Water Privatization during Rising Demand: The Case of Southern Thailand

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Abstract

Water privatization is an emotive subject and one that attracted a bad reputation owing to botched efforts in some western countries that have seen profits rise while services decline and apparently predatory privatization in South Africa and elsewhere that denied water to the poor. Water is widely considered to be a public good that should be available to people at a price as close to zero as possible. A powerful campaign to make access to water a human right has been launched and there is an evident contradiction between human rights and the market-based transactions seemingly required for water treated as a commodity. Yet this contradiction must somehow be resolved because the demand for water is continuously increasing as the result of intensifying industrialization and urbanization and the huge increases in scale of the tourism industry. While demand is rapidly escalating, supply conditions have become much less predictable as the result of the increasingly evident impacts of global climate change. Privatization can have a role in ameliorating these problems if it is properly planned and managed, if the scope of individual projects is limited to the scale issues endemic in management of water resources and, finally, if appropriate governance promotes objectives that are socially beneficial rather than depending entirely on the bottom line. This paper explores the ways in which water privatization has taken place in the south of Thailand from a comparative perspective and evaluates the limits of what can be achieved by these means and also investigates the contours of a successful privatization project.

Keywords:

Global Climate Change, Industrialization, Privatization, Thailand, Water

Introduction

There is a clear link between the variable presence of water resources in a given geographical space and the uneven development that will take place in that terrain. Since water is essential for life and all the activities necessary for civilization – agriculture, industry, urban development and so forth – that civilization will not form where there is either insufficient or over-abundance of water or, if it can exist, it will do so in forms that are quite fragile and able to accommodate only a relatively small number of people. Water resources should not only be present in adequate amounts but of a quality and purity that is not detrimental to health. The water may become available in the form of precipitation, as part of river basins or in underground storage areas in the form of groundwater resources. To a certain extent, mankind has been able to develop technology that is able to take advantage of all three of these sources of water, using dams, wells and similar ideas. It has also been used to control

the seasonality of the availability of water resources, by finding means to cope with those parts of the year when there may be floods and those when there might be drought. However, the resilience of the systems put into place for these purposes definitely exists within specific limits. In the Mekong region, the predictable monsoon season provides periods of heavy rain vital for agriculture. In the Mekong delta region, farmers have adapted to what can be the effective flooding of the whole region by brackish water through the use of freestanding rice strains and special equipment. Many of these techniques were created by long-term Khmer residents of the region and they have been subsequently adopted by the more recently arriving Vietnamese(Biggs, 2012).

However, the lengthy droughts experienced each year in inland regions such as the Korat Plateau, which lacks fertility because of the presence of an extensive underground salt pan, is sufficient to test the resolve and inventiveness of the people living there (Löffler&Kubiniok, 1988).

The Mekong Region is characterized by the difficult terrain caused by thickly forested mountains which are traversed by a number of rivers originally rising from the Tibetan Plateau and the Himalayan range. These rivers include the Mekong, Irrawaddy, Salween, Chao Phraya and Hong (Red) rivers, which mostly travel in a north-south direction. Travel along the river valleys has always been easier moving along this north-south axis rather than over mountains in the east-west direction. It is not surprising, then, that most migrations have featured people moving south via the Yunnan region of China and that state and commercial relations between Mekong states and China have very often been more important with those coordinated on the east-west line.

Although the concept of the hydraulic empire first put forward by Wittfogel (1957) is now understood to be a little overstretched, it is nevertheless true that the ability to control water to permit state formation was a crucial role for, among others, the emperors of Angkor. Throughout most of recorded history (global climate change notwithstanding), the Mekong region was warmer and wetter than at the end of the twentieth century and that meant a great deal of land that might be farmed now existed then in the form of swamps. This was not just inconvenient but very dangerous since it indicated the presence of dangerous wild animals such as crocodiles, rhinoceroses and snakes and also the prevalence of many deadly water-borne diseases. The role of state elites was, therefore, to establish control over a sufficient period of land and its water to provide sufficient resources to maintain the existence of the state. This is embodied in the famous stone inscription ascribed by some to the famous King Ramkhamhaeng of the Sukothai kingdom, which describes the king as a great ruler in part because of the justice and protection he offered but, just as significantly, through the control of irrigation systems in which fish swam to provide an additional source of protein (Lysa, 2000).

