

## **Case Study 6. Water Supply Service with Customers' Voices: Osaka City, Tokyo Metropolitan, Chiba Prefecture, Yahaba Town**

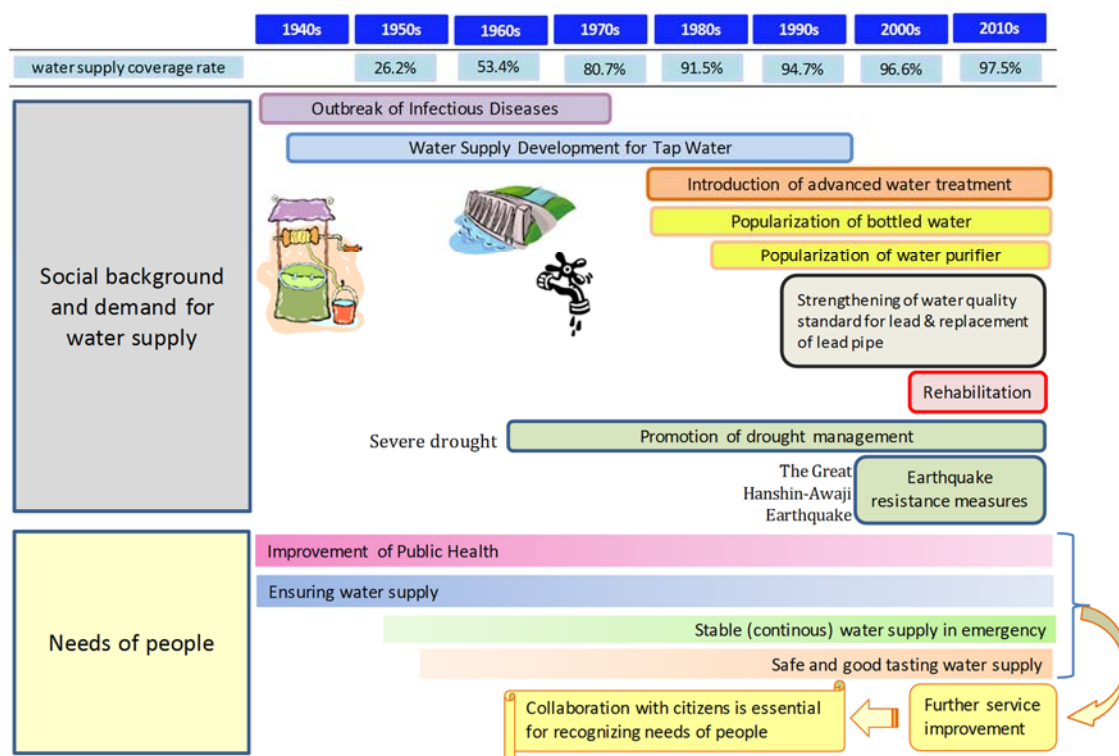
### **Contents**

1. Introduction .....	C6-1
2. Customer Relations .....	C6-2
(1) Rights and Responsibilities Stipulated in the Water Supply Act .....	C6-2
(2) Relationship between Water Utilities and Customers.....	C6-3
(3) Need for Two-way Communications .....	C6-4
3. Case 1: Customer Service through Daily Operation; Osaka City .....	C6-5
4. Case 2: Public Outreach and Information Disclosure .....	C6-7
5. Case 3: Customer Service Center - Tokyo Metropolitan.....	C6-10
6. Case 4: Customer Feedback / Questionnaire Survey - Chiba Prefecture .....	C6-12
7. Case 5: Customer Participation - Yahaba Town .....	C6-13
8. Case 6: Seminars at Schools - Chiba Prefecture .....	C6-15
9. Lessons Learned.....	C6-17



## 1. Introduction

The Japanese government promoted water supply development from the 1940s to 1970s to improve public health and control infectious diseases that cause epidemics. The water supply coverage dramatically improved from 26.2% in the 1950s to 80.7% by the 1970s and 91.5% by 1980s. When the service rate exceeded 95% by the 2000s, customers began to expect other improvements such as “safe and tasty drinking water” and “stable supply during emergencies,” and water utilities heeded and responded to these demands.



Source: Ministry of Health, Labour and Welfare, <http://www.mhlw.go.jp/stf/shingi/2r98520000027cq9.html>

**Figure 1. Changes in the Roles of Waterworks and Needs of Customers**

This module explains how the Water Supply Act supports the building of a relationship between the Japanese water utilities and their customers and why the focus is on customer service. It illustrates this by giving examples of daily operations, information disclosure practices, and outreach activities such as publications, customer service centers, public consultations, customer participation and seminars at schools.

