Expansion of the Private Sector in the Shanghai Water Sector

by

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1 Introduction

Although BOT water contracts with standardised process and documents have become commonplace in Shanghai and China, it is still difficult to remove legal and regulatory risks that come from the Chinese customary practice based on negotiation rather than laws and regulations.

The main purpose of this chapter is to answer the question to what extent private sector participation has exerted an influence on Shanghai’s water pollution control policy. Mary Douglas’ grid/group theory and the public and private analysis will be used as an analytical framework to examine the emergence of private enterprises in the Shanghai water sector, particularly since the 1990s. It has been possible to identify Entrepreneurs as well as the Hierarchists (the Shanghai government), the Egalitarians (environmental NGOs), and the Fatalists (Shanghai citizens). This study focuses on the private sphere where private companies in the Shanghai water sector have adapted to new changes resulting from political and economic circumstances. Recent observation and findings based on fieldwork in 2002 disclosed that the Shanghai government has been committed to implementing reforms for water privatisation in the water sector, including the introduction of private investment, for example, in the Shanghai Pudong Vivendi Water Supply Corporation Joint-Venture Project.

Alongside grid/group theory and the analysis of public and private sector interaction, the concept of co-evolution from complexity theory provides a complementary framework to analyse private sector involvement in the Shanghai water sector. Complexity theory explores complex systems and the numerous elements (organisations or institutions) that actively interact in nonlinear modes. In the course of the multi-interactions in such complex systems, elements coevolve according to the state of the internal and external environments. This co-evolutionary process can be exemplified by the way in which a river interacts with the physical landscape. The outcome will be the result of the interactions between the energy of the river

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2 Co-evolutionary approach has been studied considerably by organisation theory researchers. According to them, co-evolution is defined as ‘the joint outcome of managerial intentionality,
and the diverse composition of the physical landscape. The river basin profile will be determined by the energy of the eroding river and the softness and hardness of the terrain which it flows across.

By analogy, such a co-evolutionary approach can assist in the evaluation of the extent to which organisations or institutions in the private sector have an impact on and adapt to new political, economic, and social landscapes into which they are introduced or introduce themselves. For example, they may have to respond to particular needs by enhancing their capabilities, and they will almost always change the institutional context in which the relevant services operate. A co-evolutionary analytical approach helps delineate the extent to which privatisation has worked in the Chinese political economy (a complexity system), which is characterised by a web-like and complicated socialist economy system. The theory helps identify and highlight the conflicts between a private enterprise's approach and the socio-political landscape in Shanghai. For example, water pricing and privatisation would be politically contentious. In brief, the extent to which privatisation has been adopted and been successful in the Shanghai water sector has been conditioned by the nature of the socio-political landscape of China.

In examining the trend of private sector involvement in the Shanghai water sector, it was found that foreign private enterprises, namely Trans National Corporations (TNCs), were spearheading private sector participation although some local private enterprises had won a few water contracts. Such private sector participation, however, is unlikely to continue on a smooth path unless the Shanghai government establishes legal and regulatory frameworks for private sector involvement.

Socio-political and legal uncertainty and risks have pushed private enterprises to adapt to new circumstances in China through 'negotiation'. In addition, it has become usual for private sector organisations to listen to environmental NGOs and Shanghai citizens in order to legitimise their works without provoking public opposition. It is concluded in the study that privatisation in the Shanghai water sector will be an unavoidable process for the rationalisation of water services stimulated by the programme of economic reforms initiated in the late 1970s. However, this process has been, and will continue to be, balanced and bolstered first by the government’s role in regulating privatised water services, secondly by activists in the environmental community, and thirdly by the constant interaction between the private enterprises and those representing consumers’ interests.

The provision of water supply and sewage treatment services in Shanghai was regarded as the
responsibility of the government until the late 1990s. The idea that water is an economic good has still not been widely recognised and accepted in Chinese society. In addition, the firm grip of the government over social services in the communist regime consolidated the state-society duality whereas the growth and involvement of the private sector (the Entrepreneurs) was discouraged. In such circumstances, private sector involvement in the Shanghai water sector had not been noticeable until the early 1990s although the rapidly changing political economy has prevailed over many aspects of society and economy in Shanghai since 1978. The slow but gradual shift of the government’s policy towards water privatisation in Shanghai had developed during the 1990s. The shift in approach began because of chronic problems in water supply and sewage treatment services. Management was inefficient, and skills and facilities were out of date. There was a lack of finance, and raw water sources were polluted.

