

Ex-Ante Evaluation

Southeast Asia Division 2
Southeast Asia and Pacific Department
Japan International Cooperation Agency

1. Basic Information

Country: Kingdom of Cambodia (Cambodia)

Project: The Project for Expansion of Water Supply System in Svay Rieng

G/A Execution Date: March 11, 2022

2. Background and Necessity of the Project

(1) Current State and Issues of Water Supply Sector Development and the Position of the Project in Cambodia

In the Kingdom of Cambodia, JICA has provided technical cooperation, grant aid and ODA loan to support the improvement of water supply in Phnom Penh and using these results in Phnom Penh has been made improvements of the water supplies in provincial cities. In Phnom Penh, “Master Plan on Phnom Penh Water Supply System” was formulated with the support of JICA immediately following the conclusion of the civil war in 1993, and based on the master plan, a water treatment plant and distribution pipe network were developed with Japanese grant aid and operation and maintenance capabilities were enhanced through technical cooperation together with Kitakyushu City. With the synergistic support of other donors as well, in 2006 the Phnom Penh Water Supply Authority (hereinafter “PPWSA”) was able to achieve a water supply coverage of 90%, a non-revenue water rate of 8%, and 24-hour water supply.

On the other hand, given that the water supply coverage in provincial cities at this same time remained at just 35% (2005), initial developments were made for water supply facilities in 8 major provincial cities using funding from Japanese grant aid (Siem Reap, completed in 2006), the World Bank (Sihanoukville, completed in 2004), and the Asia Development Bank (hereinafter “ADB”) (Battambang, Kampot, Kampong Cham, Kampong Thom, Pursat, and Svay Rieng, completed in 2007). Also, in 2007, JICA began technical cooperation together with Kitakyushu City targeting these 8 provincial cities, supporting the enhancement of their operation and maintenance technologies. This resulted in a certain level of water supply facility operation, but with the increasing urban population there came a need for further expansion of these facilities. Since 2013 the expansion of water supply has progressed with the support of JICA etc., to increase the water supply coverage in these 8 cities and to stabilize the

medium to long-term management of the public water utilities, and these water supply expansion projects have already been completed or are underway in 7 of these cities, excluding Svay Rieng.

In the remaining city; Svay Rieng, there are no issues with the operation of the existing water treatment plant (6,560 m³/day), and the non-revenue water rate has been maintained at the low level of about 9%, but the water supply capacity is insufficient for its population, with an urban water supply coverage that remains at about 48.9% (2019). Residents who are not connected to the water supply need to get their water from private wells or rainwater, but connection to the water supply is preferable from the perspectives of convenience and hygiene from water quality etc., so the expansion of water supply facilities has become an issue. Also, the national government's "National Strategic Development Plan 2019-2023" (hereinafter "NSDP") has set the target of 100% water supply coverage in urban areas by 2025, with the Ministry of Industry, Science, Technology and Innovation (hereinafter "MISTI") working to promote the development of water supply facilities in provincial cities towards the achievement of this target. In addition, the NSDP has measures targeted to the poor, and requires measures such as the preferential setting of water supply connection costs and fees for the poor as part of this water supply project.

Given this background, the aim of the "Project for Expansion of Water Supply System in Svay Rieng" (hereinafter "the Project") is the expansion of the urban water supply coverage in Svay Rieng to 86.7%, making this a necessary project for the accomplishment of the national target of 100% water supply coverage in urban areas by 2025.

Because of the global spread of COVID-19, the country's real GDP growth rate for 2020 was recorded at -3.1%, and 2021 is also projected to remain at 2.2% (World Bank, IMF), providing an economic blow in comparison with the average of 7.6% from 1995 to 2019. In addition, the number of people infected by the virus has increased rapidly due to an urban outbreak in late February 2021 which has also spread to provincial areas. While the spread has settled down since October 2021, there has been an emphasis on thorough measures to prevent the spread of infection such as hand washing with safe and hygienic water. The Project will contribute to ensuring the continuity of safe and hygienic water supply as a measure against infectious disease.