## 2. Customer Relations

### (1) Rights and Responsibilities Stipulated in the Water Supply Act

The duty to serve customers and the rights and responsibilities of customers are stipulated in the Water Supply Act in Japan.

The Act stipulates in Article 14 (Rules of Water Supply) that water utilities are required to set and announce the rules under which they enter into the water supply contract with their customers, including tariffs, fees for service connections and other conditions for water supply. The details are specified in the Waterworks Ordinance of each local government. Typically these rules specify that the cost of the service connection is borne by the customer in principle, and the water utility owns the water meters but it is up to the customers to maintain them.

Article 15 (Obligation to Provide Water Supply) states that water utilities cannot refuse application for service from anyone living in their supply areas without justifiable reasons. Water utilities have the obligation to supply water to all citizens at all times.

Article 18 (Request for Inspection) states that customers can request service connection inspection and water quality testing and their requests should be responded to promptly and they be notified of the findings. This article clearly demonstrates the focus on customer service.

Paragraph 2 of Article 24 (Release of Water Supply Information) states that “A water utility shall notify the customers of the results of water quality testing based on the provision of Article 20, Paragraph 1, and other information about the water supply services in accordance with the orders of the Ministry of Health, Labour and Welfare.” This establishes the disclosure requirements for water utilities and rights of customers to relevant and accurate information as one of the fundamental principles in customer service.

The Ordinance for Enforcement of the Water Supply Act which specifies the details for implementing the Act, lists the following types of information water utilities should disclose. Among these, (i) to (vi) should be provided (regularly) at least once a year, while (vii) and (viii) should be provided on a timely basis.

- (i) Safety of the water supply, including the results of water quality tests.
- (ii) Operation of water supply services.
- (iii) Costs for water supply services including the development of facilities.
- (iv) Fees and charges for customers including water tariffs.
- (v) Management and maintenance plans for service connections and water tanks.

- (vi) Seismic performance of water supply facilities and on-going improvements.
- (vii) Results of extraordinary water quality tests.
- (viii) Emergency response plan for water supply in case of natural disasters or incidents that may compromise water quality.

## (2) Relationship between Water Utilities and Customers

Utilities provide water supply services to customers, and customers pay for the services. Water tariffs can be the basis for planning daily operation & maintenance and facilities development.

Under water supply contracts, the utilities provide services to customers who pay water tariffs in return for the services. Water supply contributes to a better living environment by improving public health. Water tariffs are integral to proper management of facilities, essential for daily operation & maintenance and planned developments. Water utilities are obliged to continually improve their services, since the business is a natural monopoly and customers are not normally the ones to initiate improvements.

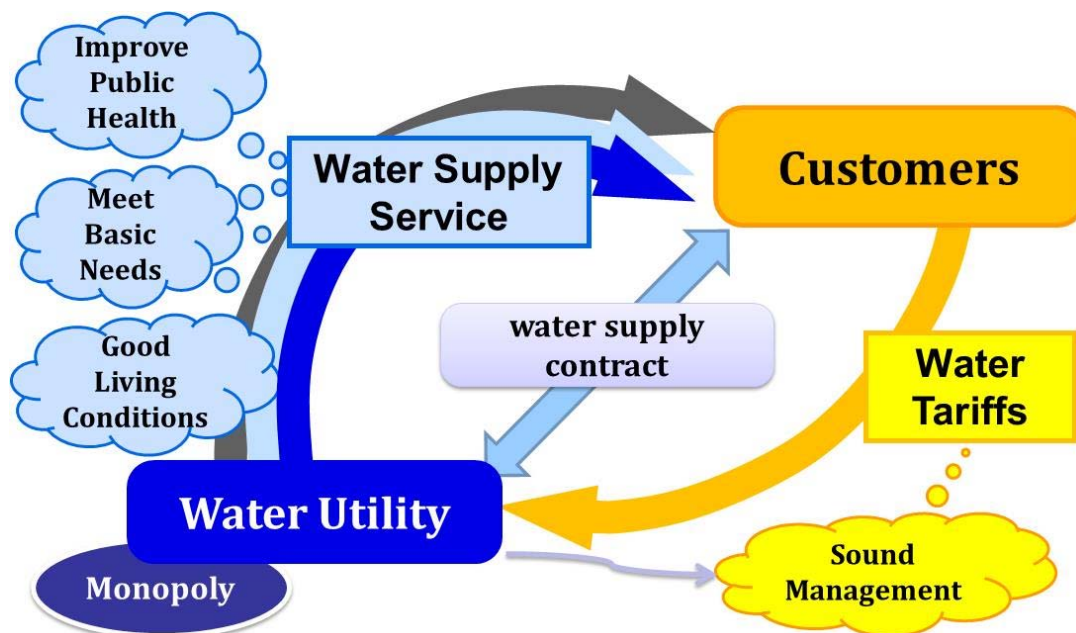


Figure 2. Conceptual Diagram of Relationship between Water Utility and Customers

## (3) Need for Two-way Communications

It is important for water utilities to be transparent, accountable and continually engage in public relations activities to build and maintain positive relationships with customers.

