



Continuous Initiatives for Sustainable Resource Utilization

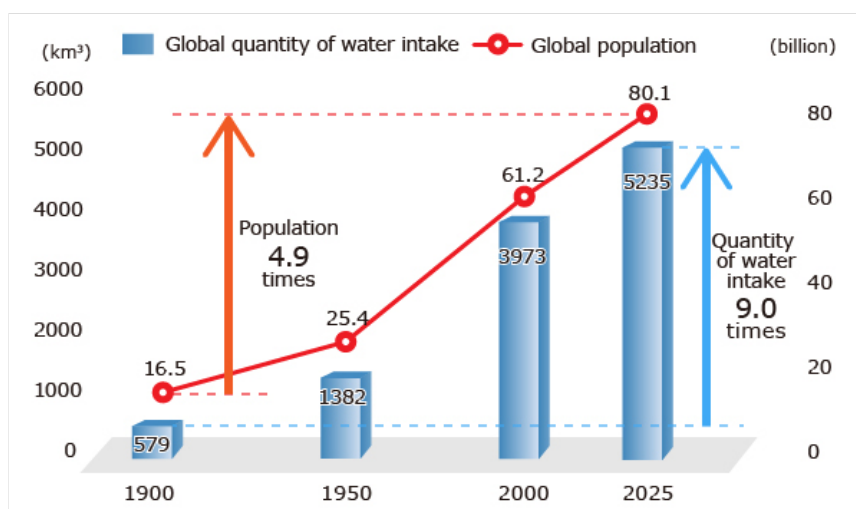
Demand for water continues to rise in response to the growing global population and the rise of emerging countries. Yet accessible freshwater resources constitute only about 0.01% of Earth's total water resources. Adopting sustainable resource utilization as a key CSR issue, ITOCHU Corporation has for many years focused on public infrastructure, from development and construction, to asset management and operation alongside our customers (national/local government and enterprises). Here we will introduce the water and environment related projects which ITOCHU Corporation has particularly focused on.

Risks and Opportunities in the Water Business

Due to factors such as the rapid growth in the global population, economic development and the advance of industrialization primarily in emerging countries, and global warming, worldwide water demand has increased dramatically. According to the United Nations Development Program (UNDP), an estimated one billion people will face water shortages by 2050. While the global water market was worth approximately 60 trillion yen in 2005, with such rising water demand the market value is expected to reach around 111 trillion yen by 2025. Taking into account these circumstances, ITOCHU Corporation views the water business as a promising market. At present, ITOCHU Corporation is pursuing water businesses in three major fields; (1) water supply and sewerage concession businesses, (2) seawater desalination projects, and (3) EPC* and the production and sale of reverse osmosis elements (RO membranes) for seawater desalination.

* EPC: Engineering, Procurement and Construction

Changes in Global Population and Global Quantity of Water Intake



Source: Ministry of Economy, Trade and Industry Study Group on the Global Development of Water Business (2010)

Water Supply and Sewerage Concession Businesses

In 2012, ITOCHU Corporation acquired the equivalent of a 20% stake in Bristol Water Group from a Canadian infrastructure investment firm, Capstone Infrastructure Corporation. With a history spanning more than 160 years, Bristol Water Group provides water supply services to the city of Bristol and the surrounding vicinity in the southwest of the United Kingdom. SUEZ environnement, which maintains a 30% interest in Bristol Water, is a major water company based in France with a history of over 150 years, and running projects in 70 countries and supplying water to approximately 92 million people worldwide.

The UK water utility sector was fully privatized in 1989. Since then, significant improvements in the level of service had been achieved and the UK model is now recognized worldwide as a role model for successful privatization of the public sector. This investment marks the first Japanese investment in a water utility company in the UK providing a comprehensive water supply service to approximately 1.2 million inhabitants, including water resource management, water treatment, supply, distribution, and billing service.

Following involvement in the water utility sector in the UK, ITOCHU Corporation acquired 33.4% of the shares of Canaragua Concesiones S.A., which provides water supply and sewerage services in the Canary Islands in Spain, from SUEZ environnement Group. Canaragua Concesiones S.A. enjoys a leading share in the Canary Islands' privatized water supply and sewerage market, providing services to a total of 1.3 million residents based on concession agreements with local governments.

With its engagement in these projects, ITOCHU Corporation plans to acquire and accumulate expertise in water utility projects so as to contribute to developing sustainable water businesses in the future.