At the national level, one of the priorities for the reform of water services from the early 1980s was to attract foreign investment, and the statistics show that the total foreign investment in water resources projects in the period between 1982 and 1997 reached over US$ 4 billion. Foreign investment in the China water sector had increasingly been needed since the mid 1990s. The scale of investment in water services in the Ninth Five Year Plan period (1996-2000), estimated at US$ 20-25 billion. In Shanghai, the total investment plan for water projects in the year 2002 was RMB 7.3 billion (US$ 900 million), and the necessary investment for water services during the Tenth Five Year Plan period (2001-2005) is estimated at more than RMB 38 billion (US$ 5 billion). Furthermore, it is projected that the Shanghai water industry market will expand on the scale of US$ 500-600 million in a few years time.

Aware of the high potential of the China and Shanghai water market, water TNCs, such as Vivendi, Suez, and Thames Water, began to enter the water market in China as well as in Shanghai from the 1980s. They have striven to expand their business in water supply and sewage treatment services. The hard drive for economic reforms and development in Shanghai since the early 1990s has provided foreign and domestic private enterprises with favourable circumstances in which they can participate in water supply and sewage treatment services. Some of the recent major achievements by private enterprises were the Vivendi’s Joint Venture with the Shanghai Pudong Water Supply Corporation and the Zhuyuan No. 1 Sewage Treatment Plant by a group of domestic companies in 2002. Even though an array of achievements by private enterprises has been identified, it is still early to be certain that private enterprises will play a major role in the Shanghai water sector and have a permanent place in governmental water policies.

The source of uncertainty occurs because the socialist political economy system in Shanghai still does not provide appropriate legal and regulatory systems. As a result there are unpredictable political, regulatory, and revenue risks. It is also noteworthy that the control and

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command socialist economy system in Shanghai does not seem to have changed fundamentally
given that private enterprises are not allowed to deal with certain water service areas, such as
the water distribution sector according to the 1997 Catalogue for Guiding Foreign Investment in
Industry.\textsuperscript{11} The Shanghai government’s regulatory role in the water sector has become more
important as privatisation proceeds. Such a revitalised position for the Shanghai government
(the Hierarchists) will be reinforced by environmental NGO activists and Shanghai citizens’ (the
Egalitarians and the Fatalists) proactive relationship with private enterprises (the Entrepreneurs).

The general review of the private sector participation in the China water sector will be
introduced in the first section of this chapter. The second section discusses the overview of
private sector participation focusing on foreign and domestic private enterprises’ activities in
China. In the fourth section, private enterprise activities in Shanghai will be discussed
between the mid 1990s and 2002, paying particular attention to water projects already
contracted. The fourth section also analyses the implications of private sector participation in
the Shanghai water sector, including the water sector reform in Shanghai, and challenges to
water privatisation. This section also introduces an analysis of how the different actors (the
Shanghai government, private enterprises, environmental NGOs, Shanghai citizens, and
international development agencies) interacted during the privatisation process. The
understanding of the current stage of private sector participation in Shanghai leads to the
discussion of a possible development path based on previous lessons and challenges.

2 Private Sector Participation

2.1 The Private Sector in the Chinese context

The dichotomy between the private and the public sector in contemporary China does not
appear to make sense, since the socialist political economy had taken control over every field of
society since 1949 including the business sector through government ownership of all kinds of
State Owned Enterprises (SOEs). The first breakthrough in the development of the private
sector in China occurred in the late 1970s in accordance with the launch of economic reform,
and private sector involvement in public utility services could be identified from the 1980s. In
the Chinese context, the private sector can be narrowly defined as the sector composed of
‘domestically owned private and household enterprises, not including enterprises owned by
foreigners and those owned by overseas Chinese from Hong Kong and Taiwan’.\textsuperscript{12} In a broader
sense, the official definition of the private sector is defined as ‘private enterprises that refer to
economic organisations that aim at making profit and in which assets are privately owned and
there are eight or more employees’.\textsuperscript{13} A privately owned enterprise that employs less than
eight people can then be classified as household or joint-household enterprise. In this chapter,
the private sector means the inclusion of Chinese and foreign private water enterprises, because
water Trans National Corporations (TNCs) are currently more influential and powerful players
than Chinese private enterprises in the Shanghai water sector although the number of water
TNCs is small.