The revenue from water tariffs covers all or part of the operational expenses of the water supply system. Therefore, it is essential that customers understand the tariff structure in relation to the services they are getting. This has to be achieved through timely and adequate information dissemination and public outreach. The goal is to clearly demonstrate the water utilities' accountability and build positive relationships with customers.

Good communication is also critical for securing support for future developments. It is important to project future needs, plan developments to meet demands, and engage relevant parties including residents and local authorities in the planning process. Water utilities have to explain the need for the developments, expected outcomes and cost-effectiveness of the proposed projects. Customers are looking for more and better services beyond just basic water delivery. They would like longer supply times, improved water quality, etc. as their economic situation and social environment improves. Water utilities should understand and anticipate customers' needs and provide the services that can accommodate these needs.

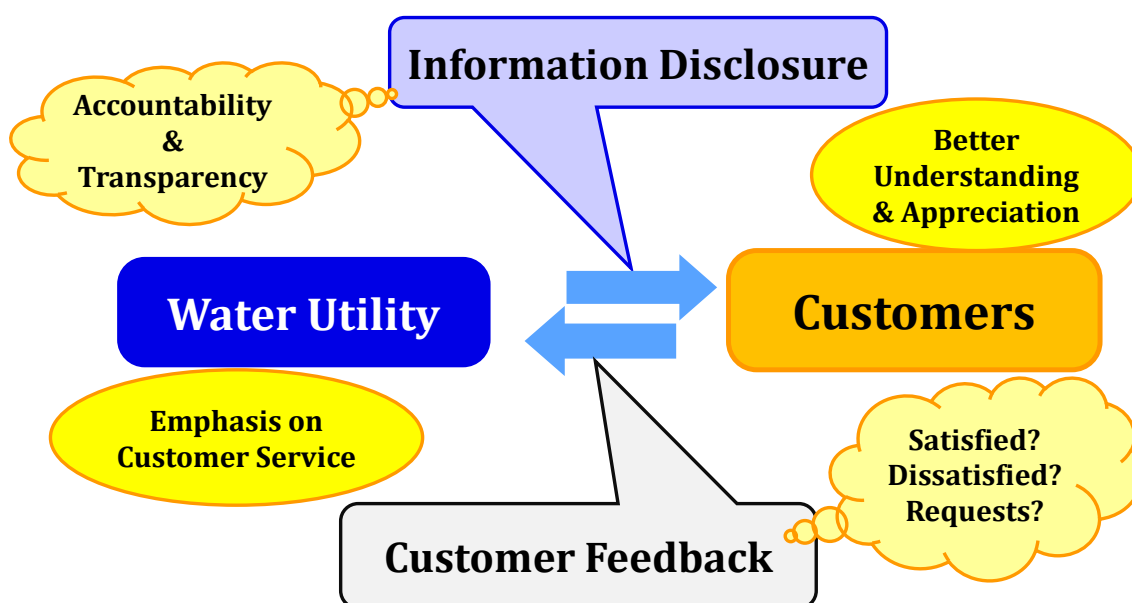


Figure 3. Conceptual Diagram of Two-way Communication

### 3. Case 1: Customer Service through Daily Operation; Osaka City

Water utilities in Japan strive to increase customer satisfaction and build customers' trust in the water supply business. When customers are familiar with the utilities' daily operations, they would have a clear understanding about tariff revisions and how services can be improved.

Water utilities are bound by law to provide water supply under contract to customers and therefore should have a stronger reason than other local public agencies to be customer-conscious. Nevertheless, there were incidences when staff did not take seriously customers' complaints about water meters, and the improper setup of a water meter was not checked nor fixed for extended periods of time.

Customer service and information disclosure in the water supply sector has improved since the 1980s in Japan. This trend is a result of a number of events happening at that time: local administrative reforms to gain the trust of citizens; new emphasis on information disclosure; and the influence of New Public Management<sup>1</sup> concept developed in the United Kingdom. In addition, the debt-laden Japanese National Railways was divided and privatized in 1987, because of its well-publicized lack of regard for customer service and the distrust of the public due to repeated labour disputes and strikes. As a result, there was a growing demand for customer service in Japanese society in general as well as in the water supply business.

