

28. PRIVATIZATION OF WATER UTILITIES IN JAPAN

Presenter

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ABSTRACT

While the global trend of privatization in the water industry and the recent revision of the Water Works Law in Japan have certainly cast a new light on the privatization of water utilities in the country, it is also true that most Japanese are still seeing this to be the mere expansion of outsourcing by water utilities. This paper outlines the characteristics of water utilities in Japan, the past and on-going initiatives towards privatization in the country and introduces various views and opinions revolving around privatization, including my own views on how public water utilities could possibly be privatized in the future.

1. INTRODUCTION – Environments Surrounding Water Utilities in Japan

In 1980s three mega public agencies, Japan National Railways, Nippon Telephone and Telegraph Public Corporation, and Japan Tobacco Monopoly, were corporatized as part of the government's deregulation policy and, more importantly, to strengthen their financial capabilities. Most of these attempts appear to have been successful.

In 1990s the privatization of government agencies and government-affiliated corporations was further accelerated due to the country's sluggish business environments resulted from the collapse of so-called "bubble economy".

It is a widely accepted view that a public corporation, more or less, has a reclusive character and inefficiencies in its management. With the revision of the Water Works Law enforced in this April and the global trend of privatization in the water industry, this is probably the right time for water utilities in Japan to discuss privatization more seriously.

In Japan, water utilities, have been managed by local governments since their establishment. In the beginning, water utilities were created with a public mission to prevent the spread of epidemic diseases, in particular, cholera. It was because of this public mission that the public management of water utilities was considered to be the most logical consequence. And, since the operation of water services has a region-dominant nature, local governments such as cities, towns and villages were considered to be the most appropriate entities to run water utilities.

Clause 2 of the Waterworks Ordinance issued in 1890 stipulated that piped water supply

systems should be constructed with “public funds”. This literally meant that water utilities should be managed exclusively by “public sectors”. The Ordinance was amended twice in 1911 and 1913, which, for the first time in history, allowed private companies to enter into the business of water services under certain special circumstances. Meanwhile, the general principle of public-management has been persisted until today in that only a few water utilities are currently being mostly/fully managed by private sectors. For instance, water utilities owned by Iida City in Nagano Prefecture and Miharu Town in Fukushima Prefecture are outsourcing most of their work and some small-scale water supply systems developed in resort towns and villages are fully operated by private companies. They are nevertheless still small in number, i.e. only ten or so of approximately 11,000 water utilities currently being operated in Japan. In reality, however, many water utilities are outsourcing part of their work to private companies in one way or another, since the operations and maintenance of water supply systems, regardless of its size, require a massive input of human and financial resources. One of the outstanding characteristics of water utilities in Japan is the large number of small-scale water utilities. Table-1 and Table-2 show the Number of Water Utilities by Type and the Number of Water Utilities/Volume of Water Supplied by Scale, respectively.

Table-1 Number of Water Utilities by Type (as of March 31, 2001)

	Bulk Water Supply	Public Water Supply	Small Public Water Supply	Total
Number	111	1958	8979	11048

↑ Note: including 15 of under construction

Table-2 Number of Water Utilities/Volume of Water Supplied by Scale

(as of March 31, 2001)

Type	Category by Scale of Population Served	Number	Cummulative Population Served (10 thou.)	Annual Volume Supplied (Bn. cu.m)
Public Water Supply	> 1.0 million	13	3463	4.86
	0.5-1.0	9	616	0.83
	0.25-0.5	51	1762	2.41
	0.1-0.25	132	1985	2.73
	0.05-0.1	185	1270	1.77
	Sub-total	390	(3.6%)	
	30-50 thou.	219	839	1.17
	20-30	208	503	0.69
	10-20	503	709	1.01
	5-10	483	354	0.51
	< 5	140	52	0.1
	Sub-total	1553	(14.2%)	
	Total	1943	11553	16.08
Small Public Water Supply		8979	643	0.85
Grand-total		10922	(100%) 12196	16.93

Note: Number of Small Municipalities (Town and Village) = 2,543 (as of April 1, 2002)

Small-scale water utilities with a total population served of less than 50,000 account for 96.4 percent. These small-scale water utilities are owned by municipalities and are, in most cases, facing difficulties such as increasing management costs and manpower shortages, which can be solved by regionalization, wide-area services by integration.

