from Kampong Cham Province. The number of staff members is not sufficient for implementing O&M activities. However, most of them are ex-technical staffs of PDRD Kampong Cham.

<sup>4</sup> Meetings are organized every three months to discuss and report on the current situation/condition of the rural infrastructures which are under the responsibility of PDRD. Once there is report of well damage, PDRD sends its technical official to check and report the problem. PDRD Kampong Cham (in 2013, before the establishment of Tbong Khmum Province) issued a decision to establish a working group for rural water supply management and maintenance plan. PDRD has its own database of wells and it is updated once a year. The PDRD conducts well repairing activities every year based on the available budget and its annual plan. Annual report on the wells repaired by PDRD is regularly made and submitted to MRD.

The project has largely achieved its objective “of ensuring and sustaining safe and stable water supply” as population to whom the water is supplied has increased as planned, and people are satisfied with quality and quantity of water. As a result of implementing soft-component, hygiene behavior and capacity of local people for O&M of the facilities have improved. Positive impact of reduction in burden of women and children for water collection is observed. As for sustainability, there are some concerns about financial aspect and the current status of O&M . In light of the above, this project is evaluated to be highly satisfactory.

### III. Recommendations & Lessons Learned

#### 1. Recommendations to implementing agency:

- The implementing agency should consider taking actions such as providing information about the spare parts availability to the WSUGs or making the spare parts available at the District Office of Rural Development so that the WSUGs can procure them easily, and strengthening technical capacity and a monitoring system for early detection of defects, so that the water supply to rural people will not be suspended.
- MRD should raise awareness of water users so that water users would burden more cost for repairing the pump properly. However, considering the fact that “ some of WSUGs failed to shoulder the cost in the past” as confirmed in this Ex-post evaluation report, MRD is recommended to take into account WSUGs situation and assist WSUGs, if necessary .

#### 2. Lessons learned for JICA:

The soft-component to conduct technical training to WSUGs for maintenance and repair of small defects of the wells, contributes significantly to securing the proper and sustainable operation of the well facilities, especially where regular monitoring by the implementing agency is difficult. Therefore, it is important to incorporate technical assistance in a rural water supply project to develop capacity of water user groups which are responsible for O&M of water supply facilities. Further, incorporating strengthening of capacity of organizations which directly support water user group is also necessary.



(Children collecting water from a hand pump well. )



(A man collecting water for drinking and cooking purpose.)