\textsuperscript{11} Donoghue et.al. (1999), p84.
\textsuperscript{12} Sun, Laixing (1999), ‘The Dynamics of the Private Sector’, Laixing Sun, Edward X. Gu, and Robert J.
McIntyer, \textit{The Evolutionary Dynamics of China’s Small- and Medium-Sized Enterprises in the 1990s},
Helsinki: The United Nations University, World Institute for Development Economics Research, p75.
This definition is quoted from the State Council of China (1988), ‘Provisional Regulations of Private
\textsuperscript{13} Sun, Laixing (1999), p75.
The concept of private sector participation can be found in the definition of privatisation. According to the World Bank, privatisation’s scope varies from ‘leaving the provision of goods and services entirely to the free operation of the market’ to ‘public-private partnership’ in which government and the private sector cooperate to provide services or infrastructure’. More specifically, privatisation can include the following activities: 1) private enterprises’ involvement in the areas where government has previously monopolised; 2) contracts where private enterprises manage public services or facilities; 3) private enterprises’ participation in financing public sector programmes via the capital market; and 4) the divestiture of state-owned enterprises through the transfer of the responsibility in public services from the public to the private sector. Except for the full divestiture of state-owned enterprises, the Chinese experiences of private sector participation in the water sector fit the range of activities described in the privatisation activities defined above.

The Shanghai government approached water TNCs in the 1990s, such as Vivendi, Suez, and Thames Water to contribute to the upgrading of water supply and sewage treatment. These water TNCs have developed to become influential in the international arena. Fingers and Allouche (2002) argue that the strong position of water TNCs in the international water market derives from their cooperative relations with the World Bank. The World Bank has pushed forward two main policies in the water sector: 1) reforms in infrastructure in relation to the process of deregulation and privatisation; and 2) environmental concerns related to water stress. They also contend that water TNCs’ abundant experience in different countries and advanced know-how have led to the establishment of economic and political capacity that can play a part in policy making and the implementation of development strategies of the World Bank. Shanghai is one of the showcases in which a number of water contracts funded by the World Bank have been implemented through private enterprises. For instance, the UK consultant, Mott MacDonald, have been involved in such water projects over the past two decades. These water TNCs have made successful bids for water projects in Shanghai and will expand their business in the coming years.

Compared with water TNCs, domestic private enterprises dedicated to the water industry in Shanghai have not won many water project contracts. One factor that has prevented the development of domestic private enterprise in the water industry is the fuzzy relationship with governmental bureaux that used to own the enterprises. Also the long controlled management style of domestic private enterprises, relying on subsidies, deters more profit-oriented corporate activities. The local private enterprises have been engaged in a large number of water management facilities via subcontracts for water TNCs. Equipped with such experience and know-how, these enterprises began to emerge as principal contractors in the Shanghai water sector. One of the most recent achievements by domestic private enterprises was the Youlian Consortium’s winning of the BOT contract with the Shanghai government in the Zhuyuan No. 1 Sewage Treatment Plant in June 2002.

2.2 Determinants for Private Sector Participation in China

There are a number of factors that stimulate the involvement of private enterprises in the Shanghai water sector. These factors can be conceptualised as first, the legal context, secondly, the administrative context, and thirdly, the structure of water tariffs. The discussion of the legal framework focuses on national laws, such as the PRC Water Law (1988 and amended in

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2002), and the PRC Water Pollution Prevention Law (1984 and amended in 1996). In addition, there are numerous laws and regulations associated with private sector involvement in the water industry in China (see Table 1). The PRC Water Law and the PRC Water Pollution Prevention Law, for instance, indirectly encourage private sector involvement by promoting the protection of water resources. Although these laws and regulations relate to private sector involvement in Shanghai, none of them specifies any guidelines for foreign investment in the water industry.

Table 1: Laws and Regulations related to Private Sector Participation in the Chinese Water Sector

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>The Certain Matters Relating to Project Financing by Domestic Institutions Notice</td>
</tr>
<tr>
<td>1995</td>
<td>The Several Issues Concerning the Examination, Approval &amp; Administration of Experimental Foreign Invested Concession Projects Circular (the BOT Circular)</td>
</tr>
<tr>
<td>1995</td>
<td>The PRC Security Law</td>
</tr>
<tr>
<td>1997</td>
<td>The Catalogue for Guiding Foreign Investment in Industry</td>
</tr>
<tr>
<td>1997</td>
<td>The Administration of Project Financing Conducted Outside China’s Tentative Procedures (The Interim Procedures)</td>
</tr>
<tr>
<td>1998</td>
<td>The Administration of Borrowing International Commercial Loans by Domestic Organisations Procedures</td>
</tr>
<tr>
<td>1999</td>
<td>The PRC Contract Law</td>
</tr>
</tbody>
</table>