A prolonged depression in Japan and the resulting income shortfalls at both local and national governments had eventually led to the enforcement of the PFI (Private Finance Initiative) Promotion Act in September 1999. The Act allows private sectors to finance, operate and maintain part of public utility schemes, including business administration.

Emerging water quality issues such as trihalomethanes, cryptosporidium and endocrine disrupters have required water utilities to strengthen their capacity to invariably meet the reinforced water quality standards. It is however becoming increasingly difficult for most small-scale water utilities to comply with this requirement due to their limited human and financial resources.

Against this background, the Water Works Law was amended and enforced in April 2002 with a view to enabling public water utilities to entrust their entire technical operation to third parties and to facilitating water utilities merging with their neighbors. Although this amendment does not directly target at the enhancement of privatization, it has, along with the current trend of deregulation, certainly paved the way for privatization of water services in Japan in the future.

2. PRESENT SITUATION OF PRIVATIZATION IN THE WORLD

There are several different types of privatization actually in place in the world. Historically, the privatization of water services was initiated in some western countries. They are chronologically France, the United Kingdom (England/Wales) and the United States of America.. Each of these countries, however, has a different background of privatization.

In France, Generale des Eaux (present Vivendi) was the first contractor entrusted the management of a water supply by Lyon City in 1853. Since then, such a management style has spread over the whole country, and nowadays, privatized water utilities supply nearly 90 percent of the population with tap water. Although several different types of privatization such as management contract, leasing and concession are in practice in France, they are basically a public-asset-ownership and private-management system. It is said that once there were about 50 such private companies, but now only three companies, Vivendi, Ondeo (a subsidiary of Suez Lyonnaise des Eaux) and Saur, account for about 70 percent of the market.

In the United Kingdom, roughly 300 local public water utilities in England and Wales were integrated into 10 state-owned-enterprises (water authorities) along each river system in 1973. Afterward, as part of the privatization policy set up in 1989 by the then Prime Minister Margaret Thatcher, they were privatized. Today, ten private water supply companies including main three companies, Thames Water (a subsidiary of RWE), Severn Trent and Anglian Water, account for about 75 percent of the population. The type of privatization is called either "full privatization" or "totally private ownership" and involves the securitization of assets and listing of stocks in the stock market.

In the United States, there are three management types such as public, partially privatized and fully privatized utilities. Many small/medium-scale water utilities have been affiliated with large water companies such as Azurix, United Water (present Ondeo

or a subsidiary of Suez Lyonnaise des Eaux) and American Water Works (a subsidiary of Thames Water under RWE). However, fully privatized water utilities are very few in number and most water utilities adopt a public-asset-ownership and private-management system on a basis of public-private partnership. It is said that 85 percent of the population are serviced from public water utilities, 15 percent from some sorts of partially privatized water utilities.

Meanwhile, not a few developing countries are turning to the private sector for help in developing and delivering water services because they hope to take advantage of private sector skills and know-how, improve the efficiency of service delivery and gain access to finance for new investments to meet the huge demand. Several international water companies, especially those of France and England have actively been involved in the privatization of water utilities in developing countries.

Table-3 shows the Classification of Privatization Types from a viewpoint of partnership between public and private sectors.

**Table-3 Classification of Privatization Types
(from a viewpoint of partnership between public and private sectors)**

Type (Term)	Description	Characteristics	Ownership	Financing	Management	Example	
Partial Privatization	Farming-out (Service Contract) (3-5 years)	*Management of some part of business in a water utility is referred to a private sector for a certain period.	*Compensation is paid based on actual achievement. *The company can easily negotiate the contract and run the business at low-cost, but tends to be suffered from political interference.	Public	Public	Private	Chile
	Contracting-Out (Management Contract) (5-10 years)	*The rights of operations and maintenance for some facilities are given to a private sector.	*Compensation is paid based on actual achievement (adopted in case full privatization is difficult)	Public	Public	Private	France Spain
	Leasing (5-15 years)	*All the facilities are leased to a private company, which are managed under the responsibility of the company.	*Target performance is set.	Public	Public	Private	France
	Concession (25-35 years)	*All the business responsibility is handed over to a private company for a certain period.	*An independent regulatory committee is established. *Results of the operation affect the profit performance.	Public	Private	Private	France Spain
	BOOT (BOT, BOO, etc.) (20-25 years)	*A private company builds some facilities with private funds, owns and operates them during the contract period, followed by transferring the ownership to the public sector.	*Effect of privatization is a little. *The private company is free of responsibility for the existing assets and management.	Private ↓ Public	Private	Private	Mexico China
	Joint Public-Private Venture	*A joint venture is established by public and private sectors.	*The public sector plays a dual role of a regulatory body and a business owner, which creates a clash of interests.	Public and Private	Public and Private	Public and Private	
Full Privatization	Divestiture (Totally Private Ownership)	*All the assets of a water utility are sold by e.g. offering the stocks to the public, and the management of water supply business is entrusted to a private company.	*The private company is under control of the regulatory system.	Private	Private	Private	England Wales