Comments from an ITOCHU Employee Seconded at Bristol Water

Over a two-year period from January 2013 to January 2015, I resided in Bristol, England, being involved in water supply business as a member of Bristol Water. During that period, I was involved in a range of activities - capital planning, accounting and finance as well as the areas closer to operation and maintenance.

While working with the employees of Bristol Water, I was impressed by their strong sense of responsibility to contribute to the region through supplying water. The whole company works together to serve to the community and people in the region, taking in mind of daily lives and health, not only when a disruption occurs in their service but also in day-to-day business activities. During my stay there, I had many opportunities to sense their pride as a water supplier.

Having returned to Japan, I am now working on water and environment projects from Tokyo. I hope to pursue further businesses in the field by combining the experience and knowledge I obtained in Bristol, together with the variety of functions of ITOCHU such as project management know-how, credit capability and technology provision.



Yu Tanaka

Water &
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Section No. 2,
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Seawater Desalination Project

In 2009, ITOCHU Corporation participated in the Victorian Government's seawater desalination project through a 30-year contract with AquaSure, along with its partners including SUEZ environnement, major Australian general contractor Thiess Pty. Ltd., and major Australian investment bank Macquarie Bank. The Victorian Desalination Project is a reverse osmosis desalination project with a daily capacity of approximately 400,000 tons. The project, completed in 2012, includes the construction of seawater desalination facilities, seawater intake facilities, a water pipeline and power transmission line, and supports the stable water supply in the state for generations to come.

Australia has suffered serious water shortages in the past, and it is regarded as a national issue to tackle water shortages. The facility is able to meet approximately 30% of the water demands of Melbourne, with a population of around 4.4 million, making it a project that contributes a rainfall independent water source to the city and connected regional areas.

Due to the global increased demand for water, the market for seawater desalination is expected to be tripled by 2025 compared to that in 2007. With this in mind, ITOCHU Corporation will promote its engagement into water businesses such as seawater desalination in the regions with severe water shortages.



Seawater Desalination Plant Restoration / Expansion and Sale / Manufacture of RO Membranes

In Saudi Arabia, a large proportion of water for domestic use relies on seawater desalination plants, and the country's seawater desalination capacity is the largest in the world. On the other hand, a large number of facilities are wearing out, making rehabilitation work a pressing issue. ITOCHU Corporation has been delivering a large number of desalination plants in Saudi Arabia since the 1970s. In 2003, ITOCHU together with Sasakura, a holder of unique seawater desalination technologies, established Arabian Company and Sasakura for Water & Power (hereinafter "APS"), a joint venture with local capital in Saudi Arabia. Since then, APS has provided a wide range of services as a total solution provider in the field of seawater desalination plants, such as the construction of seawater desalination plants based on Sasakura's equipment and technologies, and the maintenance of existing plants including their restoration and the supply of components for upkeep. More recently in September 2014, APS was awarded by the Saline Water Conversion Corporation (hereinafter "SWCC") a rehabilitation project of the Al Jubail Phase 2 C4 MSF Seawater Desalination Plant, followed by an expansion project for existing seawater desalination units under Shoaiba Phase 2 in January 2015. ITOCHU Corporation will continuously seek projects to tackle the need to rehabilitate aging facilities in the country, as well as smaller-sized projects for regional areas.

On another front, ITOCHU Corporation is promoting operations to manufacture and sell RO membranes for seawater desalination through Arabian Japanese Membrane Company (hereinafter "AJMC"), which was established with local capital along with Toyobo in March 2010. In the future, by manufacturing RO membranes whose demand is expected to increase among Middle East and Persian Gulf nations amid the growing demand for water due to rapid economic development and population growth, AJMC will strive to further expand its sales.

Risks and Opportunities in the Environment Business

According to the OECD Environmental Outlook to 2050, worldwide greenhouse gas emissions will increase around 50% from 2010 to 2050, and more destructive climate changes may occur. ITOCHU Corporation has been involved in various renewable energy projects as businesses that contribute to the mitigation of climate change and reduced CO₂ emissions. Here, we introduce the waste management projects ITOCHU has pursued since 2011.