Irrigation has always been vital to the Tai peoples as they have customarily and characteristically sown wet paddy rice fields wherever they have travelled. Ramkhamhaeng's state was among the very first independent state created by Tais for themselves and it emerged as part of the great southward migration of people that took place in the thirteenth century after the armies of Kublai Khan's Yuan dynasty destroyed and then annexed the previously independent state of Nanchao (or Dali) located in what is now Yunnan Province. As the Tais progressed, they established wet rice agricultural systems and displaced most of the existing inhabitants on to less attractive higher ground, where they then grow glutinous or sticky rice which does not need so much water.

Until the eighteenth century, development took place in those relatively scarce areas in which control of water was possible. The comparatively sparse population acted as a further constraint on the extent to which settled communities could form. However, as the period of colonization reached the Mekong region, new technologies and resources became available which made it possible for states to expand their areas of governance by draining swamps and enlarging agricultural systems. As Molle describes this process taking place in the nineteenth century:

"Rivers and canals were, thus, axes of colonization and agricultural expansion. Although their primary function was to allow transportation of people, goods, and armies in case of war, their embankments also served to establish homesteads (stilt houses) and, in some instances, to ease irrigation or drainage of adjoining land. These canals were nevertheless the manifestation of state power, which resorted to corvée labor due to the king for their excavation (Molle, 2005)."

The link between water and power – physical power, ideological power and even kinetic power (electricity) has been a constant theme in modern Thai history. Powerful patronage networks in Thai society unite different levels of society and are used to control access to important resources such as water has increasingly become recognized as being (Khan, 1998). As Thailand entered the modern age, its rapid economic development was managed to some extent by the state but in collaboration with specific actors able to provide developmental goals at least in part. This was a process involving contestation between different sets of competing interests, with some inevitable loss of efficiency as a result (Doner, 2009).

This paper discusses the nature of water management in Thailand, specifically when it comes to the privatization methods that have been employed, and its relationship with uneven development. The paper continues with a discussion of the inequitable access to water in the country and then discusses what forms of privatization have taken place and their results. The discussion then turns to the concept of uneven development as a whole and what may be done through water management to address it.

Inequitable Access to Water

Even where there is sufficient water for all needs, development within specific areas may still be uneven in nature because of the inequitable nature of access to water. This might be seen, for example, in urban developments which attract migrant workers but which do not offer them decent housing and sanitation. Not only does this represent a potential danger to public health but it also means the migrants and other slum-dwellers have to buy water on the open market and this is frequently much more expensive (and time-consuming to obtain) than for those residents who have access to piped water (Zaki& Amin, 2009). It has been, in part, to expand coverage to more such residents that a series of partial privatizations has taken place in parts of southern Thailand.Of all the government services typically provided, water perhaps raises the most emotive issues when it comes to privatization. It certainly

requires negotiation of a complex set of issues because of water's centrality to human life. Five interlocking reasons help explain why water privatization is such a complicated issue:

- The level of natural monopoly and the lack of substitute products;
- The public and merit goods supplied by the sector;
- The crucial relationship between water infrastructure and urban economic development;
- The highly capital-intensive nature of the sector and the overwhelming sunk costs (which cannot be recovered in the event of business failure and hence represent serious risk to private-sector firms) and
- The multiple-purpose and hydrologically interconnected nature of the water resource itself (Rees, 1998:8-9).

It seems clear that simply handing over responsibility for water provision to a private sector organization as a monopoly would lead to unsatisfactory results as there would be little incentive to add investment to a profitable system. Successful operation would rely on a powerful and effective regulator or else close adherence to a transparent and well-judged contract. Indeed, an appropriate regulatory function is one of the principal factors involved in determining the success of a privatization episode, along with the form of private investment, the competitive structure of the sector and the type of private company involved (*ibid*.). In each of these areas, several important options exist and appropriate negotiation between the parties involved can help determine whether the venture will be satisfactory or not. The first episode of privatization in Thailand occurred in the province of PathumThani, to the north of Bangkok. This is an area which combines a number of industrial estates where intensive demand for eater exists with rapid speed of urbanization. As the urban development spreads outward from Bangkok, it meets previously rural communities in the peri-urban zone and the communities of migrant workers drawn to find work in the factories of the industrial estates. Many of these communities are based in areas not connected to the water supply grid and so they must either obtain an illegal connection from a neighbor who is connected or else purchase the water they need from the private sector in small quantities. Purchasing water in this way can be very expensive and one survey of the urban poor in Bangkok indicated that those without access to piped water would have to pay up to 22 times the cost for their water and that, by 1994, piped water reached only about 43% of poor Bangkok households (Daniere& Takahashi, 1999).