3. INITIATIVES TOWARD PRIVATIZATION IN JAPAN

Situations surrounding water utilities in Japan can be summarized as follows:

- (1) Water utilities, in principle, have long been managed by municipalities.
- (2) There is no private company that is capable enough to undertake the entire technical operation of a water utility, let alone, its entire business management.
- (3) Small-scale water utilities that constitute an overwhelming majority need to merge with neighboring utilities to overcome increasing management costs and a shortage of human resources.
- (4) Municipal governments that supervise water utilities are facing financial constraints.
- (5) The PFI Promotion Act was enacted to enable private sector's participation in public sectors.
- (6) The Water Works Law was revised to enable private companies to undertake the entire technical operation of a public water utility and to facilitate water utilities merging with neighboring utilities.
- (7) The government, through its Administrative Reform Committee, encourages deregulation policies including privatization.
- (8) Privatization of water utilities is now a global trend.

Judging from all this, some kind of privatization of water utilities in Japan seems to be unavoidable in the future. However, it still remains as an open question when, how and to what extent and degree it is going to be materialized. Although privatization of water utilities has been an issue frequently discussed in Japan these days, most Japanese are still thinking that there is no realistic prospect of going beyond the further expansion of outsourcing by public water utilities.

There will be the following incentives for private companies to participate in water services.

- (1) Water is one of the basic commodities essential to life and, thus, the market is fairly stable.
- (2) The domestic market is as huge as US\$ 25 billion per year for water services alone, or US\$ 40 billion including sewerage service.
- (3) Unlike power supply, the balance between demand and supply is easily attainable in water supply, because the fluctuation of demand can be absorbed by reservoir/distribution facilities.
- (4) Since the market ranging from raw procurement (raw water intake) to delivering goods (distributing treated water to customers) is closed from overseas, there is no substantial competition in price (water rates) with foreign suppliers.
- (5) Technical and managerial expertise to be accumulated in privatized water utilities in Japan could be used by private companies for promoting their business in the huge international market where privatization of water utilities tends to proceed in the future.

Since a water supply, regardless of whether it is domestic or international, is a highly potential and attractive market for private sectors in the future, several private companies willing to challenge this have recently been established in Japan. They are looking for business opportunities in the coming privatization age of water utilities.

Table-4 shows the names of newly established Private Water Companies in Japan.

Table-4 Private Water Companies in Japan

Name of Company	Equity Participant
NJS E&M	Nihon Joge Suido(NJS)
TOPS Water	Kubota, Nihon Suido Consultants
J-TEAM	Ebara, NJS E&M, etc.
Japan Water	Mitsubishi, Nihon Health
Marubeni-Vivendi Environment	Marubeni, Vivendi
Japan Utility Management	Vivendi, OnyX, Marubeni, Taisei Engineering
Tames Water Japan	Mitsui, Tames Water
Vivendi Water Japan	Vivendi
MS Water	Shinko Pantech, Meiken
Aqua Partners	Tokyo Engineering
Meidensha	Meidensha
Hitachi Public Services	Hitachi
Toshiba Aqua Public Technos	Toshiba, Toshiba E&M Services

4. SOME CONSIDERATIONS ON PRIVATIZATION

Table-5 presents a summary of advantages and disadvantages to be brought about by introducing Full Privatization. There are some considerable disadvantages, which need to be contemplated when discussing this privatization option.