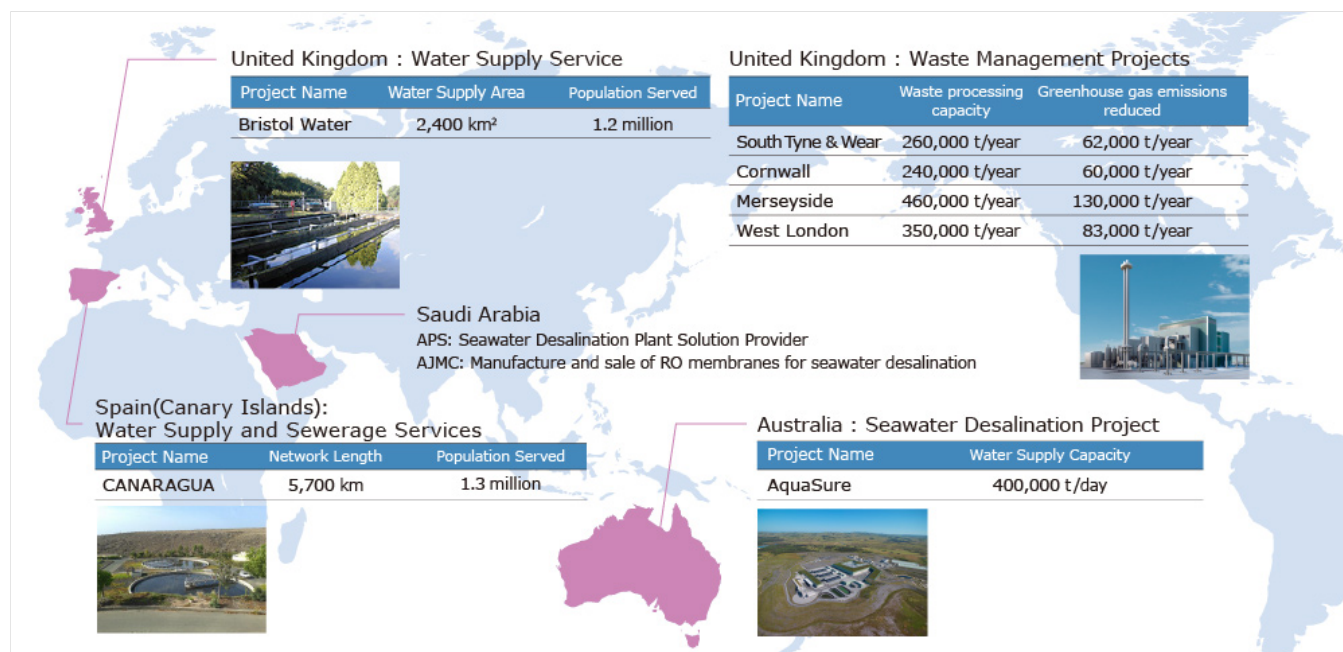
Waste Management Projects

Since 2011, ITOCHU Corporation in conjunction with SUEZ environnement Group has signed waste management PFI agreements and undertaken construction for four projects in the United Kingdom.

In these projects, wastes are treated through incineration, whilst they were traditionally landfilled directly. As a result of the four projects, the total volume of landfill waste will be reduced by 1.31 million tons a year and greenhouse gases will be reduced by 335,000 tons a year. Moreover, the heat produced through incineration process generates electricity of equivalent to the power consumption of 165,000 homes. This clean power generation, without using fossil fuels, inhibits the emission of methane, which has a significant impact on global warming.

ITOCHU Corporation has been involved in the construction of seawater desalination plants since the 1970s. In the intervening time, ITOCHU has worked on water and environment businesses in a way that takes into account the issues and characteristics of each area around the world. Leveraging off these expertise, its international fund procurement competence and connections with many partners around the world, ITOCHU will continue to tackle these challenges to help find solutions to the water and environment issues facing the world.

Global map of our investments in water and waste management sectors



Comments from a Business Partner

We are at the dawn of the resource revolution. In a world facing high demographic growth, runaway urbanisation and the shortage of natural resources, securing, optimising and renewing resources is essential to our future.

SUEZ environnement supplies drinking water to 92 million people, delivers wastewater treatment services to 65 million, collects waste produced by almost 50 million, recovers 14 million tons of waste each year and produces 5,138 GWh of local and renewable energy. With 80,990 employees, our company, which is present on all five continents, is a key player in circular economy and sustainable management of resources. SUEZ environnement generated total revenues of €14.3 billion in 2014.

Our employees are united in providing our customers (local authorities, industry and consumers) with concrete solutions to address these new resources management challenges. To that end, SUEZ environnement works in partnership with industrial companies such as ITOCHU Corporation to develop breakthrough innovations for the whole water and waste cycle.

In recent years, SUEZ environnement has been cooperating with ITOCHU Corporation on water businesses including Bristol Water in the UK, Canaragua Concesiones in Spain and Victoria Desalination Project in Australia, as well as waste management projects in the UK. During our cooperation, we benefited from ITOCHU's financing competence, industrial knowledge and worldwide network, which enabled us to jointly deliver advanced technologies and services that meet our customers' current and future challenges.

