

**Ex-post Evaluation of
Hoa Khanh Tay Water Supply Project
in the Socialist Republic of Vietnam**

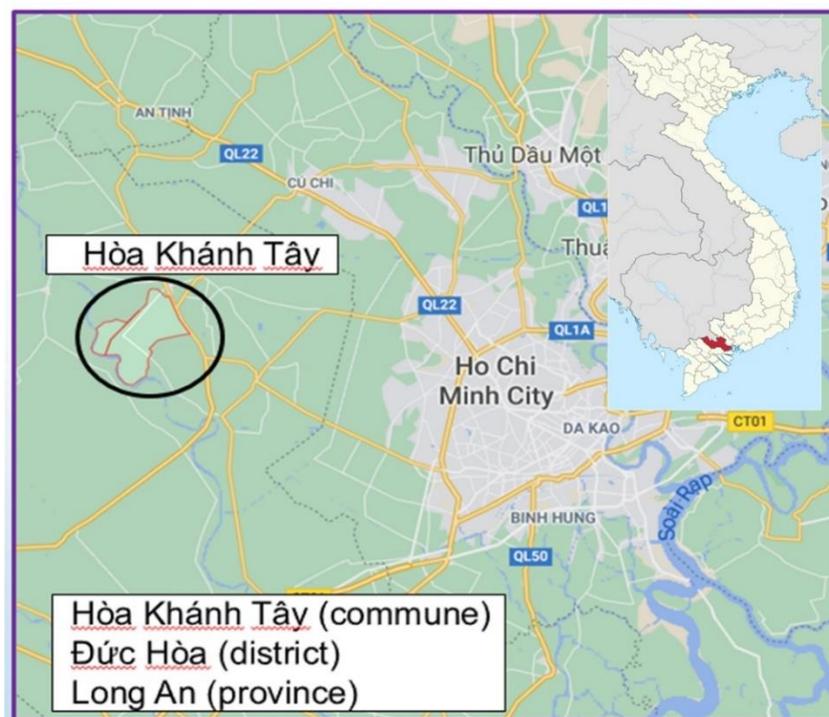
- Executive Summary -

April 2021

1. Project Overview

1) **Project Name** : Hoa Khanh Tay Water Supply Project (the “Project”)

2) **Project Area** : Duc Hoa District, Long An Province



<Figure 1> Project Area

3) **Project Objective** : The Project’s objective was to establish water supply facilities in the Project area, which is located adjacent to Ho Chi Minh City (“HCM City”), to provide industrial water for industrial complexes and household water for local residents.

4) **Project Background** : A national industrial complex was established in the Project area, but the area had been suffered from chronic water shortages.

- The Government of the Socialist Republic of Vietnam (the “Vietnamese Government”) established a Socio-Economic Development Strategy (2010) to present their goals for high economic growth. Furthermore, the Vietnamese government set infrastructure and resource development as one of the top

priorities in the 5-year Socio-Economic Development Plan (2016-2020), which was a subset of the aforementioned plan.

- The Project area was where commuting to HCM City, a southern metropolis, is possible. Since the mid-1990s, it had also been recognized as a strategically significant area of the regional economy that had developed rapidly with the establishment of industrial complex. Therefore, expanding the water resources infrastructure in the area was necessary.
- The Government of the Republic of Korea (the “Korean Government”) regarded water management and sanitation as one of the significant cooperation sectors in the Vietnam Country Partnership Strategy (2011). EDCF also financed various water supply projects in the Socialist Republic of Vietnam (the “Vietnam”) and approved a loan for the Hoa Khanh Tay Water Supply Project in 2008.

5) Project Period : It took 81 months from the effective date of the loan agreement (2009.12) to the final disbursement date (2016.09).

- It took additional 17 months compared with the original plan to prepare the project due to the issues with business license acquisition, requests for changing the water treatment and intake facility location by the Vietnamese government, etc. Also, it took additional 19 months compared with the original plan to implement the project due to delays in land compensation, advanced payment for the contractor, and license approval.

6) Project Site : Hoa Khanh Tay Commune, Duc Hoa District, Long An Province

- The population in Duc Hoa District has rapidly increased by 60% over the past decade due to the population inflow triggered by the construction of industrial complex and regional development.

