

# “Walking on the Tightrope” -- Can Water TNC Tackle Drinking Water Crisis in Developing Countries?

Mingqian Li

East China University of Political Science and Law

Shanghai 200042, China

E-mail: mingqian.li@googlemail.com

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## Abstract

Water has an indispensable significance for human life and public health. Government has the obligation to protect and improve access to safe water. However, because of mismanagement, ever-tightening financial budget as well as the pressure from International financial organizations, developing countries began to permit the private participation in the previously state-controlled water sector. Although there is growing evidence that the water privatization did not reach its original goal of tackling water crises in developing countries, recent experiences have proved that China is focusing on the role of market functions in drinking water pollution and encouraging the involvement of water TNCs in its water services reform.

**Keywords:** TNC, Privatization, Developing countries

## 1. Introduction

Water is the fundamental element of the whole planet's ecosystems. Despite the significance of water for citizens' livelihoods and a country's development has been widely accepted, recent research indicates that we are living in a world with water crises. Many health problems can be traced back to inadequate and polluted water resource. An estimated 3.4 million died because of either direct consumption of contaminated water or diseases infected by organisms living in polluted water. Every year, around 2.2 million died of diarrhea; 1.1 million of malaria; 17,000 from intestinal worms; and 15,000 from fever. This situation is especially acute for many developing countries which have a large portion of poor people who rely on such natural capital as land, forests, minerals, and biodiversity, and thus suffer disproportionately from environmental degradation.

With the rise of environmental issues on the international agenda, the increasing attention on market mechanisms in drinking water pollution control and the advocacy of private sector participation by international financial institutions, the involvement of transnational corporation (TNC) investment in the previously stated-owned water supply and sanitation has become more and more common, even predominant, in developing countries where there have been failures to provide enough access to safe drinking water due to high population growth rate, inefficient management model and enormous financial burdens. These water TNCs have taken responsibility for “treating and cleaning up polluted water, water distribution and supply, sewage and sewage treatment, river purification, flood prevention and some aspects of coastal protection,” in the hope of alleviating inadequate and unsafe water supplies in many developing countries. Moreover, these water and sanitation sector, according to a UN-HABITAT paper, both worldwide and in the South, is dominated by a very small handful of transnational utility companies, namely Vivendi, Ondeo, Thames and Saur. Together these companies occupied over 80 % of the privatized market for water and sewerage services

As one of the most controversial and sensitive topics, privatization has contributed to the significant shift in the relationship between public sectors and private companies. It is a process of transferring assets or services, such as production, distribution, or management, from the government to the private sector. Being one dimension of social transformation, water privatization can be seen as a change of management model, a response to the needs of foreign investment, and a major element of economic reforms in developing countries, accompanying the radical switch in the style of regulation polices — from the traditional stated-monopoly control to private firm participation.

There has been a heated debate on this phenomenon amongst academics and policy-makers. Proponents of water privatization believe that involvement of the private sector can lead to efficient and equitable methods for

providing water supply to the public. On the other hand, the opponents debunk their counterparts' claims, enumerating an array of bad track record of high tariff and lower quality service. There is evidence demonstrating that most of developing countries have shown pessimism towards water TNCs because of the assumed high tariff and lower quality service. In some places such as Cochabamba, Bolivia, there have even been social tension resulted from water privatization.

This paper is not going to analyze every important factor that plays a significant role in the water privatization, such as political support, corporate governance, and financial arrangement. It will raise an array of significant issues concerning the relationship between privatization and human rights, water TNCs and drinking water crisis control, as well as the role of regulation. The main argument is that a formidable obstacle of water privatization in developing countries is the omission to balance the interest of investor, and government and public.

It firstly looks at the general idea of water privatization, and then examines the experience and lessons with the water privatization in Manila, which is, so far, the largest privatization project in the world. Finally, it concludes with suggestions for China to avoid the potential problems and to make full use of this economic instrument in the process of water sector reform. As such, it wishes to understand the basic elements that have to be considered when building up a sound legal and regulatory framework that can balance all the interests involved in water privatization and can achieves sustainable development in a developing country.

