

Technical Cooperation to Expand Safe Water Access in Vietnam

Kitakyushu City, Fukuoka Prefecture



Background

Following the partnership and friendship agreement between Kitakyushu City and Hai Phong City in 2009, our Water and Sewer Bureau received a request for technical cooperation from the Hai Phong Water Joint Stock Company and the Haiphong Sewerage and Drainage Company. After conducting an onsite survey, we agreed to provide technical cooperation in water supply and sewerage field.

Objectives

This project aims to contribute to Kitakyushu City's urban development efforts through the expansion of access to safe water in Vietnam from the following three perspectives (people, city, work):

- Training and upskilling Kitakyushu City staff through international technical cooperation to Vietnam (personnel development)
- Fostering civic pride in Kitakyushu City through international contribution
- Promoting industry by supporting local and other related companies in the water business market

Project Outline

Kitakyushu City's international cooperation project in the water supply field aims to improve the management capabilities of water supply authorities throughout Vietnam by promoting the adoption of Upward Biological Contact Filtration (U-BCF*), an advanced water purification technology developed

by Kitakyushu City, and by training Vietnam's water supply engineers under the guidance of dispatched Kitakyushu City staff.

*U-BCF is an advanced water purification technology that enables efficient biological contact filtration (a purification technology that applies the natural purification ability of microorganisms endemic to rivers, which serve as the source of tap water).

1. Previous Initiatives

1) Promoting adoption of U-BCF by the Hai Phong Water Joint Stock Company

To implement the technical cooperation agreed under the partnership and friendship agreement between Kitakyushu City and Hai Phong City in 2009, we received assistance from the JICA Partnership Program and launched the water supply and sewerage technical cooperation project in 2010. Under the project, we first demonstrated the effectiveness of U-BCF through a pilot experiment. This led to the establishment of a U-BCF facility (purification capacity: 100,000 m³/day) at Hai Phong City's main water treatment plant (a Grant Aid project). The facility was completed in 2022.

2) Pilot experiment towards the expansion of U-BCF adoption throughout Vietnam

Alongside the U-BCF project in Hai Phong City, between 2016 and 2019 we conducted surveys and pilot experiments for the adoption of U-BCF in

six Vietnamese cities in cooperation with six water authorities, including Saigon Water Corporation (Ho Chi Minh City). Through these activities, we successfully demonstrated the effectiveness of U-BCF to multiple water authorities outside the Hai Phong Water Joint Stock Company.

3) Technical cooperation for the Haiphong Sewerage and Drainage Company

Since 2010, we have utilised the JICA Partnership Program and the CLAIR Local Government International Cooperation Project Subsidy to continuously provide technical cooperation to the Haiphong Sewerage and Drainage Company to improve its sewerage facility operation, maintenance and management capabilities.

Specifically, we have improved their facility maintenance and management capabilities and strengthened their organisational structure for mitigating flood damage by compiling a manual for the maintenance and management of sewer pipes, wastewater treatment plants and other facilities, as well as by creating an emergency contact list for mitigating flood damage due to heavy rain. Additionally, through environmental education, awareness raising, flood response drills and other activities involving citizens, we have contributed to sustainable, local community building.

4) Accepting trainees from the Hai Phong Water Joint Stock Company and Haiphong Sewerage and Drainage Company.

We have not only dispatched our municipal staff to Vietnam, but with the support of the JICA Partnership Program and the CLAIR Local Government International Cooperation Project Subsidy, have also invited employees from the Hai Phong Water Joint Stock Company and Haiphong Sewerage and Drainage Company to Kitakyushu City on water supply and sewerage technology-related training programmes. Since returning to Vietnam, many of the trainees have successfully served as executives, managers and core

engineers at the aforementioned companies, forming the strong foundation of trust between Kitakyushu City and Hai Phong City.

2. Current initiatives

1) Launch of new technical cooperation with the Hai Phong Water Joint Stock Company

In 2024, the Kitakyushu City Water and Sewer Bureau and the Hai Phong Water Joint Stock Company signed a new memorandum of understanding on technical cooperation for the consistent enhancement of U-BCF operation, maintenance and management capabilities.

This new technical cooperation initiative is expected to help improve the Hai Phong Water Joint Stock Company's U-BCF operation, maintenance and management capabilities. Furthermore, Kitakyushu City will gather insight into matters such as U-BCF operation conditions and water quality data in Vietnam, which are expected to be helpful in spreading the technology throughout the country.

2) Expansion of technical cooperation to water authorities in Vietnam's regional cities

In 2024, Kitakyushu City Water and Sewer Bureau signed a memorandum of understanding on technical cooperation with the Phu Tho Water Supply Joint Stock Company (Phu Tho Province)—located in one of the six Vietnamese cities in which we conducted U-BCF pilot experiments as mentioned earlier—for the development of personnel with expertise in pipe leakage prevention, efficient facility operation and other tasks, and began the technical cooperation initiative.

In April 2025, we signed a similar memorandum of understanding with Tien Giang Water Supply One Member Limited Liability Company (present-day Dong Thap Province). (The exchange of the memorandum of understanding took place on 28 April 2025 in the presence of the Prime Ministers of Japan and Vietnam, after the Japan-Viet Nam

Summit Meeting held at the Prime Minister's office in Hanoi City, Vietnam.)

3) Strengthening of technical cooperation for the Haiphong Sewerage and Drainage Company

As a measure to mitigate flood damage due to heavy rain in Hai Phong City, we will launch an initiative this year to test the effectiveness of DX technology that displays rainfall information and manhole rainwater levels on a map in real time. This project was selected as a WOW TO JAPAN Project by the Ministry of Land, Infrastructure, Transport and Tourism. This initiative aims to promote the international implementation of Japanese sewerage technologies through overseas demonstration trials, which seek to test the effectiveness of these technologies while simultaneously advancing their adoption. The Kitakyushu City Water and Sewer Bureau has formed a joint enterprise with a private consulting firm to carry out this project.

Features and Innovations

- We are engaging in continuous exchange and technical cooperation based on strong relationships of trust, building on municipal partnership and friendship agreements as well as sister city relationships.
- Our activities go beyond municipal exchange: we provide benefits to Vietnam through ODA initiatives while simultaneously contributing to the international implementation of Japan's water supply and sewerage technologies and promotion of its water business.
- We carry out awareness-raising activities and drills that involve partner organisations as well as citizens, aiming to help with sustainable local community building.
- We actively utilise technical cooperation initiatives as opportunities for capacity development of Kitakyushu City staff.

Results of the Project

- Improvement of water supply and sewerage technologies and their management in Hai Phong City
- International implementation of Japan's water supply and sewerage technologies, promotion of industry by supporting local and other related companies in the water business market
- Training and upskilling of Kitakyushu City staff through international technical cooperation (personnel development)
- Fostering civic pride in Kitakyushu City through international contribution

Issues, Problems and Responses

Ensuring consistent funding to engage in international cooperation as a local government (grants and subsidies from the national government and related agencies, participation in projects implemented by international cooperation organisations such as JICA)

Future Developments (expected effects, project vision, and issues)

- Further improvement of water supply and sewerage technologies (e.g. broader adoption of U-BCF and DX technology) and improvement of water supply and sewerage business management (reduction of water leakage and streamlining of facility operations) in Hai Phong City
- Expansion of municipal exchange and technical cooperation throughout Vietnam

Websites for Reference

<https://kitaq-water-intl.jp/>

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Hai Phong City U-BCF



Exchange of the memorandum of understanding on technical cooperation (in the presence of the Prime Ministers of Japan and Vietnam)



Flood response drill