Water utilities in Japan aim to increase customer satisfaction and gain customers' trust by providing better services, including problem-free water tariff collection and improving customers' understanding about tariff revisions. For example, most water utilities pay attention to unusual water use registered by a meter, and notify the customer to avoid unnecessary water consumption and expenses.

Before the World War II (WW II), the Osaka Municipal Waterworks Bureau already had customer service manuals for service connection technicians, meter readers and tariff collectors to improve their service delivery. After the war in 1949, the Bureau started vehicle patrols around the city offering services such as the repair of water supply devices or broken lead pipes.

Progress was also made in changing the organization's attitude towards the customer by operating as a business enterprise rather than a local government service center since the late

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<sup>1</sup> New Public Management is management techniques and practices drawn mainly from the private sector. They are seen as effective tools such as performance or output based evaluation in customer service delivery for improving standards of public service under the financial restriction of the government, diversified needs and increasing demands towards public services. The New Public Management reforms initiated by the first Thatcher ministry of the United Kingdom in the 1980s and have been adopted in many countries around the world.

1980s.

In 1988 the Bureau started training programs to improve the business attitude of managers and develop their ability to train workers in customer service skills. This effort produced many in-house instructors and the task force on customer service improvement was established in 1989, to raise the level of customer satisfaction.

**Table 1. Customer Service Improvements in Osaka Municipal Waterworks**

Period	Customer Service Initiatives in Osaka
Before World War II	Customer service manuals for service connection technicians, meter readers and tariff collectors in order to improve their service delivery.
1949	Service vehicles travelling around the city to work sites to conduct repairs on connections or broken pipes.
Late 1980s	Change in operational philosophy: customers are not just residents receiving government services but are valued clients of a business enterprise.
1988	Began with training managers to improve business demeanor. Managers then trained their staff on customer friendly service. Produced many internal instructors as a result.
1989	Founded the task force on customer service improvement, to engage all personnel in customer friendly practices throughout the organization.

Source: Information taken from Osaka Municipal Waterworks Bureau,  
*“One Hundred Years' History of Osaka Municipal Waterworks,”*1996.



#### 4. Case 2: Public Outreach and Information Disclosure

Water utilities in Japan are enhancing customers' understanding and cooperation as well as achieving accountability by engaging the public and keeping them well-informed.

During the early stage of the modern water supply business in Japan, public outreach consisted mostly of handing out flyers to encourage citizens to connect to the water supply system, or to promote conservation practices in the time of drought, or notify citizens of water stoppages.

After WWII, water supply services were publicized via mass media such as local papers, radios and TV. Water utilities would provide contents to news outlets for reporting and broadcast, distribute brochures and leaflets, put up posters, and produce publicity videos.

In recent years, water utilities are making information and announcements more meaningful by quantifying the expected outcomes of development plans and providing performance indicators (PIs) and sharing the reviews on asset management. Efforts are also made to present information to customers using fewer technical terms, relying more on illustrations and comparison of situations with and without facilities development.