## **2. Water Transnational Privatization**

### *2.1 Human Rights and Water Privatization*

Privatization of a public utility such as the water sector is not a current creation. Since the 19<sup>th</sup> Century, there has been a wide debate on the private sector participation in Europe and North America, although at that time the public control viewpoint is more prevalent. Privatization of water supply and sewage sector increased greatly since 1989 and by the end of 2000 there are at least 93 countries which had partially privatized water or wastewater services. The last decade has witnessed the dramatic development of privatization.

There is no consensus opinion amongst academia on the view to the legal nature of water. From an economic perspective, it can be viewed as private goods with a significant profit. "According to the Organization for Economic Cooperation and Development (OECD), water utilities account for USD \$73.2 billion, out of the total global environmental market of USD \$453 billion for goods and services." From the political perspective, it can be considered as a political good. "The nature of the water services sector is such, that the sector is inextricably intertwined with a country's political realm." At the same time, there are others who believe that water is a kind of public social good such that "everyone should have access to safe and affordable water services and that, as such, nobody should be excluded from these services." They think that access to safe freshwater is a fundamental right which should be enjoyed by everyone and thus should not be treated as a commodity that can be used for profit.

Proponents of privatization claim their support towards private firms on the assumption that government is incapable of delivering the infrastructure need, due to inefficiency and financial burden whereas the private company can be more efficient, effective and equal. From the Dublin Conference water has been gradually considered as the economic good that is crucial to economic growth. The United Nations Conference on Environment and Development in Rio de Janeiro reconfirmed this point, stating that: "integrated water resources management is based on the perception of water as an integral part of the ecosystem, a natural resource and a social and economic good, whose quantity and quality determines the nature of utilization." Therefore, it is believed that in order to prevent state monopoly, effective market mechanisms should be harnessed in the supply of water to protect public interest through the introduction of commercial principles and competition.

The main focus concentrates on the access to drinking water for the low income group. On the one hand, it is universally accepted that this least articulate and most vulnerable group in developing countries must have the right to safe drinking water; on the other hand, it is equally true that the water TNCs are not able to make a necessary profit from them to pay back the expensive investment of water services. Thus there is a risk that privatization activities are often characterized by focusing on short-term economic gains without thinking of social justice and human rights protection. Some even claim that subsidies from donor governments and international institutions for privatization are more likely to create poverty than reduce it.

### *2.2 Multi-actors in Water Sector Investment*

#### *2.2.1 International financial institution*

International organizations have played a significant role in prompting the adoption of water privatization in developing countries in the hope of tackling water crisis.

“Global concern for freshwater problems can be traced to the United Nation’s Conference on the Human Environment in Stockholm in 1972. The 1977 United Nation’s Water Resource Conference constituted the first real attempt by international organizations to alert the international community to the dangerous overuse of water resources and the growing water scarcity observed in many regions of the world.” Since the Dublin Conference in 1992, there has been a call for addressing the role of private investment in the sectors of water resource management and water pollution control.

With the continual development of globalization and increasing flow of capital, there is an ever faster movement towards free trade in goods and services. After the setting up of GATS (General Agreement on Trade in Services) in 1994, all member states have been required to open their water supply service market and remove trade barriers, paving the way for the entry of the private sector in water management. This liberalization of services has been achieved not only through international negotiations but also in many investment agreements, such as bilateral investment treaties and regional agreements. “The second World Water Forum in the Hague in 2000 gave special emphasis to the need to mobilize new financial resources to solve water problems and called for greater involvement by the private sector.”

It is notable that the backing of the World Bank and the IMF for the merchandising of water is the main force of water privatization. The World Bank pointed out that “efficiency in water management must be improved through the greater use of pricing and through greater reliance on decentralization, user participation, privatization and financial autonomy to enhance accountability and improve performance incentives.” A case in point is Ghanaian water policy. The World Bank conditionally forced the Ghanaian government to open its water market, thereby increasing its water tariffs by 95 percent. In order to get this adjusting loan, the Ghanaian government has to permit TNCs to lease water services.