The Shanghai government’s private sector administrative structure looks simple but in reality encompasses a complex system dominated by internal politics. The continuous administrative reforms in the Shanghai government influenced the water sector and led to the setting-up of the Shanghai Water Authority (SWA) in May 2000. With the integration of different governmental bureaux associated with water services, the SWA oversees the operation of the city’s water and sewerage services to which private water enterprises pay special attention. The SWA’s efforts towards private sector participation, however, can be interrupted by the fragmented structure of the central administration in Beijing. Although the SWA’s administrative position falls under the Ministry of Water Resources, the State Planning and Development Commission (SPDC) takes responsibility for assessing projects involving an investment of over US$ 30 million as well as setting guidelines for water prices.\(^\text{17}\) The Ministry of Construction deals with water projects in urban areas,\(^\text{18}\) and in this part of the bureaucratic hierarchy, the Shanghai Construction Bureau is responsible for the construction of water projects and water distribution. Regarding the amelioration of water pollution, the State Environmental Protection Administration (SEPA) is involved. The Shanghai Environmental Protection Bureau (SEPB) implements various water pollution control policies together with the SWA. Such complicated mechanisms in water resource management often discourage private enterprises from participating more aggressively in water projects in Shanghai as well as in China.

The issue of deciding water tariffs is crucial to private enterprises, because this is one of the main instruments for the realisation of profits for these businesses. In China, water is priced

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\(^\text{17}\) However, these tasks are not conducted by the SDPC any more, because the reform in early 2003 included the dismantlement of the SDPC and set up new ministries.

depending upon the type of customers, such as farmers, residents, and industrial users, the three main consumer groups. Even though the SDPC fundamentally influences water pricing at the national level, the constant decentralisation process since the late 1970s allows local governments to set water prices in accordance with local conditions.\(^{19}\) This suggests that private enterprises involved in any water supply project have to negotiate with the Shanghai government about water prices on every occasion. For private companies, such an unpredictable and risky situation destabilises this type of business in Shanghai.\(^{20}\)

The way the private sector relates to state bodies, on the other hand, is an expression of the Chinese political culture of deference to hierarchy. Local governments follow the central government’s basic guidelines diffused through the political and administrative hierarchy. But implementation principles as well as practice in localities have been different depending upon the local negotiations between local government agencies and private enterprises. Accordingly privatisation in China’s divergent regions has emphasised different features of the privatisation approach. Shanghai has implemented privatisation in water services via a number of negotiations which confirms a deference to hierarchy.

The rapid pace of privatisation in Shanghai since the late 1990s has been possible because of the way water TNCs have introduced direct investment into water service facilities in ways which accord with the norms set out by the Shanghai authorities. The Da Chang plant conducted by Thames Water in 1995 earmarked the first privately invested drinking water treatment plant in Shanghai, and more private sector involvement has been identifiable from joint venture projects by Suez in 2001 and 2002 and the Vivendi’s unprecedented equity share contract with the Shanghai Pudong Water Supply Corporation in 2002. These projects illustrate the way the Shanghai government has integrated and controlled the privatisation of its water services. The Shanghai government has continued to play the dominant role of the state in the provision and improvement of water supply, disposal, and treatment. However, the contracts with private enterprises demonstrate that the government is increasingly open to various forms of negotiations according to the circumstances of the local political economy and has been ready to accommodate collaborative partnerships with local and international private sector enterprises.

2.3 Various Types of Private Sector Participation in China

There are a number of privatisation options (See Table 2). Among the options, the most frequently adopted one in China is the Joint Venture (JOINT VENTURE). For example, the Suez Group entered the Chinese water market for the first time in the mid 1970s and has established more than a dozen joint ventures in cooperation with the New World Development Co. Ltd based in Hong Kong to rehabilitate and expand water treatment works.\(^{21}\) The Build-Operate-Transfer (BOT) option has been spotlighted in China from the middle of the 1990s because the public sector can transfer risks to the private sector and reduce public debt.\(^{22}\) The first BOT based water supply project in China was the Chengdu Water Supply Project launched in 1998.\(^{23}\) The Da Chang Project by Thames Water (RWE) awarded in 1995 was the first BOT water treatment project in Shanghai.\(^{24}\)