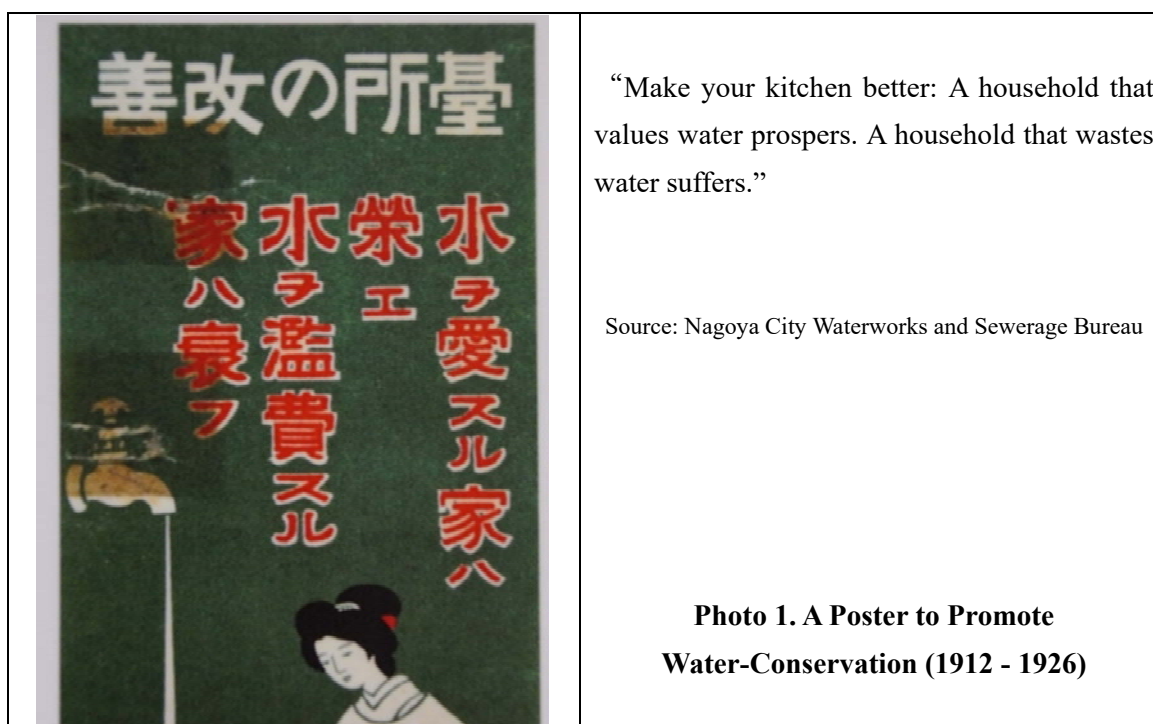




Photo 2. Brochures

## イ 経営指標 Management-related indexes

Indexes 項目		FY2013(Plan) 25年度 (計画)	FY2013(Results) 25年度 (実績)	FY2014(Plan) 26年度 (計画)	FY2015(Plan) 27年度 (計画)
経営効率性 業務効率性	Number of service connections per employee (x1,000/employee) 職員一人当たりの給水件数 (千件/人)	1.8	1.8	1.8	1.9
	Total length of distribution pipes managed per employee (km/employee) 職員一人当たりの配水管管理延長 (km/人)	6.7	6.7	6.8	7.0
	Accounted-for water per employee (1,000 m <sup>3</sup> /employee) 職員一人当たりの有収水量 (千m <sup>3</sup> /人)	389	372	393	403
	Water supply cost (Note 3) 給水原価 <sup>注3</sup> (円/m <sup>3</sup> )	202.3	203.5	202.2	201.4
経営健全性の向上 経営基盤の強化	Employee payroll rate 職員給与比率 (%)	6.8	6.6	7.3	6.7
	Balance of enterprise bonds 企業債残高 (100 million yen) (億円)	2,873	2,813	2,605	2,447
	Ratio of principal and interest redemption to revenue on water supply (Note 4) 給水収益に対する元利償還割合 <sup>注4</sup> (%)	13.6	14.0	12.3	9.7
	Ratio of owned capital to total capital 自己資本構成比率 (%)	81.6 (73.1)	79.5 (73.0)	75.2	76.9
経営安定性 Source	Ordinary balance ratio 経常収支比率 (%)	112.4	111.5	115.5	114.9

(Note 1) All index values are calculated with tax included.

(Note 2) All index values for fiscal 2014 and subsequent years are calculated on the basis of the new accounting regime.

(Note 3) The figures in parentheses have been calculated for reference purposes on the basis of the new accounting regime under the assumption of its application from fiscal 2014.

(Note 4) The rate of redemption of principal and interest against the revenue on water supply is calculated by exempting the loan.

(注1) 指標値は、全て税込みの額により算出している。

(注2) 平成26年度以降の指標値は、全て新会計制度に基づき算出した数値である。なお、カッコ内は、参考のため平成26年度から適用となる新会計制度に基づき算出した数値である。

(注3) 給水原価は、総支出額の中に資本的支出額を含めた資金ベースで算出している。

(注4) 給水収益に対する元利償還割合は、借換分を除いたもので算出している。

Source: The Bureau of Waterworks, Tokyo Metropolitan Government

<http://www.waterworks.metro.tokyo.jp/eng/supply/>

Figure 4. Explanation with PI

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Message – A homeowner is responsible for fixing the service pipe from the meter to the tap.



Source: The Bureau of Waterworks, Tokyo Metropolitan Government  
<https://www.waterworks.metro.tokyo.jp/kouhou/manga/pdf/st02.pdf>

Photo 3. Explanation in Cartoon



### 5. Case 3: Customer Service Center - Tokyo Metropolitan

Most water utilities in Japan have a customer service section to respond to enquiries or complaints from customers and organize customer information to facilitate a timely response.

A customer service centers deals with interactions with the customers including letters, faxes, emails, or telephone calls. Most utilities have call centers which is a centralized office for receiving and transmitting customer requests by telephone. Almost all the utilities are ready to deal with incidents such as water leakage 24 hours a day.