### 2.2.2 Water TNC

With the recognition of economic value of water by the international community and the full support of international financial institutions, “more than a hundred water TNCs are competing with one another for the one-million-dollar water market.” The water and sanitation sector is dominated by a very small number of powerful multinational utility companies, namely Suez, Vivendi, Ondeo, Thames. These water TNCs have great influence in the water privatization process.

Suez, the largest of the major water TNCs, was created by the merger of Companies de Suez with Lyonnaise des Eaux in 1997. Vivendi, the second largest, emerged from the merger of Seagram’s Universal media business with Compagnie Generald des Eaux of France in the 1990’s. The two corporations are both among the first 100 of the Fortune Global 500, and together had roughly a turnover of 22 billion dollars in 2001, serving 223 million consumers across all the continents.”

The main argument for water TNCs is that they have advanced technical expertise and management skills as well as an ample financial backup. However, there is no denying that these private sectors are profit-making companies and the fundamental problem faced by TNCs is that the poor are not profitable. “Establishing full cost recovery has been central to the privatization process.” Besides, the water TNCs also have other concerns such as currency fluctuations and political instability. In this context, the water TNCs are not able to tackle the water crisis in developing countries at all. Nevertheless, as analyzed above, it is the government’s obligation to ensure that everyone has safe drinking water and that the state should not transfer its duty when transferring its water sector management. Key to this problem is the lack of government capacity to monitor and regulate the activity of water TNCs as well as to make use of water privatization to help people receive access to basic water services.

## 3. Regulation of Water Privatization in Developing Countries

### 3.1 Attitudes of Developing Countries towards Water Privatization

When reforms of public owned utilities take place in developing countries, what occur to the policymaker first is privatization, on the assumption that privatization would bring in competition, efficiency, trained personnel, new technology, advanced management, sophisticated institutional arrangement, and much needed investment. This strong expectation, combined with the growing pressure from the international financial organization on water privatization, as well as public failures at delivering satisfactory water services, have lead to the privatization of some water services has taken place on a much larger scale in developing countries than in their richer counterparts.

However, this ebullient wave was restrained by the harsh realities which where “marked by renegotiation, termination and cancellation of privatization contracts and projects.” More and more evidence indicate that the water privatization is undergoing criticism and opposition in many developing countries. It seems that water

TNCs has not tackled the water crisis in developing countries. On the contrary, they have made it worse. The high water fees “allowed the rich to use water as wastefully as they wanted, as long as they can pay, while the poor continue to suffer from lack of access to water.” The move towards water privatization, in some places, even resulted in violent protests. During 2000, the “water war” erupted in Bolivia because of the unaffordable high water fees, killing one and injuring about 175 people. The stakeholders and policy-makers began to rethink the objective and role of privatization. There is also evidence that the state-owned enterprises will continue to play an important role in developing economies, especially in the poorest countries. After all, water is such a vital resource to every aspect of life and that it can not totally rely on market forces for protection. Thus, governmental regulation is essential.

One of the major concerns involves water prices. This so called ‘user fee’ is imposed under the pressure of World Bank in the name of making use of the economic value of water. It has been considered as a barrier to the access of services by the low-income group. The contractors may firstly bid at a quite low price to gain the concession contract and then, after acquired the management, raise the water tariff to recover the initial losses and maintain a new monopoly position. These costs will ultimately be passed on to the consumers and thus damaging the public interest. Another important concern expressed by the opponents of water TNCs is that the quality of service maybe not be as stated in the contract because of insufficient monitoring.

However, there are also some comparatively successful examples, such as the Manila’s water privatization in Philippines, “a project was marked by relative success in one half of the city and absolute failure in another part during the same time period.” As such, lessons and experiences can be drawn from this case study.