(2) Japan's and JICA's Cooperation Policy for the Water Supply Sector and the Position of the Project

The Country Development Cooperation Policy for the Kingdom of Cambodia

(July 2017) states under the priority area of “Improved Quality of Life” that supporting the development of water supply contributes to the improvement of urban living environments. In addition, the JICA Country Analysis Paper for the Kingdom of Cambodia (March, 2014) states under the priority area of “Promoting Social Development” that water supply operating capacity and facility development were both evaluated to be inadequate, and the Project is consistent with these policies and analyses.

In addition, the expansion of water supply facilities will contribute to the improvement of the living environment, which is expected to contribute to SDGs Goal 6 (Ensure availability and sustainable management of water and sanitation for all), and Goal 3 (Ensure healthy lives and promote well-being for all at all ages) from the perspective of addressing infectious disease including COVID-19.

(3) Other Donors’ Activities

The ADB’s “Provincial Town Improvement Project” (2000-2006) and its subsequent project (2020-2022) supported the construction of water treatment plants, water intake facilities and conveyance and distribution facilities in the suburbs of Svay Rieng, but there is no overlap with the Project.

3. Project Description

(1) Project Objective

The objective of the Project is to stabilize the water supply service and to improve the access to safe water in Svay Rieng city by the construction of intake facilities, a raw water transmission pipe and a water treatment plant, and by the improvement of the distribution system including reservoirs, thereby contributing to the improvement of the residents’ quality of life in Svay Rieng.

(2) Project Site / Target Area

Svay Rieng, Svay Rieng Province (water supply area population: about 106,000. Urban population: 53,000)

(3) Project Components

1) Details of Facilities and Equipment etc.:

Facilities – Construction of intake facility (7,480 m³/day), conveyance pipe (about 3 km), water treatment plant (maximum daily water supply capacity of 6,800 m³/day) and distribution pipes (about 112 km)

Equipment – Water quality analysis equipment and water supply equipment for poor households etc.

2) Details of Consulting Services and Non-Structural Components:

Consulting Services – Detailed design, bidding assistance, construction and procurement supervision

Non-Structural Components – Technical guidance on water treatment facility operation and maintenance, water distribution facility operation and maintenance, and production management.

(4) Estimated Project Cost

Total Project Cost: 2.861 billion yen (Estimated share – Japan: 2.786 billion yen; Cambodia: 75 million yen)

(5) Schedule

Scheduled for March 2022 – January 2026 (47 months in total). The project completion will be at the commencement of facility service (January 2025).

(6) Project Implementation Structure

- 1) Executing Agency: Ministry of Industry, Science, Technology & Innovation (MISTI), General Department of Potable Water Service
- 2) Operation and Maintenance System: Svay Rieng Province Department of Potable Water Service

(7) Collaboration and Sharing of Roles with Other Projects or Other Donors

1) Japan's Activity

The “Project for Strengthening Administrative Capacity of Urban Water Supply” (2018-2022) is already underway as technical cooperation including the enhancement of MISTI capabilities to support provincial water supply utilities. With the expansion of facilities under the project, the water supply capacity of the Svay Rieng Province Department of Potable Water Service will also be expanded, increasing the number of people connected to water supply services, and the synergistic effect of support for enhancing the capacity of MISTI for the provincial Department of Potable Water through technical cooperation is also expected to lead to the stable management of the water supply.

2) Other Donors' Activity

There is no overlap between the water supply facilities developed under the ADB's “Provincial Town Improvement Project” (2000-2006) and its subsequent project (2020-2022) and the Project, but both projects work together to contribute to improving the water supply coverage throughout Svay Rieng (urban and suburban areas).