Consequently, partial privatisation of water supply services, rather than being a means of depriving the poor of water, instead increase the access to water for many of the urban poor. Privatisation may lead to a price rise for some households but for those who are able to connect when they were previously unable to do so, the cost of water would be reduced significantly. Since the Thai government had limited resources to promote expansion of the supply network, particularly in the wake of the 1997 crisis, utilizing some private capital to combine the pro-market policies required by the IMF with the pro-welfare policies required from ethical, equity and political perspectives. A bidding process was followed by the awarding of contracts to a joint venture between Thames Water International and local partner Ch. Karnachang PCL, who established the special purpose vehicle of PathumThani Water Supply Company Ltd. (PTW) to work on the build-operate-own-transfer (BOOT) approach. This venture was achieved by East Water's management of the PathumThani partial privatization, as demonstrated by a household survey that indicated substantial increases in access and satisfaction with customer services, albeit with an increased price (Zaki& Amin, 2009). One analysis of the success of the venture was achieved by "… divesting key components of the water supply except tariff setting, which allowed the application of a cross-subsidy to avoid any potential adverse effect to the poor from privatization; ensuring that, instead of a single, large contract, the privatized components were unbundled and contracted separately for varying durations, which effectively mitigated the risk of privatizing a natural monopoly such as water supply; and motivating the company (PTW) to expand coverage to seek profit (*ibid*.)." In other words, risks in the programme were reduced by:

- Restricting privatization to those limited areas in which competition was logical and did not contravene the natural monopoly concept;
- Charging differential prices so that poor households had their cost increases lowered as a result of additional charges placed on heavy users (e.g. industry);
- Breaking down contracts into smaller pieces to promote transparency and measurement of success;
- Encouraging the successful bidder to seek profitability by expanding the coverage of the network to more areas and households rather than charging more to existing users.

It is notable that PTW's international partner Thames Water International is connected to the company that has been so criticized for its actions in the UK, where the terms of the contract involved are significantly different. In any case, the PathumThani system was designed with an eye to specific local conditions and subsequent episodes of privatization in the country have also been marked by this pragmatic approach.

Privatization Issues in Thailand

Water privatization continues to gain attention at national and local government levels. The principal reason supporting the idea for privatizing services is to reduce the size and cost of government. Private companies also have a huge profit incentive to privatize water, depending on the nature of the contract. However, many people doubt whether the results of privatizing a particular service will always be positive, especially in the case of water.

Traditionally, governments have provided water to people as a public service,although practice has been changed recently to follow the public-private participation scheme. Climate change could be one of the reasons to rush towards privatizing water in the country. The 2007 IPPC report on Climate Change claims that the result of likely climate change will include extreme weather events around the world, including droughts. These extreme weather events are expected to worsen as human activities causing carbon dioxide emissions continue to increase, thereby contributing to global warming and climate change.

Privatization is the process of transferring property from public

ownership to private ownership and sometimes involves transferring the management of a service or activity from the government to the private sector and it is mostly seen in the countries that are moving towards becoming free market economies. The types of privatization possible include complete privatization, privatization of operations, privatization through contracts, franchising and open competition (Richard, 2004).

Privatization of water services has occurred at all levels of government in other countries, including water services, wastewater utilities and waste collection and disposal. The reasons for privatization include cost reduction, risk transfer, a source of revenue, a higher level of service, a need for greater expertise and flexibility. It is argued that the private sector can provide the same services as the public sector but at a lower price, since private contractors are not constrained by the restrictions of the civil service system and public employee collective bargaining agreements. Private contractors might also have greater flexibility in personnel assignments with compensation packages which can increase the efficiency of operations. Privatization can also help governments to transfer the risks of projects to the private sector, which is compensated by the opportunity to keep profits ultimately made.

East Water is the firstprivatizated water company in Thailand;it was established in 1992 as an implementation of the cabinet resolution. The company was created with the Provincial Water Authority (PWA) as the only shareholder. Later, in 1997, it became an example of share issue privatization (Richard, 2004) when the government soldthe shares held by the PWA and transferred the government asset and related responsibility to East Water, which was subsequently listed on the Stock Exchange of Thailand (SET). Currently, the main shareholders are the PWA, the Industrial Estate Authority of Thailand, Electricity Generating Public Co, Ltd. (EGCO Group), as well as some public holdings.