### *3.2 Water TNC in Manila*

“The Philippines is amongst the first countries in the region to embrace private sector participation in its water sector; note that the first privatization of a waterworks utility in Asia was in Subic Freeport in 1996. This water privatization of Manila’s Metropolitan Waterworks and Sewerage System (MWSS) in 1997 is predated as the largest one in the world.” But its success is a mixed story.

Like the other indebted developing countries, the Philippines had been also pressurized by the World Bank to privatize its government-controlled water services through loan conditions and technical assistance programs. “By 1994, the Philippines government officials were increasingly critical of the operations of the government-owned and operated water system in the Manila area. The national legislature passed two BOT (Build-Operate-Transfer) laws in the early 1990s to firstly improve the role of local government in its cooperation with private sectors, and incorporated these steps in the passage of the Water Crisis Act (WCA) in 1955. The government also commissioned the International Finance Corporation to advise the government and to design a contract. “Between 1995 and 1996, an interdisciplinary team of lawyers, engineers, accountants and economists drew up a design for a 25 year concession.” At the same time, the government set up a regulatory office to monitor and enforce the two concessionaires, implement rate adjustments, and deal with customer complains.

The process of privatization was completed in 1997 and the two MWSS concessionaires are Maynilad Water Services Incorporate (west zone) and Manila Water Company (east zone). “Both of the companies appeared to have made particularly low bids, on poor foundations, with the assumption they could adjust the price according to the terms of the contract” and increase the water rate in the privatization process. During the privatization, the regulatory office even granted a foreign currency differential adjustment and the appropriate discount rate (ADR) to compensate the loss to concessionaires caused by financial crisis.

However, the success of realizing its promised benefits with delivering more efficient, more accessible water and sanitation services is mixed. Maynilad was in dire financial straits and became bankrupt. The supposed benefits disappeared. What made things worse is the risks and losses has been passed onto the vulnerable group. Finally, Manyilad terminated its contract with a huge loss. On the other hand, Manila Water continued its success and is now a listed company in the Philippine Stock Exchange, still providing water under its long-term concession through a tight and reasonable concession arrangement. Given the situation in the Philippines and the other developing countries, it is of paramount importance to draw lessons and experience on how water privatization could be successfully implemented through the regulatory framework.

### *3.3 Role of Regulation in Water Privatization*

According to the case study, it is not difficult to come to the following conclusion: building up a regulatory framework specifying careful arrangement of responsibilities, clear goals of privatization and transparent operations can protect consumers from privatization abuse while maintaining a necessarily high efficiency.

There are a number of key factors affecting the final result of water privatization in developing countries such as political support, financial arrangement and operational management. However, a realistic and effective regulatory tool is of particular importance. "Regulation should be a means of achieving the result of perfect competition whilst avoiding the messy and apparently wasteful process of competition itself." "A central role for regulation is that of creating and maintaining the conditions which make the operation of market possible." When it comes to the regulatory regime of water privatization, regulation is a form of control exercised by government on the activities of water TNCs to prevent them arbitrarily raising water tariffs and shifting the burden to customers to pay for business risks and taxes.

Due to the unequal bargaining power between the vulnerable group and the gigantic water TNCs, the public often demand that the state must intervene in markets to protect social justice threatened by too much attention on the profit growth. Besides, given proper governmental guidance, it would minimize the possibility of market failure and so act in ways which are economically efficient. Thus, "State involvement in implementing tariff regulations, quality standards, incentives and the provision of safety nets is fundamental to realizing the right to water for all." The effectiveness of water privatization depends to a large extent on "the development of sound legal procedures, agreements and contracts that clearly define the relationship between government agencies and the private firm." The government can not, and should not be absolved from the responsibility and obligation for public health and water rights or promise the water TNCs high fixed returns. Over the course of privatization, "it inherently requires continuing government involvement in regulating safety, monopolistic behavior, and compliance with the pricing and service requirements of the concession." Without proper regulation, water privatization can be extremely dangerous to the host government and damage the cooperative partnership between public and private sectors. For example, disputes arising from delays or terminations of the contract may happen and the privatized water supply may not be in accordance with human rights principles. More and more emphasis should be putting on how to strike a balance between the public and the investor. As such, it can provide incentives for private sector participation but not at the expense of public interest.