- **Type of Privatization:** Except in the United Kingdom, there have been very few cases of full privatization in the world, which involved the divestiture of assets. It is generally believed that private companies are inappropriate for water supply business, because water is a commodity essential to life, water supply business is a regional monopoly, and there is no substitute available for consumers except bottled water. Shifting employees from public utilities to private companies might face strong oppositions from public utilities' labor unions. In addition, there is actually no reliable private company experienced in water supply business.

In Japan, the full privatization of water utilities is far from the reality, and nobody really believes that it can be materialized in the near future. It will take a long time before a public consensus can be reached on the realization of fully privatized water utilities as well as on the development of related laws.

Most likely, the current public-management system, will continue for some time with a gradual expansion in outsourcing, then a public-asset-ownership and private-management system, e.g.: leasing, concession, majority share holding by local governments, etc, will follow. After building up their experiences, some water utilities may change to fully privatized entities in the future.

- **Regionalization (Wide-area Services by Integration):** The recent revision of the Water Works Law (from the previous licensing procedure to notification procedure) was expected to accelerate the regionalization.

In reality, however, the regionalization through the merger of adjoining public utilities has not taken place to the extent it was originally expected because of the following dilemma:

- Under the Local Public Enterprise Law, public water utilities cannot pursue profits, but must pursue the welfare of local residents.
- The merger of two or more public water utilities tends to result in the inequitable distribution of the resulting advantages or disadvantages among those water utilities,

since each public water utility has different backgrounds in terms of the level of services, size and quality of assets, and water rates.

In conclusion, integration of water utilities can be easily achieved only when the relevant entrusted water utility is a private company not controlled by the Local Public Enterprise Law, or all would-be parties for a merger are public water utilities operating within the same administrative area of prefectural jurisdiction.

Table-5 Advantages/Disadvantages of Privatization (in case of Full Privatization)

Recipient	Advantage	Disadvantage
National Government	Creation of Profit on Stock Sale *Profit on sale is expected by public offering of stocks held by government.	Increase in Costs by Regulations *It is necessary to establish a regulatory body/system for the management of private companies.
Local Governments	Decrease in Subsidies *Financial pressure on government is mitigated due to abolition of subsidies for water utilities.	Delay in Consolidation of Water Administration *There is a fear of segmentalization in the water sector, if privatization is carried on before a comprehensive water management system establishes.
	Increase in Tax Revenue *A corporate tax, a fixed asset tax, etc. can be collected from privatized companies.	
		Increase in Tax Burden *Private companies shoulder new burdens such as a corporate tax, a fixed asset tax and road-occupancy charges, which a public sector does not pay.
	Diversification/Liberalization of Management *Business regulations applied to public utilities are abolished. *Private companies can enter the profitable business.	Abolition of Grants-in-aid *Private companies cannot receive subsidies from governments.
Water Utilities	Liberalization of Financing *It is possible to raise funds in the general market. *Investment funds can be easily raised by using various means.	Adverse Effects based on Market Mechanism *Privatization cannot provide incentives for ensuring the safety and achieving the higher level of performance when investing.
	Increase in Business Efficiency *Staff members can be reduced by promoting outsourcing, consolidation of business, etc. *Incentive effect by psychological pressure of being market mechanism is expected.	Increase in Fund Cost *Private companies should pay higher interests of commercial banks than those of public bonds and a public loan corporation when raising funds.
Customers	Decrease in Water Rates *Huge reductions in water rates are expected due to an increase in business efficiency.	Widening of Regional Gaps *Water utilities in only profitable areas are to be privatized and customers in unprofitable areas cannot receive the benefit.
	Prompt/Diversified Services *Necessary measures and policies are swiftly implemented due to prompt decision-making. (Private sectors strive for grasping needs.)	Anxiety about Management by Private Sectors *There is a vague anxiety that privatization emphasizes to pursue profits and self-responsibility. *There is a vague hope for a public sector.

- **Methods for Regionalization:** On adopting the regionalization, business profitability should be considered. Generally, small-scale water utilities are absorbed by a larger one and they usually, more or less, come to a standstill caused by some difficulties in water sources, facilities, human resources, financing, etc. In this case, it is needed that a larger water utility can bear the burden with ample own funds or the help of some public funds. Such cases are to be adopted by public water utilities each other and scarce in private water supply companies.