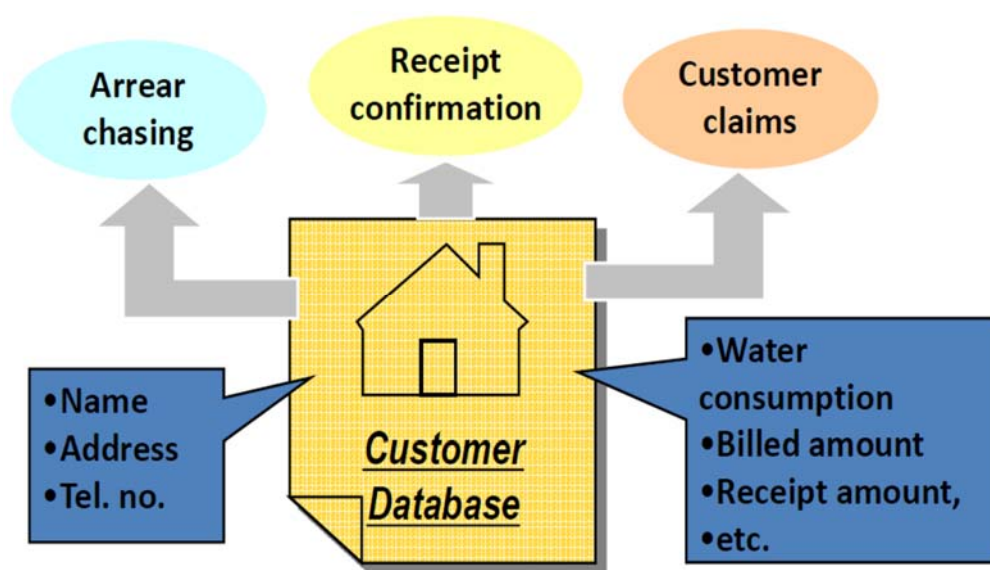
The Bureau of Waterworks of Tokyo Metropolitan Government has two customer service centers. They serve as first point of contact where customers can notify commencement/cancellation of water service and enquire about charges and repairs. They handle enquiries via the internet and telephones. They also accept and process applications from customers, process payment by account transfers or credit card. For convenience the customer service centers open at 8:30 am and closes at 8:00 pm (except on Sundays and national holidays), two hours later than the usual 6:00 pm close of business. The customer service centers respond to emergency events such as water leakage incidents 24 hours a day, 365 days a year.



Source: The Bureau of Waterworks, Tokyo Metropolitan Government  
[http://www.waterprofessionals.metro.tokyo.jp/pdf/wst\\_06.pdf](http://www.waterprofessionals.metro.tokyo.jp/pdf/wst_06.pdf)

**Photo 4. Inside of the Customer Service Center**

Information on the contents of the contract with customers concerning water tariffs, meter readings and charges is managed online by the Bureau's independently- established system so that the centers are always ready to respond quickly to enquiries from customers. The Bureau ensures the privacy and security of customers' personal information by using dedicated communications network. Keeping customer data up to date and secure would speed up response time, gain customer satisfaction and trust.



Source: Training material of Nihon Suido Consultants., Co. Ltd.

**Figure 5. Concept of Customer Database**

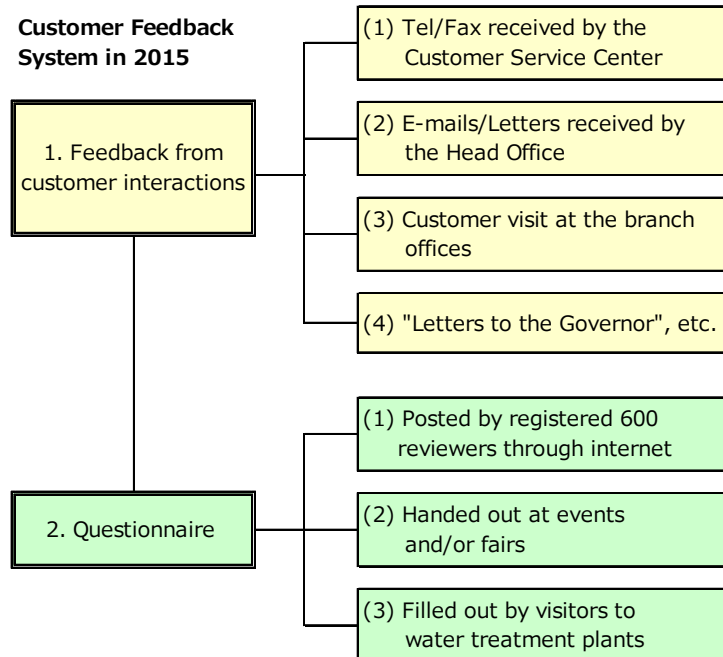
## 6. Case 4: Customer Feedback / Questionnaire Survey - Chiba Prefecture

Water utilities in Japan conduct public consultations and questionnaire surveys to obtain customers' opinions in order to improve their water supply services.