* Population Growth: 220,000(2009) → 230,000(2013) → 250,000(2016) → 350,000(2019)

- The water treatment capacity of Duc Hoa District was only 1,000 tons/day when the Project was proposed in 2008. However, it has been sharply increased to 40,000 tons/day after the project completion.
 - The industrial complex area in Duc Hoa District grew 12 times bigger, i.e. from 271ha in 2008 to 3,244ha in 2020. However, the land utilization rate is still low.
 - As of 2020, 11,500ha of the factory lot was created in 23 industrial complexes throughout Long An Province. However, only 3,900ha in 16 industrial complexes are in operation, resulting in approximately 39% land utilization rate. The Project area has a potential to vitalize the industrial complex and boost economic growth, along with local government's strong will for regional development and the establishment of water supply infrastructure.
- 7) Project Cost :** The actual project cost (US\$37,034 thousand) was 96.2% of the estimated project cost (US\$38,491 thousand). EDCF provided 77% (US\$28,607 thousand) while the Vietnamese government covered the remaining 23% (US\$8,427 thousand).
- EDCF diverted the contingency fund (US\$1,975 thousand) to the budget for construction works (initially US\$26,632 thousand) and used a total of US\$28,607 thousand, utilizing 95.4% of the loan limit (US\$29,998 thousand).

<Table 1> Project Cost

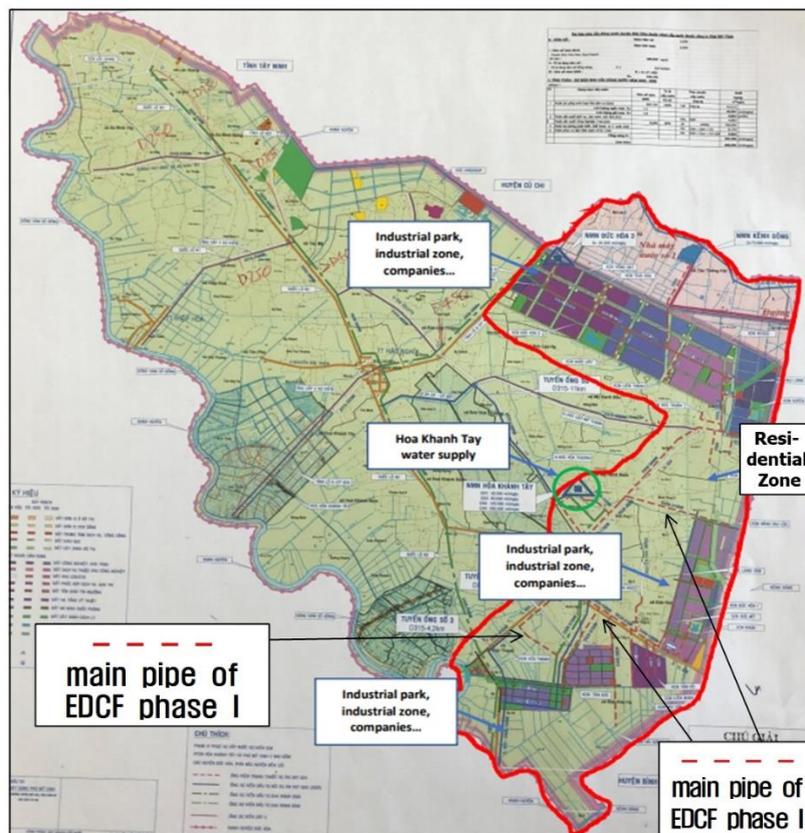
(US\$ thousand)

Category	Planned (A)	Actual (B)	Difference (A-B)
Total Project Cost	38,491	37,034	1,457
EDCF	26,632*	28,607	△1,975

* Note: Does not include the contingency fund. Planned EDCF loan amounts to US\$29,998 thousand with the contingency fund.

8) **Project Details** : The Project was planned to supply industrial water for the industrial complex and household water for nearby residential areas by establishing a water supply system that addresses the imbalance in water supply and manages emergencies like the dry season in Long An Province.