Furthermore, ITOCHU's approach of "Commitment to the Global Good" is fully in line with SUEZ environnement's long-term sustainable development policy based on the "3Cs", namely Circular, Concrete and Collaborative.

Through expanding water- and environment-related projects worldwide, we are sure that our joint endeavors will help provide solutions to environmental issues in the world.



Bruno HERVET

SUEZ environnement Executive Vice President Smart & Sustainable Cities

- SUEZ environnement "Sustainable Development"
<http://www.suez-environnement.com/sustainable-development/>



Overview

In this Supply Chain Highlight, we provide an overview of the supply chain of each product we handle. This fiscal year, we are focusing on the banana, a fruit that is familiar to all of you and the mainstay product of Dole, which is an ITOCHU Group company.

For our bananas, many people are involved in the process, which takes nearly two years from growing seedlings to putting on display in stores and delivering to customers. This time, we visited Mindanao in the Philippines, where around 90% of the bananas consumed in Japan are produced.

We will report on how the bananas that are familiar to us are grown and transported, what considerations are given to employee and the environment in the process, and other matters.

Farm : Tawantawan Farm in Calinan

Visited : 2 March 2015



About the Dole business

Bananas are displayed in fresh produce sections all over the world. They enjoy enduring popularity due to their high nutritional value and stable price. In Japan, bananas have ranked first among fresh fruits in terms of consumption amount since 2004. Of the total import volume of bananas, which exceeds one million tons per year, the volume of bananas produced in the Philippines accounts for more than 90%. The largest market share of around 30% is held by Dole Food Company Inc. of the United States. In April 2013, ITOCHU Corporation acquired the fruit and vegetable business in Asia and the global processed foods business held by Dole Food Company Inc., which is the largest fruit and vegetable company in the world.

From the division to the rearing of seedlings

The banana is not a tree, but a type of herbaceous plant.

The banana is a plant which grows up to ten meters tall. Because of its size, people often call it a "banana tree." To be accurate, however, the banana is a type of herbaceous plant. The varieties of bananas we usually eat are seedless, and their seedlings are created by means of division. Dole takes pups (growth points) from outstanding banana canes selected from a number of fields and grows them in the clean environment of its dedicated facility, thereby growing healthy seedlings. Within about ten months, more than 1,000 plantable seedlings are created from a single pup.

* A nursery facility in Panabo



Growth point of a pup



Division of incubated tissues



Grown in flasks for seven months



Each individual seedling is planted in its own pot and grown for two months.

Planting, growing and harvesting

200 bananas in a single bunch!

On the farm, banana seedlings are planted manually, one by one. They thrive in the sunlight and the stems, which have about 200 bananas each, keep growing until they are harvested about one year later. (The number of bananas and the growing period differ according to the variety, altitude and other factors.) During the growing period, farmers cover the bananas with bags to protect them from harmful insects and place cushioning materials into each individual bunch to prevent scratches. These and other care tasks are all undertaken manually. At the time of harvest, new bulbs emerge around the base. Several generations of bananas are harvested in this way.



Bags for preventing diseases, harmful insects, and damage from birds, and for heat retention



Adhesive tape for catching bugs



Sheets for preventing scratches



Stems



The buds at the tips are cut off to concentrate the nutrients in the fruits. In this process, only one fruit is left at the tip. This one banana is sacrificed for the other approx. 200 bananas if a bacterial infection occurs at the cut.



After harvest, the pups are left for a while, rather than being cut off immediately. The nutrients stored in the pups are absorbed by new bulbs which emerge around them, and are used for the growth of the next generation.

Environmental considerations

In order to prevent environmental risks such as non-point source pollution into waterways, Dole manages and inspects the use of chemicals, has obtained ISO 14001 environmental certification for all the farms managed by the headquarters and the company, excluding some new farms for which applications for certification are currently being made, and has the farms checked periodically by third parties. In 2008, Dole commenced employee volunteer activities involving the planting of local natural trees. By 2014, a total of one million trees had been planted in areas around farms in different regions by thousands of employees and other volunteers.