In conclusion, regionalization by private water supply companies will be carried out targeting at not small-scale but lucrative medium- or rather larger-scale water utilities.

In addition, regionalization works on concurrent adoption of a common carriage system mentioned below.

- **Common Carriage System:** The merit of regionalization is that improvements in business efficiency and water services are expected by sharing the waterworks facilities such as water sources and purification plants. When a water utility aims for the implementation of regionalization, the targeted water utility is not always situated next to it. According to the revised Waterworks Law, it is not necessary that the relevant two water utilities are connected by a pipeline each other. However, such case spoils the merit of regionalization. Then, a connecting pipeline between two utilities is generally needed. Since the construction of connecting pipes generally needs huge funds, a common carriage system, already adopted in the power industry, is recommended. The flow capacity of water mains laid in more than medium-scale water utilities is generally designed with tolerance. Then, not a few suitable water mains for the common carriage system may be found after the further study, if the flow is not too much. Once the system is implemented, residents of other water utilities nearby the relevant ones may receive the water services at the lower water rates in the future. Spread of this system will cause the natural selection of unfavorable water utilities, followed by the correction of regional differences.

The common carriage system has some problems to be solved as a matter of operation, e.g.: its application is limited in hydraulics, a difference in water quality should be accepted, etc. However, earnest investigation is really hoped, because if it is implemented, it will remove the concept that a water supply is the regional monopoly business, and consequently accelerate the privatization of water utilities.

- **Tax Payments:** At present, a corporate tax of public water utilities is exempted, a fixed asset tax for waterworks facilities is partially exempted and road occupancy charges for pipelines are exempted. When they are fully privatized, these taxes and public dues are imposed in principle and may reflect on water rates. However, this issue is a matter of whether they are charged on water users or are redistributed to citizens as public levy. This kind of issue on tax burden after the privatization should be decided through national discussion.

- **Development of Related Laws:** Although the Water Works Law was recently revised, there still remains "a principle of public-management system of water utilities by municipalities". So, it is needed to fully review the Water Works Law with no principle in management of water utilities, when people really want the full-privatization. Since water utilities are highly public-interest-oriented ones and have a strong regional monopoly nature, even if the said common carriage system is to be developed, pricing of water rates and sound management of the privatized water utilities should be strictly supervised by a public independent organization.

Whereas, the present Local Public Enterprise Law does not assume the share holding of 100 percent of a corporatized public enterprise by the relevant local government. If a large-scale water utility like Tokyo would escape from various controls of being a public entity by corporatizing as it is, it could have enough ability to compete with any other private water supply companies. And if the local government would hold all the shares, the corporatized water utility could provide a sense of ease to the customers. Since this kind of privatization will be a potent method, the revision of the said law is desired.

In Japan many ministries concerned are intricately involved in laws concerning water resources with a central focus on water rights. A private water supply company that is

given the management of a public water utility in trust may succeed to existing water rights. (Note: According to the present River Law, assignment and borrow/lending of water rights are prohibited. In case the operating body takes a turn, water rights should be newly acquired with a very difficult manner.) However, it is very difficult for the private company to get new water rights or develop new water resources due to a red-tape jungle with many authorities concerned and securing huge funds. Since these procedures exceed private company's ability, they should be entrusted to the governmental agencies by developing water resources related laws including measures against water pollution.

- **Weaknesses of Existing Private Water Supply Companies in Japan:** As described before, since almost 100 percent of water utilities in Japan are managed by public sectors, there is no private water supply company that has ever managed the water utilities. This means existing private companies have no know-how on management of water utilities as a whole. Then, when a private company undertakes a contract of the management of a public water utility, the public water utility is obliged to deeply involve in the actual management somehow. On the contrary, when an existing public water utility is fully privatized, the public water utility has no other choice than to be a private water supply company as it is.

- **Overseas Presence of Private Water Supply Companies:** Privatization feelings are rampant in the waterworks industry of Japan. However, private companies in Japan cannot tender bids for overseas privatization related matters by themselves due to the reason of no experience in operation of water utilities. Recently, water utilities in developing countries are also caught in a storm of privatization. However, when Japanese waterworks related companies with enough experience and performance in each field of expertise want to tender bids, actually they must give up the bids or partner with foreign private water supply companies, despite Japan has greatly contributed to the development of water utilities in developing countries through ODA.