- The Project was carried out in two stages in consideration of the expected increase in water demand and the large project cost. The first phase was the Hoa Khanh Tay Project in the Duc Hoa District while the second phase is currently under review by the Long An Province.
- The Project scope consisted of water supply facilities like a water treatment facility with a capacity of 40,000 tons per day, a water intake facility, water pipes, etc.
- The Project has the additional effect of preventing environmental pollution in the region by maximizing the use of surface water that can be locally used.



<Figure 2> Construction Plan of the Water Supply System

2. Evaluation Results

- 1) **Evaluation Purpose** : By analyzing the project performance, this evaluation aimed to provide lessons and recommendations that can be used in promoting similar projects in the future.
- 2) **Evaluation Criteria** : The evaluation was conducted by utilizing the Integrated Evaluation Manual for International Development Cooperation (2018) from the Office for Government Policy Coordination and the EDCF Evaluation Manual (2020). Out of the 5 OECD DAC evaluation criteria, four criteria – relevance, efficiency, effectiveness, and sustainability, excluding impact – were evaluated.
- 3) **Evaluation Method** : The evaluation was conducted based on various relevant reports on the Project and Project area, site visits, surveys, and interviews with the project stakeholders. A score was assigned for each item of the evaluation criteria and the final grade was calculated by giving the same weight (25%) to the average score for each evaluation criterion.
- 4) **Evaluation Results** : The final score is 3.75 out of 4, which is very successful.

<Table 2> Grading System and Result by Evaluation Criteria

Criteria	Category	Result	Scores
Relevance	- Compatibility of development strategy with needs of the partner country	Highly Relevant	4.0
	- Compatibility with ODA strategy of the donor country		
	- Relevance of project design and implementation		
	- Ownership of the partner country		
Efficiency	- Efficiency of project cost	Efficient	3.0
	- Efficiency of project period		
	- Performance compared to budget input		
Effectiveness	- Degree of achievement on outputs, objectives and goals	Highly Effective	4.0
Sustainability	- Sustainability of manpower, institutions, and finances	Highly Sustainable	4.0
	- Degree of maintenance, management system and risk response		
Total Score		3.75	
Overall Grade		Very Successful	

A. Relevance : The Project was highly relevant (4.0/4.0).

- Relevance is evaluated based on the compatibility with the development policies and strategies of the partner country, compatibility with the Korean government's country partnership strategy, the relevance of project design and implementation, and ownership of the partner country, etc.
- The Project was consistent with the Vietnamese government's national strategy to propel the development of infrastructure and resources in Long An Province, where regional development was progressing in line with the rapid economic growth. It also aligned with the Vietnamese Partnership Strategy of the Korean government and EDCF's support strategy to promote the reconstruction of the Vietnamese industrial structure with the social infrastructure support.
- The facility design of the Project fully considered local conditions. Despite delays due to site circumstances, the Project was conducted smoothly in a way to minimize changes in the project scope.
- From the beginning of the Project, the central government, local governments (Long An Province), and implementing organizations actively participated and showed high sense of ownership. In particular, Phu My Vinh Construction & Investment JSC (the "PMV"), the project implementing organization, currently manages the water supply facilities well but also hopes to have a chance for additional technical training from EDCF.

B. Efficiency : The Project was efficient (3.0/4.0).

- Efficiency is evaluated by measuring the appropriateness of the Project's duration and budget compared to the plan.

- The Project as a whole took 81 months, which was 36 months longer than the plan (45 months). 17 out of 36 months were due to delays in the detailed design and bidding document preparation, while the remainder were due to delays in land compensation and license approval.
- Despite the delays in the project period, the planned outputs were achieved.
- During the construction period, there were several constraints, such as increased material and labor costs. However, the project cost was executed within the budget. Therefore, it is evaluated as efficient.
- The Project was completed at a lower cost than what it would cost to build a similar-sized facility in Korea. Considering that ODA project construction costs in developing countries are usually higher than those in Korea, the Project showed excellent performance compared to budget input.

C. Effectiveness : The Project was highly effective (4.0/4.0).

- Effectiveness is evaluated based on the degree of achievement of the project objectives and goals, and the short-, mid-, and long-term performance.
- Duc Hoa District attracted a large number of factories and people from outside the area due to the development of national industrial complex. The project design was carried out in consideration of the increasing water demand.
- The Project achieved the planned project scope with the water treatment facility (40,000m³/day) and water intake facility (42,000m³/day) construction. Due to the change in location of the water treatment facility, design changes were made by adding a storage tank and extending the pipeline (waterway/water supply pipe).