\(^{19}\) Donoghue et.al. (1999), p85.
\(^{20}\) Donoghue et.al. (1999), p85.
\(^{24}\) Owen (2002), and British Water Project Profile’s website: Thames Water Da Chang Project.
Table 2: Options for Private Sector Participation and Responsibility

<table>
<thead>
<tr>
<th>Option</th>
<th>Asset ownership</th>
<th>Operations &amp; Maintenance</th>
<th>Capital investment</th>
<th>Commercial risk</th>
<th>Usual duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service contract</td>
<td>Public</td>
<td>Public &amp; private</td>
<td>Public</td>
<td>Public</td>
<td>1-2 years</td>
</tr>
<tr>
<td>Management contract</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Public</td>
<td>3-5 years</td>
</tr>
<tr>
<td>Lease</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Shared</td>
<td>8-15 years</td>
</tr>
<tr>
<td>BOT</td>
<td>Private</td>
<td>Private</td>
<td>Private</td>
<td>Private</td>
<td>20-30 years</td>
</tr>
<tr>
<td>Concession</td>
<td>Public</td>
<td>Private</td>
<td>Private</td>
<td>Private</td>
<td>25-30 years</td>
</tr>
<tr>
<td>Joint Venture</td>
<td>Joint corporate</td>
<td>Joint corporate</td>
<td>Joint corporate</td>
<td>Joint Corporate</td>
<td>Indefinite</td>
</tr>
<tr>
<td>Divestiture</td>
<td>Private</td>
<td>Private</td>
<td>Private</td>
<td>Private</td>
<td>Indefinite</td>
</tr>
</tbody>
</table>


On the basis of this general understanding of private sector participation in the Chinese context, the next section explores the main players in private sector participation in China and Shanghai with particular reference to the activities of water TNCs. Amongst a few influential water TNCs in the Chinese water market, Suez and Vivendi Group have firmly established their positions in water supply and sewage treatment services in diverse regions in China. The Vivendi’s Pudong Shanghai Joint Venture contract in 2002 will be thoroughly evaluated and discussed. The recent prominent achievements by Chinese private enterprises in water services are also discussed, particularly the Zhuyuan No. 1 Sewage Treatment Plant by the Youlian Consortium in 2002.

3 Overview of Private Sector Participation in the China and Shanghai Water Sector

3.1 Major Water TNCs and Chinese Private Enterprises: Achievements

The urgent need for private sector participation in the China water sector has been discussed in numerous news articles and research reports inside and outside China. The Chinese Academy of Science predicts that freshwater consumption for domestic and industrial uses in China will be expected to rise by 60 percent over the fifty years, up to 800 billion m$^3$/year, and the current water supply capacity should be increased by 25 percent by 2010.\(^{25}\) In addition to such huge potential for investment in the water supply sector, the sewage treatment sector has been recognised as a high potential business field by private enterprises. The Chinese government has poured large investments into sewage treatment, which culminated in the investment of approximately US$ 25 billion in the sewage treatment sector during the Ninth Five Year Plan (1996-2000).\(^{26}\) China’s winning of the 2008 Olympic Games has also driven the central government to push forward its sewage treatment schemes, and therefore, the Ministry of Construction has drawn up a blueprint that all cities in China should establish sewage treatment

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Available Online: [http://www.projectprofiles.co.uk/thames-project_shanghai.htm](http://www.projectprofiles.co.uk/thames-project_shanghai.htm)


26 Horton (2000).
facilities that can deal with 45 percent of sewage by 2005 and 60 percent by 2010.27

**Major Water TNCs**

Aware of these business opportunities, water TNCs, such as Suez, Vivendi, Bouygues (SAUR), Thames Water, and Anglian Water have scrambled to join the Chinese water market since the 1980s, however, their active participation in water supply and sewage treatment services began to take place in the 1990s. Equipped with international experience and advanced know-how and technologies, these water TNCs have surpassed their Chinese counterparts that do not have competitive cutting-edge technologies and advanced management skills. Through a series of international conferences and workshops, the water TNCs in China have researched the water sector and have decided to concentrate on the water supply and sewage treatment sector.28