In order to build up a clear regulatory framework specifying the roles of the government and the water TNC, their relationship and the allocation of responsibility, several factors, combined with the case study above, several factors should be considered to protect public welfare, develop the role of market forces and protect the share common goals of public and private, as follows:

First of all, there has to be a powerful and competent regulatory agency set up before the privatization process. Specialized training of human resources with technical and management expertise in regulatory institutions is essential in order to do diligent research before the tendering process and factor in the high risk of premature termination and renegotiation such as a change in the key parameter of rate re-basing, as well as developing strength and resilience in order to be able to adapt to the sudden accident as had happened in the case of Manyilad. Without noticing this, the Philippines government overestimated the expected benefits that water privatization would bring and did not take into account the risks.

Secondly, it should take human rights obligation into consideration. As analyzed above, the water privatization did not contract out the obligation to protect human rights. The government has to ensure that those who are not in a position to pay the tariffs are taken care of to balance the needs of private firms with the public's welfare. The notion of equitable gains by all parties is the fundamental goal. While the government has an obligation to protect public goods, the water TNC has been expanding its profit margin for its shareholders. Thus, the regulation has to be accountable to counterweight the above two kinds of interest. It seems that the Philippines government made great efforts at accommodating the TNC's financial demand and providing them with costly guarantees that ensured profitable returns, also encouraged developments of the infrastructure for low-income residents. "Even the problem-stricken west zone, residential service coverage has expanded from 58 percent prior to privatization to 84 percent." However, there is no denying that the success of Manila's Water in east zone has a relation with the fact that its population there is wealthier than that in western zone.

Thus, there is great room for social factors such as equity, social services, welfare of the low income group and the corporate responsibility to be taken into consideration. With transparency, accountability, fairness and equity ensured, the privatization can realize its economic development as well as alleviate the water crisis in developing countries. In other words, focus must remain on addressing the balance of the economic activity and the social responsibility in the process of building up regulation. "Privatization efforts should be accompanied by guarantees to respect certain principles and support specific social objectives."

Additionally, there should be active encouragement for the public to participate in the regulatory process. The lack of consumer participation would hamper the transparency and legitimacy of decisions. The public should be

kept informed of the water quality and standards as well as all the changes in water services provision. Accessing to this kind of information is their right no matter whether the water has been privatized. "Consumer involvement through a consultation process could help to minimize social conflicts." The government has the obligation to keep all the related information published. Failure at publishing information like improvements in service delivery is easy to give rise to public dissatisfaction and social tension.

#### **4. Insights for Water TNC in China**

##### *4.1 The Development of Water TNC in Drinking Water Investment*

With the launch of the open policy in 1978 and the development of science and technology, China has achieved remarkable economic growth. However, the accompanying side effect is the environmental damage and natural resources deterioration. This is especially true with regard to the drinking water problem. The severe water resources pollution due to agricultural, industrial and domestic discharge has posed a threat to public health and economic development. Drinking water has become the top concern in China and continuous attention has been placed on it, in terms of legislative framework and institutional arrangement.

China's legislation and regulations related water service are complicated. Although it has a comprehensive legal framework for water resource protection and pollution control, it is hard to implement and operate when it comes to the punishment of pollution activities and the management of water supply. When it comes to the institutional arrangement for water management, it becomes even more complex. The 1988 water law provided the first legal basis for rationalizing the institutional framework of water governance. However, due to the unclear allocation of responsibility between the Ministry of Urban Construction and the Ministry of Geology, there was a management vacuum. Besides, it still adopts the "command and control" management model, which is not flexible and has the disadvantage of generating high governing fees.