Public consultations and customer satisfaction questionnaires help the utilities understand customers' concerns so that issues can be identified and action taken to address them. They are a critical component of the public relations effort to improve the delivery of water supply services.

The Waterworks Bureau of Chiba Prefecture uses various means to gather customer feedback and to promote the understanding of the business to a large number of citizens. The Bureau responds to customer opinions and demands, and reflects their diverse needs in the services it delivers.

The means for information gathering can be divided into two types: the “direct interaction with an individual customer” and the “questionnaire survey.” The public can access the analysis of the information gathered and the Bureau's responses to customers on the website. For example, an online questionnaire in 2015 showed that more than 90% of the customers were satisfied with the current water supply service.



Source: Waterworks Bureau of Chiba Prefecture, “*Result of PR Activities in FY 2015*,” 2016

**Figure 6. Information Gathering from the Customers at the Waterworks Bureau of Chiba Prefecture**

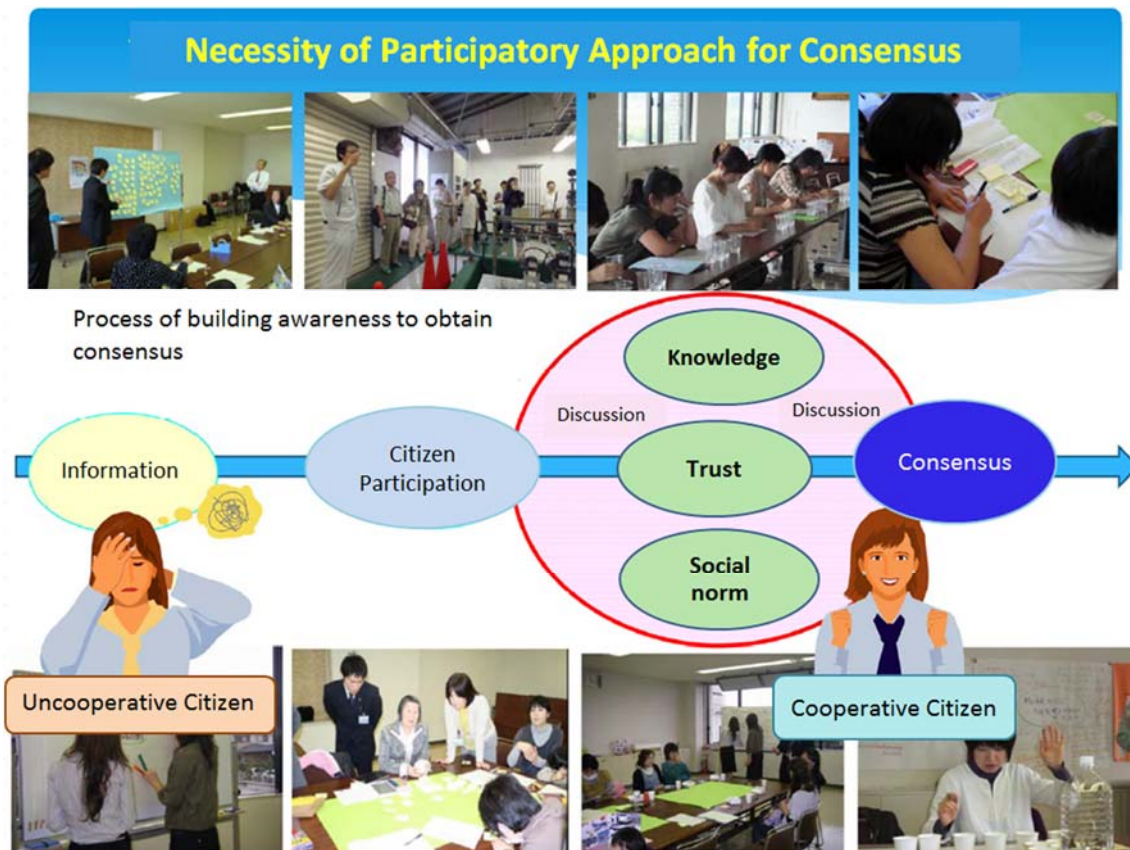
## 7. Case 5: Customer Participation - Yahaba Town

In recent years, more utilities in Japan are reflecting customers' views in their business plans. This type of customer participation is not limited to tariff revisions.