Among these water TNCs in China, the Suez Group is the leading water TNC in terms of the number of water contracts won and the population the group serves. In China, Ondeo Degremont, an engineering subsidiary of the Suez Group began to enter the market in 1975 and has so far commissioned more than hundred water and sewage treatment construction contracts. Such a business record implies that the Suez Group takes responsibility of about 10 percent of China’s water and sewage treatment facilities. The unique stance of the Suez Group in the China water sector can be found in its cautious strategy to do business in China in collaboration with the New World Development Co. Ltd based in Hong Kong.29 With the strategy of entering the Chinese market with a guide (New World Development), Suez has set up seventeen Joint Ventures (JOINT VENTUREs) in many parts of China and provided water services to around thirteen million customers in China.30 In the JOINT VENTUREs, Suez’s partners have always been local municipal water authorities. This strategy has been regarded as ‘the best insurance to avoid legal, regulatory, and political risks.’31 The Suez Group’s territorial influence now reaches Shanghai, and it built two JOINT VENTUREs in the Pudong New Development Zone in the years of 2001 and 2002.32

Another globally competent water TNC is the Vivendi Group (Vivendi Environment). Although Vivendi entered the Chinese water market in the early 1980s through OTV (subsidiary),33 it was in the late 1990s that Vivendi began to stabilise its strong position in China by establishing its Chinese office in Beijing34 and winning the contract for the Chengdu BOT Water Supply Project in 1998. The Chengdu Project has drawn much attention, because

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29 Owen (2002).
it was the first BOT based water supply project in China with the total investment of US$ 106.5 million. Vivendi participated in the Chengdu Project by setting up a joint venture with Japan’s Marubeni. Considering its late entry to the Chinese water market, the current record of Vivendi is impressive. As of 2002, Vivendi was providing water services to around eight and half million customers in China and implementing water projects in Shanghai, Chengdu, and Tianjin. Vivendi’s success in winning the contract for a joint venture with the Shanghai Pudong Water Supply Corporation will be discussed in more detail later in this chapter.

In addition to these powerful water TNCs in China, there are a few foreign players from France, Germany, and UK. Their influence, however, is not as significant as the Suez and Vivendi’s. Bouygues (SAUR) is another leading French water TNC active in the Chinese water market. It first entered the market by signing a contract with the Harbin municipality to construct a sewage treatment plant. The Harbin project is now serving a total population of 2.8 million. One of the most successful cases was the BOT contract with the Shanghai government in Da Chang to provide water treatment services in 1995. The RWE Group acquired 48.8 percent of the China Water Company through Thames Water and is aggressively expanding its business territories throughout China, covering Shenyang, Shaoxing, Taixing, and Changchun, and serving about four million customers. The RWE Group, which is now part of the German RWE Group, penetrated the Chinese water market in 1989. One of the most successful cases was the BOT contract with the Shanghai government in Da Chang to provide water treatment services in 1995. The RWE Group acquired 48.8 percent of the China Water Company through Thames Water and is aggressively expanding its business territories throughout China, covering Shenyang, Shaoxing, Taixing, and Changchun, and serving about four million customers. With the UK’s water privatisation experience, Anglian Water Group (AWG) has also sought to take a slice of the big pie of the Chinese water market. The AWG has been active in managing around thirty water service projects in China. The most recent AWG projects were the water treatment joint venture contract (operation) in Hexian, Anhui Province in 2000, the Beijing water treatment BOT project in 2001, and the water provision contract (operation and management) in Tiazhou, Jingsu Province in 2002.

**Chinese Private Enterprises**

*Masons Water Yearbook 2002-2003* refers to a number of Chinese water private enterprises. Although it is difficult to define them as privately owned enterprises free from any relationship with governmental bureaux and agencies, they are gradually becoming major competitors with water TNCs in China. It is observed that in order to meet local water service needs, numerous local municipalities have established their subsidiary water companies, and some of them have begun to be partially privatised. Exemplary enterprises are the Beijing Sound Environmental Industry Group, Shanghai Liangqiao Tap Water Corporation, Shanghai Municipal Raw Water Corporation, Shenyang Public Utilities, and Wuhan Shanzheng Industry Holding, to name a

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36 For more detailed information about water TNCs in China and Chinese private water enterprises, refer to Owen (2002).
37 Owen (2002).
38 *Thames Water Website on China.* Available Online: [http://www.thames-water.com/TW/division/en_gb/content/general](http://www.thames-water.com/TW/division/en_gb/content/general).
39 Owen (2002), and *Thames Water Da Chang Project.* Available Online: [http://www.projectprofiles.co.uk/thames-project_shanghai.htm](http://www.projectprofiles.co.uk/thames-project_shanghai.htm).
41 Owen (2002).
43 Owen (2002).
Among them, Beijing Sound Environmental Industry Group (Sound Group)’s recent performance deserves attention. In 2001, the Sound Group signed agreements in Beijing with eleven local representatives to build sewage treatment plants, including Shanghai, Qinghai Province, and Hubei Province. These large scale projects will require about US$ 240 million in total, and the company will have a responsibility to implement project financing and constructing plants via the form of BOT. Another notable achievement by Chinese private enterprises is the Shanghai Zhuyuan No.1 Sewage Treatment Project contract by Youlian Enterprise Development Company with two other domestic investment companies.