After the 2002 water law unified the oversight of water under the control of Ministry of Water Resources, Chinese government has noticed there is a pressing requirement for the application of economic tools to increase management efforts and develop the role of market force in order to improve the coverage, quality and efficiency of water services, and finally achieve the realization of a harmonious society. Therefore, within the framework of a major institutional and socio-economic reform programs that encouraged development of market functions and participation of private sectors, the 2002 water law confirmed the employment of economic instruments and allowed the private sector to provide water supply management and thus providing legal basis for the privatization by water TNCs.

Although China has had a slower start in introducing the private sector into water resource management compared to some countries, in fact, there were already some water supply and wastewater projects that involved water TNCs. Private participation was introduced to the water sector for the first time in the early 1990s when a Build-Operate-Transfer (BOT) approach was approved by the National Development and Reform Commission to build and operate the water system include Changsha Wangcheng Power BOT Plant

The development of private involvement in the water sector is combined with the adoption of marketization reform of public utilities and the introduction of pricing mechanisms. Due to a lack of market tools in water management in the past, in China, privatization, in some sense, has been considered as a tool of transition, an aspect of the economic reform policy, a progress towards market economy and a form of recognition of property right. Moreover, the involvement of water TNCs is part of the water governance modernization for the reason that it will make full use of economic logic. In the wake of this change, Chinese government felt necessary to enhance the financial viability of the utility and to explicitly permit the privatization. Thus, it has turned increasingly to the involvement of private firms.

As a consequence of the open and reform policy, the water TNCs are showing strong enthusiasm for expansion of China's water sector reform. Although some water TNCs has exited or are exiting from contracts and concessions with developing countries, Suez and Veolia continue to treat China as a special case where they wish to invest even in relatively risky projects. Other water TNCs are also targeting China's potential market. Thames Water has signed a memorandum of understanding with the Ministry of Water Resources to participate in the activities of integrated water resource management. Saur has been operating a drinking water plant in both Harbin and Shanghai, being a big portion of the water market. Moreover, both Suez and Vivendi have signed long term contracts with China to manage city water systems throughout China.

##### *4.2 Suggestions for China to regulate Water TNCs*

Experience and lessons from around the world, especially from the Manila water privatization, has shown that a number of key elements necessary to achieve efficient and comprehensive regulatory framework.

In the first place, building institutional and regulatory capacity of the government to adopt and implement a comprehensive legal framework is the most important aspect. Most of water problems arise from lack of a comprehensive and binding regulation as well as a policy framework. As far as China is concerned, although the existed water law opened the door for water privatization, it is too weak to accommodate new development. Besides, there is not a special agency which is made of representatives from government, worldwide scholars and international financial institutions, responsible for monitoring, keeping track and supervising the activities of the water TNCs. Just as the Regulatory Office of Philippines did, it consist of scholars and World Bank delegates as well as local governmental leaders.

Therefore, reform of the existing management system is in great need. Its transformation may be a two-layer process. From the administrative aspect, a special water sector management agency, which centers on the Water Ministry, should be set up as the comprehensive administrative sector in charge of the water service matters for the government. At the same time, it can be considered as the implementation subject to be responsible for promulgating water policies, regulations and the criteria of the private-sector participation, as well as setting down the entry-permission criterion of the water market and providing surveillance for activity of private sector participation. There should be an amendment or supplement on the regulation of monitoring performance as well as the evaluation criteria which should be definite and clear. For example, "A variety of monitoring and reporting systems can be implemented to ensure that officials remain aware of service-quality levels on a timely basis." When it comes to water market's operation, it should be in line with the principle of market, actively encourage and support the market taking part in big water delivery projects, make full use of the role of the market as well as competition.