- The goal was achieved in terms of daily water supply rate per capita, water leakage rate, water quality, and satisfaction of beneficiaries. The goal was not met for the water supply rate, but overall results are generally excellent.
- The local population of Duc Hoa District, which was a mid- to long- term indicator of regional development, exceeded the planned goal, resulting in a rapid increase in water demand. Accordingly, the project implementing organization (PMV) is operating the facility above the designed capacity.

D. Sustainability : The Project is highly sustainable (4.0/4.0).

- Sustainability evaluates whether the partner country has the technical and institutional capabilities for maintaining the facility.
- The central government of Vietnam has introduced innovative policies and systems in the water and sewage sector. The local government (Long An Province) has also established and implemented a water supply plan for the industrial complexes and residential areas. Therefore, institutional sustainability is excellent.
- Vietnam privatized its water supply business and has raised the water fees by approximately 10% every year. This means its water fees are higher than neighboring countries. The Vietnamese government has made efforts into securing financial soundness and sustainability by raising water fees.
- As of 2012, 65% of the water supply business in Vietnam were operated by state-owned companies, 29% by privatized companies, and 6% by pure private companies. PMV, the project implementing organization, is a privately specialized company in water supply management, and has 24 water supply experts in charge of facility management, meaning that the Project ensures excellent maintenance and sustainability.

E. Cross-Cutting Issues : The Project drastically reduced the water intake time for women. However, there is an increase in sewage discharge due to the water supply system.

- 99% of survey respondents said that the project decreased the water intake time for women.
- Since the amount of wastewater exceeds the treatment facility capacity and is discharged without permission, severe environmental issues may arise if an appropriate counterplan is not established.

3. Lessons and Recommendations

1) Lessons Learned

A. Success Factors

- The success factors of the Project include ensuring project consistency, project implementation by phases, the advanced policies of the Vietnamese government for the water and sewage business, high sense of ownership by the Vietnamese government, establishment of a systematic management solution for environmental/social impacts, and establishment of a close partnership between the donor and the Vietnamese government.

B. Limitations

- There were difficulties in project implementation and evaluation due to inadequate establishment of basic data and monitoring plan. Furthermore, the project period was significantly extended due to the delayed administrative procedures in Vietnam and unexpected design changes.

2) Recommendations

A. Recommendations for EDCF

- EDCF must set a realistic project period and secure objective baseline data through a thorough feasibility study. When establishing a project plan, the maintenance plan should be fully prepared.
- The project design had been changed due to the land compensation issue and led to the extended project period. Therefore, a thorough feasibility study must be conducted to remove uncertainties as much as possible and establish a realistic project period.
- Since the baseline data presented in the Appraisal Report were not clear, it was difficult to determine the project results. Therefore, the baseline survey must be conducted thoroughly in the feasibility study.
- The workers at the facility must be trained to recognize the importance of securing operational data. Through the training, workers are expected to systematically manage operational data, including performance indicators and baselines, so that the effectiveness of facility operation can be easily identified.

B. Recommendations for the Vietnamese Government

- The legislations and national standards regarding water supply facilities must be organized to encourage systematic water supply management. In the long term, it is essential to increase the stability of the water supply for a rapidly growing local population by establishing a wide-area water system that connects nearby water supply facilities.

- The Vietnamese government enacted legislations on the production, supply, and consumption of water resources in 2007 with three revisions until February 2020. The Vietnamese government consistently strives to manage water supply at the national level through legal supplementation on water supply development and investment as well as the rights and obligations of water suppliers and users.
- However, it is challenging to secure quality facilities due to a lack of standards and guidelines for various designs and construction for water supply facilities. Efforts to enact and improve relevant legislations and regulations are required at the national level.
- Currently, the system established in the Project only supplies water to the Duc Hoa District. However, in case the development of the Duc Hoa District and the growth of the city continue, it might be difficult to meet the water demand with the current facility capacity. Therefore, Vietnamese Government must consider establishing a connected system with nearby areas.
- In the short term, a Long An Province system should be established by linking the EDCF project in Duc Hoa and Long An's second project in Ben Luc. In the long term, the facilities must be integrated into the wider HCM system.