One objective when East Water was first created was to integrate water resources management in the Eastern part of Thailand in order to serve Map Tha Put industrial estate. Map Tha Put is a large industrial estate with an area of some 20,000 rai (1 rai = 1600 m^2) and its major industries include petrochemical, chemical product, iron, metal and refinery facilities. As a consequence, Map Tha Put needs a proper water and environmental management system. However, the area involved suffered from a serious drought in the 1990s which the government could not overcome and so decided to privatize the water supply system so that it could be managed via large pipe system to both Map Tha Put industrial estate and households in the adjacent areas. A Water Grid supply system was created with water supply coming from various reservoirs, namely:Nong-Plalai, DokKrai, KlongYai and Prasae in Rayong province; Nong-Koh and Bang-Pra reservoirs in Chonburi; and Bang Pakong River in Chachensao, in order to supply industrial sectors, households and tourist industries in those three provinces.

Recently, East Water Group's share price has significantly increased in the stock market, which indicates effective management and profits have been made with positive management outcomes. Moreover, it has been easily able to raise funds for further investment and has been able to reach excellent water management with high levels of customer satisfaction. East Water created another subsidiary company in 1998, Universal Utility (UU), which is responsible for providing clean tap water, maintenance and building a reliable water treatment and distribution system, as well as promoting the quality of life for communities in service areas with high accessibility to clean tap water (with WHO standards of drinking water).

There are other instances of water privatization at the local level under provincial and local authorities, for instance in Phuket. Phuket developed a rich city as the result of tin mining and, after that business declined as stocks of tin were depleted, business owners turn the mine pits into reservoirs and soldthe raw (i.e. unprocessed) water to the local authorities to treat and sell back to industries, for domestic use and for the tourist industry. However, such management is not fully effective since the government has always claimed that the problem of water supply in Phuket is that there is an insufficient supply. However, many of Phuket's water users claim that the province does not have sufficient water supply and require the government to look for more water resources from both the local area and adjacent provinces, instead of integrating existing water resources that are spread all over the island. In such a case, privatization might be applied in order to create a pipe water supply system from every reservoir. The East Water Group has indicated that water privatization in Thailand can be successful. However, it should be noted that the success came from corporations among industrial agencies and people in the area of their water supply, as they have experienced a serious drought in the Eastern part of Thailand. This could be applied to Phuket since Phuket is an island and can also gain the same support for water privatization as long as the private company can supply the island with clean and unlimited water supply at a reasonable price. However, East Water is an example of only partial privatization since the government (PWA) is still the majority shareholder. A complete water privatization project should be considered for application at both the national and local levels for more efficient water management. It can also be a constructive way to change people's perceptions from water as apublic goods to water as an economic good. Noticeably, with economic goods, people tend to be more aware of using water and so are more aware of sustainability and environmental concerns.

East Water now consists of two principal divisions, the core business and the wholly-owned subsidiary Universal Utilities. The core business involves supplying raw water to its four groups of customers. To do this, it has four separate pipeline systems totaling 340km in length and comprising the NongPlalai-Dokrai-Map Ta Phut- Sattahip pipeline, the Nong Kho-LaemChabang-Pattaya-Bang Phra pipeline, the NongPlalai-Nong Kho pipeline and the Chachoengsao pipeline system. This network is concentrated in the Eastern Seaboard region, which indicates that the corporation continues to focus on the developmental priorities established by the government, which continue to concentrate on large-scale manufacturing in the industrial estates of the area. Now, 32.8% of raw water is supplied to government-owned industrial estates (managed by the IEAT), 28.5% to private industrial estates and parks, 7.1% to individual factories and businesses and the remaining 31.7% to household consumers. It now has a pumping capacity of 473m^3 per year. East Water has been granted additional access to water supplied from the Dok-krai and NongPlalai reservoirs, which are managed by the Royal Irrigation Department. In Thailand, any organization under royal patronage is, it is widely understood, exempt from public criticism of any sort.

	2010	2011	% change
Raw water – gross profit margin (%)	61.7	65.9	4.2
Tap water – gross profit margin (%)	43.5	43.4	-0.1
Total gross profit margin to total revenue (%)	54.2	57.8	3.6
Net profit margin to total revenue (%)	27.9	30.5	2.6
Return on equity (ROE) (%)	27.2	30.5	2.6
Return on assets (ROA) (%)	9.6	9.8	0.2
Debt to equity ration (%)	0.49	0.55	0.06

Table 2: Key Financial Ratios, source: East Water (2011), p.39.

The tap water business, Universal Utilities, provides tap water on a concession basis granted by the Provincial Water Authority and carious local authorities. These include the NakhonSawan Water Supply Co. Ltd., the Bang Pakong Water Supply Co. Ltd. and the Chachoengsao Water supply Co. Ltd., all of which are wholly-owned subsidiaries. The company also operates the Sattahip, Kholam, Si Chang, Bowin, Samui and Rayong Waterworks facilities, including some conversion of sea water to tap water.