(8) Environmental and Social Consideration/Cross-Sectoral Issues/Gender Category

1) Environmental and Social Consideration

- ① Category: B
- ② Reason for Categorization: The Project does not fall under any of the sectors/characteristics or regions sensitive to impact under the “JICA Guidelines for Environmental and Social Considerations” (promulgated April 2010), and is not expected to have any significant undesirable impact on the environment.
- ③ Environmental Permits: The Preliminary Environmental Impact Assessment Report for the Project has been approved by the Cambodian Ministry of Environment, and the Environmental Protection Contract required for the Project was signed between MISTI and the Ministry of Environment in Cambodia on March 30, 2021.
- ④ Pollution Measures: Mitigation measures are expected to be taken for waste during construction, such as reusing surplus soil etc. to minimize the impact of the Project. During operation, mitigation measures are expected to be taken to keep noise and vibrations within baseline values, such as the installation of pumps and generators that generate noise and vibration in the basement, treating walls to absorb sound, and adding concrete foundations etc. In addition, the impact of sludge is expected to be minimized by using it for landfill after drying.
- ⑤ Natural Environment: The Project does not fall within or near any protected areas, and is expected to have a minimal impact on the natural environment. The area near the proposed water intake facility is a designated fish resource protection zone, inhabited by two species of fish that are classified as rare species, but the impact of construction is expected to be minimized by controlling water turbidity and preventing fish from straying into the area.
- ⑥ Social Environment: The Department of Potable Water Service has already acquired about 1 ha of land required for the Project, in accordance with the appropriate procedures under the JICA Guidelines for Environmental and Social Considerations. There will not be any voluntary resettlement associated with the Project. No specific objections have been identified in relation to the Project.
- ⑦ Other/Monitoring: During construction, the construction contractor will monitor noise, vibration, air quality, water pollution and waste, and during operation the Department of Potable Water Service will monitor noise, vibration and waste.

2) Cross-sectoral issues

The Project will bear the costs of materials for water supply equipment and connection work for poor households, which would normally need to be borne by beneficiary households, to support the connection of poor households to the water supply system.

3) Gender category

Not Applicable – GI (Gender Informed)

Details of Activities/Reason for Categorization: While the preparatory cooperation survey investigated the need for gender mainstreaming, the Project does not implement specific measures contributing to gender equality or women’s empowerment.

(9) Other Important Issues

N/A.

4. Targeted Outcomes

(1) Quantitative effects

1) Outcomes (Operation and effect indicators)

Indicator	Baseline (Actual value in 2019)	Target (2027) [2 years after project completion]
Svay Rieng Province Department of Potable Water Service average daily water supply (m ³ /day) (*1)	4,627	10,009
Water supply population (people) (*2)	23,545	55,964
Water supply coverage (%) (*3)	48.9	86.7
Water supply connections to poor households (locations) (*2)	53	1,254

(*1) Baseline values are average daily water supply for existing water treatment plants. Target values include the increased average daily water supply from water treatment plants to be constructed in the Project.

(*2) Figures for Svay Rieng (urban and some suburban areas)

(*3) Figures for the Svay Rieng urban area

(2) Qualitative Effects

Improvement of the living environment of residents (improvement of the hygienic environment and convenience for residents that had previously used rainwater etc.)

5. Prerequisites/External Factors

(1) Prerequisites

The country has areas with risk of unexploded ordnance and land mines, and the counterparty has confirmed that a survey to confirm the burial status and the removal of anything that is discovered will be conducted prior to the commencement of construction.

(2) External Factors

N/A.

6. Lessons Learned from Past Projects and Application to The Project

In the ex-post evaluation of the “Project for Rural Water Supply in the Province of Nusa Tenggara Barat” (evaluated in 2014) grant aid project in the Republic of Indonesia, the lesson learned was that the project plan should have been determined after confirming the work plan and budget allocation for connection to each household, since connection work to each household, which was the responsibility of the counterparty, was delayed, leading to only 67% of the planned population being served with water supply as of the ex-post evaluation. This resulted in a cost to beneficiaries of connecting to each household, but it took time for residents to understand the benefit of this and it was observed in some cases that residents continued to make use of public water taps rather than connecting their households. Given that the Project will also involve residents bearing the cost of connecting each household to the expanded water treatment plants (however, in the case of poor households, the Project will take care of the materials and equipment required for connection, and construction costs will be borne by the executing agency), agreement has been made with the executing agency regarding the publicity of promoting the connection of each household, plan prospects, and construction schedule, to ensure promotion of connection.

7. Evaluation Results

The Project is in line with the country development issues and policies and the cooperation policies and analysis of Japan and JICA, and contributes to the improvement of the living environment through the expansion of water supply facilities, which is expected to contribute to SDGs Goal 6 (Clean Water and Sanitation), and Goal 3 (Good Health and Well-being) from the perspective of addressing infectious disease including COVID-19, and therefore there is a vital need to support the implementation of the Project.

8. Plan for Future Evaluation

(1) Indicators to be used

As indicated in Section 4.

(2) Future Evaluation Schedule

Ex-post evaluation: 2 years after the project completion.

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