The discussion of achievements by TNCs and Chinese private enterprises in the China water sector indicates strong evidence of the contribution of the private sector. The reform drive since the late 1970s has started to change the landscape of the political economy in China, and the water sector in China has needed cutting-edge technology as well as investment from abroad. These factors attracted the water TNCs’ to the China water market with the proliferation of water TNCs in many parts of China. The processes of the reforms have also allowed Chinese private companies to grow, and their competitiveness has been improved over the past decades. These international and national entrepreneurs have been beneficiaries of the reform policy and at the same time, have influenced national water policies, for instance, by advocating rational water pricing and tariffs.

It is argued that such interactions between the private sector and the public sector imply a co-evolutionary process. The co-evolutionary process enables numerous actors in China to interact in the rapidly changing economic reform era albeit with unpredictable outcomes. Private institutions have adapted to new circumstances and at the same time have been proactive by influencing the surrounding environments. The landscape of political economy of the China water sector has co-evolved through the continuous interaction between international and national private enterprises and governmental agencies. The new and expanded form of private sector participation in the Shanghai water market, has been, and will be the outcome of continuous negotiation between the actors, operating in the private sector and in governmental agencies. The professionals working in these two sectors – ways of life – are differently inspired. The way these different inspirations have been accommodated in the Shanghai water sector, via complex adaptive processes, augurs well for the economy as well.

3.2 Private Sector Participation in the Shanghai Water Sector: a closer look at privatisation

The previous section has discussed various water projects performed by water TNCs and Chinese private enterprises at the national level. This section examines water service projects in Shanghai by water TNCs and Chinese private enterprise ventures. The seeds of private sector participation in Shanghai were planted in the 1990s when Mott MacDonald, a British engineering company, began to take part in the World Bank’s Shanghai Sewerage Project Phase II and Shanghai Environment Project in collaboration with some European consulting firms.

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44 Owen (2002).
Since then, two leading French water TNCs, Vivendi and Suez, have endeavoured to take advantage of the trend towards the privatisation in water supply and sewage treatment services in Shanghai.

There are some Chinese private enterprises that managed to win large-scale sewage treatment plants in the Shanghai municipality in the years of 2001 and 2002. The analysis of the performance of these enterprises in Shanghai will assist understanding the extent to which there has been a reshaping of the political economy of China towards the neo-liberal mode exemplified by the four ways of life identified by Douglas. Clearly the private sector approach is being adopted for the expansion of Chinese water services. The evolving interface between the international private sector and the Chinese government is shaped by the public and private relationship of Chinese society and politics.

**Mott MacDonald**

As discussed before, the World Bank has initiated and advocated the privatisation of infrastructure development in developing countries over the past decades, and China was one of the biggest recipients of World Bank loans for the water sector development. Shanghai’s first large scale water service project in cooperation with the World Bank was the Shanghai Sewerage Treatment Phase II Project (1995-1999). One of the major contractors, Mott MacDonald, took part in the project together with some European consulting companies. Mott MacDonald also became a major contractor in the Shanghai Environment Project (1995-2001), whose main purpose was to move the water supply intake points upstream of the Huangpu River, Da Qiao area. Even though Mott MacDonald contributed to these projects as a consultant with the Shanghai government under the World Bank’s loans, it can be argued that the company had established a sound platform for foreign private enterprises to undertake other water projects in Shanghai. It is also asserted that Mott MacDonald’s entry to the Shanghai water market was possible because the World Bank has advocated privatisation of public facilities in Shanghai through loans to the Shanghai government. For the Shanghai government, the experience of more advanced technology and management skills gained from these projects have driven governmental officials to consider extending invitations to more water TNCs.

