



Delivering through Business

Safe Water

Business also contributes to supply safe drinking water in developing countries. Here are examples of successful water business that contribute to provide safe water and also employment of the local people.

KENYA

Wellthy Corporation

01

Using Water Technology to Provide Clean Drinking Water for Villages

Wellthy Corporation has developed a groundbreaking membrane filtration system which transforms groundwater into safe drinking water. The water treatment plant built by the company provides a decentralized water supply system which is independent of piped water supply system thus contributes to the reduction of water costs for factories and business companies. In addition, these plants are gaining attention as disaster mitigation facilities since it functions as an alternative water source during natural disasters and in other situations when the centralized water system is damaged or inoperative.

After the Great East Japan Earthquake on March 11, 2011, Wellthy Corporation plants supplied water to a hospital which had no public water supply for nearly two weeks, and kept the hospital running. Also during the Great Sichuan Earthquake that struck the southwestern part of China in 2008, a Wellthy Corporation water treatment system capable of supplying drinkable water up to about 40,000 people was donated to support evacuees. Recently, its plants have been introduced to hospitals and local governments to provide a secure source of safe water that will remain accessible in case of emergency.

Wellthy Corporation started a water supply project in Kenya after the Fifth Tokyo International Conference on African Development (TICAD V) in 2013. The company is currently conducting a pilot test to provide drinking water to around 1,000 people, 400 households located in the area 30 minutes by car from Nairobi.

Due to the rapid influx of population in the area, compensating the possible future water shortages is a major issue. Therefore expansion of the water treatment plant in the area is planned. Wellthy Corporation is taking part of this plan through a demonstrative experiment with its plant that treats muddy river water source and provides safe and drinkable water to each household.

For the future of this project, expanding the application to additional areas and securing sustainability of the business are both essential. Therefore to secure sustainability, training engineers capable of operating the plants and building a local supply network for maintenance are crucial. For the efficient operation, the company has developed a remote monitoring system that allows engineers to check the plants' status with smartphones without even leaving Japan. This system shows them detailed information about each plant's status. So if problems occur, experts

in Japan can guess the causes of the troubles and give specific instructions to the local engineers. By using this system the company aims to manage a large number of plants with a minimal local staff.

Since purchasing expensive bottled water is common in Kenya, safe and affordable drinking water provided by these Wellthy Corporation water treatment plants is drawing attention from the local people. Water supply is a major issue that is of great interest for many African countries, too. Wellthy Corporation will continue its efforts to provide safe and reliable drinking water.



This water treatment plant provides clean water to 1,000 residents of this village.

VIET NAM

Kitakyushu Overseas Water Business Association (KOWBA)

02

Supplying Clean Water at Low Cost



The Vinh Bao water treatment plant in Hai Phong City (built in 2013)



Hai Phong City water engineer receiving training on water quality inspection (2011)

Settling the impurities in the water drawn from the river, and filtering and sterilizing it with chlorine, tap water is purified through such process and supplied to us. However, when the contamination of the water source worsens by domestic wastewater and other reasons, additional treatment known as 'advanced treatment' becomes necessary.

In Hai Phong City in Northern Viet Nam, the increase of the urban population led to the pollution of the nearby river, which led to concerns of odor and hazardous substances in the tap water. However the city could not introduce any advanced treatment due to financial difficulties.

In such circumstances, water treatment technology developed by the City of Kitakyushu in Fukuoka Prefecture in Japan is gaining much attention of Hai Phong City.

Kitakyushu, one of Japan's biggest industrial areas, had faced many pollution problems subsequent to rapid economic growth after the Second World War. The pollution of rivers especially became worse from the 1960s due to domestic wastewater. In order to purify its water resource, the Kitakyushu City Water and Sewer Bureau spent more than 10 years developing the 'Upward Biological Contact Filtration (U-BCF)' - an advanced treatment technology that uses

biological activated carbon.

"We mainly use ozone when conducting advanced treatment in Japan. The ozone treatment is, however, too expensive for developing countries to implement and maintain. On the other hand, the construction of facilities for U-BCF costs half of that of ozone treatment, and one-twentieth for operational cost," says Masashi Yayama of Kitakyushu City Water and Sewer Bureau.

The Kitakyushu City Water and Sewer Bureau established a U-BCF pilot plant in Hai Phong City through the JICA Partnership Program between 2010 and 2012. Its excellent performance was acknowledged, and U-BCF was then introduced to the city's small water treatment plant in 2013. Currently, its introduction to the main water treatment plant is in progress.

As the news of its positive effects spread, other municipalities across Viet Nam requested the introduction of U-BCF technology. Currently, surveys in regards to its implementation are being conducted in five cities including Ho Chi Minh.

Companies such as Kobelco Eco-Solutions also played an important role in the development of U-BCF. Kitakyushu City established the public-private partnership institution, the Kitakyushu Overseas Water Business Association (KOWBA) in 2010 to spread water technology abroad, together with private companies. KOWBA also engages in other projects in Viet Nam.

Engineers at Kitakyushu City Water and Sewer Bureau and the affiliated companies continue to work hard to turn tap water in Viet Nam into water that is safe to drink.