East Water has proven to be successful in raising capital and maintaining high levels of share prices (Global Water Intelligence, 2013). Reports on its management sustainability and CSR activities have all been more than satisfactory. However, risks remain in the operation overall and these are addressed by an Enterprise Risk Management system, in which staff from all departments are encouraged to contribute knowledge and information about potential and actual risks and how they might be managed.

The principal forms of risk assessed by the company are:

- Risk from demand-supply management;
- Risk from adjustment of raw water cost;
- Risk from business operation (e.g. electrical disruption, damage to pipelines, pollution);
- Risk from conflict with the community and
- Risk from policy of the government and related agencies.

Most of these areas of risk refer to issues which are beyond the ability of the company to control

Water Management and Uneven Development

Given the different dimensions that are relevant to a discussion of uneven development, and the competing set of epistemologies involved, it is not surprising that there has been little agreement on how it should be defined on a universal and objective basis. Instead, authors tend to have adopted the approach of drawing together different sets of questions concerned with the specific interests they have in mind at any particular moment (e.g. Hudson, 2007). However, the basic problem remains the same. Why does development (in whatever form it might be defined) vary across geographic space and what can be done, therefore, to remedy the inequalities that this inevitably causes. This is true no matter what the cause of the uneven development might be, whether political, natural, physical or other reason.

Water management is one of the most stark examples of the interaction between resources and uneven development because of its specific location and the essential nature of its existence. People cannot live without water and, to improve their lives, need access to water for agriculture, industry or any other means of development. Governments who withhold water from any part of their territories are condemning people living in that area to misery (as too would corporations who price water too high for people to afford). Yet in conditions of ever rising demand, it is a very complex undertaking to try to apportion water to competing interests with any degree of fairness. While other countries have sought to introduce Integrated Water Resources Management approaches to deal with this issue, the approach has yet to be successful in Thailand because institutions within the country are fragmented and often compete with each other; there is also conflict on a geographical basis and a situation of unpredictable growth in demand at a period when global climate change is making the supply of usable water much less predictable. Above all, perhaps, is the issue of scale: from a scientific-rational perspective, it would be best to manage the water resources of the region at the level of the Mekong River basin; however, this region contains a number of different jurisdictions with states whose interests (for example, hydroelectricity generation and the use of rivers for large-scale merchandise trade) do not always coincide and may directly conflict with each other. In other words, the politics of space, of position and of power all matter in determining the management of water resources (Lebel, Garden & Imamura, 2005).

Since this is the case, the government, which now is committed to rectifications of inequality in the nation, has resorted to the private sector to supply the resources and competencies not available through the public sector or, perhaps, available but not put to the use of government agencies. This approach has been one of managerialism – i.e. a pragmatic approach to achieve certain specific goals which may be increased or decreased in scale on an incremental basis. To date, this has been reasonably successful within the limitations set for such projects and has reduced inequalities through various means which have yet to meet significant resistance. Nevertheless, 'resistance' used as a shield anti-democracy movements can spring up at any time, as it is currently as a means of challenging the flood protection measures necessitated by the response to the 2011 flooding.

Conclusion

Privatisation has a somewhat different meaning in Thailand than in much of the rest of the world. Although it has been associated with the neoliberal 'reforms' visited on the country in the aftermath of the 1997 financial crisis, it has to a considerable extent subsequently shaken off its ideological component and become a political expedient. The principal political struggle of the day no longer takes place at the ballot box or in parliament. This is because

the Bangkok-based elites are unable to win an election and so took the opportunity of the military junta that took control after the 2006 coup to organize a constitution that transferred power to unaccountable and unelected public sector agencies. One result of this is that some public sector agencies will refuse to obey government policies and instructions. To outflank this obstructiveness, the democratically-elected Pheu Thai government has outsourced construction and infrastructure development projects to the private sector, where the performance of partners can be guaranteed by negotiated contracts. Water privatization was an early exemplar of this policy, which has now spread to other areas, not least the significant water management projects introduced as a means of ensuring the economic damage of the great flood of 2011 will not recur. Consequently, profitability can be replaced by the public benefit in setting terms of reference.

More research is, as ever, needed to examine the means by which water management in Thailand and elsewhere in the region can be used in the context of uneven development. This should be approached with the understanding that the situation is fluid and dynamic in nature – new reports suggest that water tables are falling so rapidly around the world that a major global food shortage may be only years away (Vidal, 2013). It would also be helpful to conduct further evaluations of the roles and performance of privatization projects through using the triple bottom line approach that incorporates social and environmental impact assessments.

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