Another important factor has to be considered is the social component. "The state would be in a position to evaluate the consequences of post investment regulations in the domain of human rights." There is a need to develop a privatization regulatory framework addressing social issues such as labor legislation, structural reforms in social security and pension plans, and environmental laws that extend liability to the water TNCs. From the Manila Water experience, it is clear that a big part of the success is due to the consideration of the local poor people. Besides, the World Bank also issued a paper focusing on the need to enhance the human and natural environment, paying special attention to safeguards, social impacts and meeting the needs of the poor. Failure to represent low income group's interest will lead to an absence of accountability and thus increase the likelihood of frustration for the whole privatization contract. This is especially important for China where "the total of the population of absolute poverty and the population of low income is 47.09, accounting for 55.3% of the population of the same categories of the whole country." It would be significant, therefore, for the government to oblige the water TNC to provide services at a low price to households that are not in a position to pay the water fees or provide state subsidies on their behalf. As an encouragement, the government can give water TNCs some favorable policies, such as tax-concession and investment subsidies. Thus, the main task of the Chinese government is to adopt a market-based integrative approach such as full cost pricing of water services in the transition process whilst giving significant consideration to the special situation of the low-income group, especially the people in the west who can not afford it. Only in this way can they encourage an economically efficient assignment but not at the expense of social equality. At the same time, it will be wise for the water TNCs to carry out its social responsibility in order to gain more recognition and popularity.

What is of more importance is that it should encourage public participation and provide more accountability to citizens to satisfy the public interest and prevent the water TNC from expanding its profit to unreasonable levels. For example, the government could hold public hearings when introducing water privatization, setting up the standards and increasing the tariff; make specific question lists for different levels and sectors of government; organize interviews and work meetings to analyze case studies; formulate the client complaint mechanism as well as support the research and monitoring activities of NGOs. Water sector reform and private company participation are easier to be effective if there is ample demand for the benefits of water privatization from the massive group of customers. On the contrary, without the assurance of public information to water management and public right to participate in water tariff adjustment, the privatization of the water supply would not be recognized. It may even lead to social conflict and state instability.

Thus, there should be specific stipulations and policies on the requirement of access to information in order to protect the participation of the general public in water resources management and water privatization monitoring. This is also the very point that the Philippines had to be very careful of, although, in its case, it has already achieved a lot. Lack of the consideration of public participation in the east zone in the Philippines gave rise to its mixed success. In addition, China's Constitution gave its commitment to ensure every citizen has the right to take part in the management of social affairs. Access to this information and participation on the decision-making process of some key issues related to private firms' involvement is a critical sign of realization of this public right and a considerable progress of human rights development.

## 5. Conclusion

The stakes of water sector reform were high for the developing countries as water is a key service that can be crucial in protecting public health and promoting economic growth. With the recognition of the important role of market and dissatisfaction with the paradigm of public management performance, the water sector reform and restructuring has gained ground amongst the state policymakers.

However, continual failures in developing countries resulted from the inadequate regulation of private companies has greatly frustrated public confidence in the rationales of market liberalization. The privatization of water service has posed a difficult dilemma of how to regulate the water TNC so as to gain the benefits of free market, whilst minimizing all the vices resulted from free market. It is not easy to strike a balance between general public welfare of community and some specific interests of water TNCs.

The current agenda of regulatory policy concerning water privatization should focus on the design of regulatory institutions and the development of the role of law. "The success or failure of water sector liberalization depends heavily on how effectively the state performs its function of monitoring, overseeing and directing private water operators through well-designed regulatory regimes." Thus, it is of great importance for the government to have a clear definition of its responsibility and specify its role to strengthen legislations and policies.

Besides, the financial and technical expertise support from international community is also in great need. Although it is too early to come to the conclusion that water privatization can cure the developing world's water woes, given a situation with a comprehensive regulatory framework, adequate supervising, considering human rights, keeping transparent key information, and strengthening public participation, the water TNC can play an important part in reforming and improving water services, although they can not tackle the water crisis radically.

In this sense, the basic human right to access safe and clean water and sanitation at an affordable price is not replaced by the recognition of economic value of water. There is an arrangement that can compromise various needs of different parties. At last, there is not a "one size fits all" solution to water crises. The approach that has generated good results may not be suitable for others. Developing countries have to take into consideration their own political and economic situation and look for a way that suits them to achieve efficient and equal water resources management.

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