Customer participation involves customers offering constructive feedback and suggestions based on their sound understanding and knowledge of the business. They can share not only their concerns and appreciation but also their ideas for new services to meet their needs. This is beneficial to building consensus, gaining mutual trust and social acceptance for future developments. In Japan, more efforts have been made by water utilities in recent years to actively engage the customers and reflect their views not only on water tariff revision but also on business plan preparation.

Yahaba Town cites 4 main reasons why they want to work with local residents: (1) residents tend to take the water supply service for granted as a part of the basic infrastructure, and are not always aware of its importance; (2) seismic retrofitting or rebuilding of facilities are not exciting projects that are highly valued by the residents because they do not generate readily visible outcomes; (3) residents do not always understand the necessity to raise water tariffs; and (4) the town office needs the buy-in of the community to achieve the development goals.

The town office concluded that the residents' understanding of the water supply business was indispensable in realizing water supply initiatives. It organized interested residents into the "Yahaba Waterworks Supporters," and held monthly workshops to improve their understanding of the water supply business and the need to operate the services effectively. Initially, the Supporters only focused on lower water tariffs. As they gained a better understanding of and trust in the business, they began to appreciate the need to raise water tariffs and worked with the town in developing the water supply vision and the new business plan.



Source: <http://www.hit-u.ac.jp/kenkyu/file/27forum3/YOSHIOKA.pdf>

**Figure 7. Change of Perception through Resident Participation in Yahaba Town**



## 8. Case 6: Seminars at Schools - Chiba Prefecture

Water utilities offer seminars to schools to enhance children's understanding of the water supply business.

The elementary school curriculum in Japan teaches fourth-grade students (9 or 10 year olds) the important role water and sewerage services play in public health and in improving living conditions. The children go on facility tours and attend seminars delivered by staff from water utilities. The children would share their learning experience with their families as well as become supportive citizens in the future. This is intended to foster a more informed and responsible community.

The Waterworks Bureau of Chiba Prefecture has been offering special seminars on water supply at schools as part of its "Good Tasting Water Project" since 2007. These seminars teach children about the good taste of tap water, and the processes that deliver safe and tasty water to the public. The seminars have been held at schools and other institutions in the region, introducing the system of water supply with demonstrations and lectures.

The contents of the seminars are as follows:

1. How is safe and good tasting water produced? (picture-story show)
2. Let's produce safe and good tasting water! (water treatment experiment)
3. Let's measure the chlorine level of tap water! (experiment)
4. Let's learn about the Good Tasting Water Project!
5. Let's taste chilled tap water! (experience)
6. Let's try the quiz about good tasting water!
7. Q&A
8. Closing: Questionnaire and memento for participation!

In 2013, the Bureau held 36 seminars, 27 of which were for elementary school children and 9 for adults, with approximately 2,700 participants.



Source: Waterworks Bureau of Chiba Prefecture

Reference: [http://www.pref.chiba.lg.jp/suidou/keikaku/oishii2/campaign/documents/25demaie\\_kaisai\\_houkoku.pdf](http://www.pref.chiba.lg.jp/suidou/keikaku/oishii2/campaign/documents/25demaie_kaisai_houkoku.pdf)

**Photo 5. Seminars at Schools by the Waterworks Bureau of Chiba Prefecture**

## 9. Lessons Learned

The following Japanese experience in customer service could be useful for other countries.

- **(The Water Supply Act and Relationships between a Utility and Customers)** Water utilities are required by the Water Supply Act to supply safe drinking water and provide information to their customers. It is the base of customer services of utilities. The water supply contract between the utility and its customers sets out the relationship between the two parties. Customers pay for services and the revenue generated covers the expenses. Improving customer service can lead to sound and effective management of the water supply business.
- **(Customer Database)** As waterworks are natural monopolies, customers have the right to hold the utilities accountable and continually challenge them to deliver better service. It is essential for utilities to organize and keep their customer databases up to date. A well-run database with reliable and accurate customer information allows utilities to respond to requests and enquiries in a timely manner, thus fostering customers' trust in the business.
- **(Information Disclosure and Public Involvement)** Water utilities are obliged to provide business and financial information on a regular basis and make such information easily accessible. Well-informed customers tend to understand and support proposed initiatives and contribute to sustainable management of the business. Water utilities must continue to improve their services by listening to public opinions and respond to the needs of their customers.
- **(Management Centered on Customer Service)** Japanese water utilities are well-regarded for high service standards, advanced technical capabilities and well-organized operations. The most critical take-away lesson from these successes is the basic premise of good customer service in providing safe and stable drinking water. Emphasizing customer satisfaction is an effective way for water utilities to continue to improve the management of the water supply business.