Consideration for employee

Approximately 9,000 employees work at farms in the Philippines directly operated by Dole. The number of people in managerial (salaried) positions associated with banana production is about 1150 (the gender breakdown is approximately 70% male and 30% female). A large number of employees, irrespective of gender and age, enjoy working on banana production, recognizing it as the core local industry. While giving full consideration to human rights and labor is an important task, Dole takes employee safety and health into consideration by, for example, making it mandatory to wear protective gear while working. The company also complies with ILO standards and has obtained certification under SA8000, an international standard for work environment assessment. It undergoes regular third-party audits.



Ms. Marianne

Dole Philippines
Inc. Human
Resources Director

As part of its efforts to continue providing better products, Dole is committed to training its employees and encouraging the people on the front lines to make suggestions. In its training system, which is called the Dole University Master Training Plan, Dole provides 31 programs including those on the philosophy of the company, skills for specific operations, and management skills. Workers, site supervisors and managers receive training in programs that are appropriate for their duties. In the Dole Kaizen Program, suggestions for improvements are made regularly by small teams consisting mainly of farm workers. This has resulted in many good suggestions that have led to improvements in overall work efficiency, including the development of work tools and a system for controlling the temperature to minimize raw material waste.

Washing, sorting and packing

Ensuring traceability to the area of production

Harvested bananas are washed and sorted at a packing plant adjacent to each farm. They are then cut in accordance with the sales standards, packed, and boxed. In this process, a number called a Box Code is stamped on each box. This number enables the identification of the farm where the bananas were harvested, the facility where they were boxed, and the time and date when they were boxed, for example. This ensures the traceability of the bananas, which makes it possible to trace them back to the area of production immediately in the event of a quality problem or the like at the sales destination.



Pickup, shipment and departure from the port

More than 100 million bananas are imported to Japan every month.



Boxed bananas are shipped from ports in Davao and transported to Japan. The voyage takes around five days. Bananas from the Philippines are shipped to Japan twice a week. Each ship transports 170,000 to 180,000 cases of Dole bananas. Because each case contains around 80 bananas, each ship transports approximately 14 million bananas, and 115 million bananas are imported to Japan every month. This means that the number of bananas imported to Japan by Dole every month is nearly as large as the population of the country.

Force-ripening and shipment

Bananas are still green when they arrive in Japan.

Bananas are still green and inedible when they arrive in Japan. They are force-ripened (ripened until they become edible) in a temperature-controlled room called a *muro* for five to seven days by carefully controlling the level of ethylene gas, which triggers ripening, as well as the temperature, humidity, carbon dioxide concentration, and other conditions. This is how the green bananas are ripened into the yellow, soft, sweet bananas that are familiar to you.



From the storefront to your table

Responding to consumer needs

The bananas are inspected, stored, sorted and delivered using the latest distribution system, which is linked to the ordering systems of retailers throughout the country, before they are displayed in stores all over Japan and delivered to your home. In response to Japanese consumers' demand for a high level of taste and quality, we produce bananas that are grown at high altitudes and that have a high sugar content. In addition, we often undertake human interactions between the production areas and consumption areas in our efforts to produce bananas that are appropriate for the markets.



Harmonious coexistence with local communities

We employ a large number of people on farms and in factories, and promote business activities with many people, including those from local governments and companies. A harmonious coexistence with the local communities is therefore an extremely important factor for us. In the areas around our farms, we have engaged in activities such as the provision of tanks for water for domestic use and the provision of chairs and educational materials including textbooks to around 50 elementary schools.



An elementary school to which we donated educational materials



By 2014, we donated 173 water tanks (each tank benefits about 60 households) of this type to local residents.

Summary

By following the supply chain of bananas, you will find that bananas undergo many processes before they are delivered to consumers, and many people are involved in these processes. In other words, bananas need careful management with respect to food safety, environmental conservation, occupational health, human rights and other factors.

Dole aims to maximize the economic performance and efficiency of the supply chain to maintain its market competitiveness in terms of price and quality, and strives to develop high value-added products through market research. At the same time, the company takes safety, environmental conservation, and human rights into careful consideration. I give the company high marks for this high degree of awareness of its corporate social responsibility. I was most impressed by the fact that local employees find their jobs worthwhile, and that many female managers are demonstrating their capabilities. While the creation of employment is an important mission of a company, it is also important for a company to provide a motivating work environment, rather than simply employing people. I look forward to the further strengthening of such efforts by Dole.

* Professor Takaoka studied at graduate school at the University of Tokyo under the supervision of Professor Motoshige Ito. She completed a doctoral program at the school and obtained a doctorate. She held positions including assistant professor at Osaka City University before she was appointed to her current position in 2009. Her areas of specialization include consumer behavior and distribution systems.



Presenter :
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