In conclusion, it is imperative for Japanese waterworks related companies to establish track records of the management of water utilities in order to break into the huge market of water supply in the world as well as in Japan.

- **Privatization of Sewerage Works:** This paper has mentioned the privatization of water utilities focusing on only waterworks. However, it is needed to refer to a sewage system. There are two kinds of sewage water, wastewater and rainwater. The latter is not suitable for the argument of privatization. Especially, concerning a sewage system adopting a combined system for collecting/treating sewage water, like Tokyo, there is no point in arguing the full-privatization. However, since designing, construction, and operations and maintenance of treatment plants and pipelines of sewerage works closely resemble those of waterworks, high efficiency in these fields is promising by operating them integrally.

In conclusion, as for privatization of sewerage works, there is no opportunity of full-privatization and it is preferable to integrally operate the fields of designing, construction, and operations and maintenance of waterworks/sewerage-works facilities in a form of the public-asset-ownership and private-management system.

5. CONCLUSION – A Possible Example of Privatization in Japan

If privatization of water utilities were inevitable, then what would be the most appropriate method of privatization, given the circumstances of water utilities in Japan? This chapter

provides the author's answer to this question.

Even when privatized, a public water utility needs to be continuously involved in the operation and management of the newly privatized water services at least during the initial stage of transition, since there is no private company in Japan at present, which can operate and manage water services all by itself. This leads to the author's opinion that a medium-scale or a large-scale public water utility should first establish a third-sector water supply company and send its personnel to work for the company. It is preferable in this case that several public utilities participate in the third-sector water supply company. It should be noted that many large public water utilities, including the Tokyo Metropolitan Waterworks Bureau, already have such third-sector companies, but each of them is usually operating independently from others to provide certain specific services, e.g. pipe maintenance and pump operation, on-line system, mapping system, development of unused land, district heating and cooling, meter reading, etc.

In the meantime, the newly established third-sector water supply company should encourage the participation of those private companies that have know-how and expertise in water services, as well as of financial institutions and trading firms which have adequate financial resources and managerial expertise. The participation of those private companies and institutions is essential to the efficient operation and management of water services to avoid adverse effects of bureaucracy.

In its early stage of operation, the new company would be able to maintain its sound finance by undertaking part of water services entrusted by the original public water utilities. Through this process, the company could gradually accumulate within itself both technical and managerial expertise that is needed to undertake the entire water services. Meanwhile, the existing public water utilities take charge of the core business as the role of public utilities, such as the protection/development of water resources, management of assets, pricing of water rates, making long-term plans and strategies, and other policy and regulatory matters. The company would eventually be able to enter into a lease contract, concession, BOOT (Build, Own, Operate and Transfer), or any other type of contracts depending on the circumstances.

The company should gradually expand its area of operation under contracts with neighboring public utilities by establishing several regional subsidiaries all over the country. Such an expansion is necessary for exploiting the area diversification of skilled manpower, enhancing cost-effectiveness with economies of scale and scope, and competing with gigantic foreign companies in the global market.

Being public servants, the employees of water utilities in Japan are rather conservative on the issue of privatization. Besides, most medium-scale and large-scale public water utilities have been operated to date without any serious financial, social, or technical problems. It is therefore an emerging social question whether or not water services should or can be fully relinquished to private companies.

At any rate, it would probably take a long time before full privatization of public water utilities comes into reality in Japan. And, even when privatized, the management of water utilities is not likely to be relinquished to short-term-profit-oriented companies that operate according to the Euro-American style corporate ethic of "market economy". Instead, it is likely to be relinquished to long-term-profit-oriented companies that give "relief and reliance" to the customers same as public utilities do and operate according to the Japanese style corporate ethic of "human-network-dominant philosophy" in that the

interest of equity holders comes only after that of consumers and employees.

There are several different methods of privatization, and it is not an easy task to decide on which is the most appropriate method for water utilities and consumers in Japan at this point in time. And, that is why the author has the opinion that the partial privatization should be the first approach to be made, and based on the lessons learned through this process, a final decision should be made by citizens on whether or not full privatization is a realistic and viable option in Japan.

End of Paper

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