**Thames Water**

The earliest private sector participation project in Shanghai was the Da Chang BOT water project by the Thames Water and Bovis consortium that commenced in 1995. The goal of the project was to build and manage a water treatment plant in Da Chang, Shanghai, with an operation period of twenty years. The capacity of the water treatment plant is 400,000 m$^3$/d (peak: 520,000 m$^3$/d), and the total investment is US$ 78 million. The water supply service began for two million customers in late 1997, and Degrement (the Suez Group) was upgrading a second water treatment plant in 2003. The Da Chang water project is regarded as a

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47 Neo-liberalism largely means a set of economic policies that have prevailed over the last twenty-five years. The main points are: 1) the rule of the market; 2) cutting public expenditure for social services; 3) deregulation; 4) privatisation; and 5) eliminating the concept of ‘public good’ or ‘community’. Martinez, Elizabeth and Garcia, Arnolodo (2000), ‘What is Neo-Liberalism: a Brief Definition’, 26 February 2000, Global Exchange Website. Available Online: [http://www.globalexchange.org/economy/econ101/neoliberalDefined.html](http://www.globalexchange.org/economy/econ101/neoliberalDefined.html)

48 The primary purpose of the project was to enhance its capacity of abating wastewater pollution by extending the wastewater pollution measures combined with the Shanghai Sewerage Project Phase I. In early 2002, Thames water became the sole owner and operator of the water treatment plant by buying the full shares of its joint venture partner, Bovis. Owen (2002), and Thames Water Da Chang Project. Available Online: [http://www.projectprofiles.co.uk/thames-project_shanghai.htm](http://www.projectprofiles.co.uk/thames-project_shanghai.htm) See also Wang
successful case in terms of limiting financial risks at the municipal level without any of the central government's symbolic support letters or guarantees. This was possible because Thames Water was confident of the political and economic stability and strength of the Shanghai government coupled with the favourable economic conditions for China’s infrastructure projects in 1996.51

In May 2003, the Ministry of Science and Technology decided to entrust the Shanghai Shibei Water Consortium with the US$ 9 million National Research and Development Contract. Thames Water had contributed to the success of the Consortium's bid as one of the core member companies. The main purpose of this three-year pilot project is to research and develop technologies to enhance drinking water quality in the southern part of China, with a special focus on Shanghai, and to reduce pollution loads around the Tai Lake. Although the contract is not a joint venture, nor construction concession, nor a BOT based water service project, it may provide Thames Water with a springboard to raise its market share in the highly competitive Shanghai water sector.52

**Suez**

Compared with impressive achievements in other cities and provinces in China, the Suez Group's activities in Shanghai had been negligible until 2000. Since 2000, the Suez Group has entered the Shanghai water market more aggressively. In July 2001, Ondeo in the Suez Group won a contract for the management of water services in the Shanghai Pudong Spark Industrial Zone over a thirty-year period.53 More extensive activities of Suez in the Shanghai water market were visible in the year of 2002. In March 2002, Sino French Water Development, a subsidiary of Ondeo and the Hong Kong based New World Group, set up a Joint Venture with the Shanghai Chemical Industrial Park on the same site to provide an industrial sewage treatment service. The duration of the contract is fifty years, and the total investment will be more than US$ 54 million for the treatment of sewage volume of 50,000 m3/d. Ondeo is in charge of designing, financing, and managing water treatment installations and services.54 Another successful contribution by Suez in Shanghai was the reconstruction project of the Nanshi and Yangshupu drinking water treatment plants signed in May 2002. The project cost is estimated at US$ 31.2 million and the total capacity of two plants is 860,000 m3/d. On the technical side, the plants will be equipped with more advanced technology in order to provide better drinking water in Shanghai.55

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52 Donoghue et.al. (1999), p86.
It is plausible to maintain that the Suez Group’s fast expansion in Shanghai may lead to the creation of competition among water TNCs, such as Vivendi, Thames Water, and Anglian Water, providing favourable conditions for the Shanghai government to take advantage of their competition. This trend is related to the argument that the Shanghai government has stronger bargaining power than other municipalities and provinces to attract and compete with TNCs thanks to its natural, political, and economic assets and potential.\(^56\) It is contended that Shanghai’s stronger bargaining power may place the Shanghai government in a good position to attract water TNCs for investment and to negotiate favourable regulatory measures and water tariffs with them for water service projects. This may also bring about the offset of risks and implications of privatisation, such as extreme profit-seeking and ‘cream-skimming’\(^57\) against the poor. Such a potential tension between water TNCs and the Shanghai government indicates that there is currently a vital phase of adaptive evolution taking place in the private sector. There is a particularly dynamic period of interaction between the private and public spheres. In this vibrant domain, a number of actors have endeavoured to influence and change the institutional context in ways predicted by co-evolutionary processes. The adaptive system of checks-and-balances between the private and public spheres in Shanghai implies the development of a new political economy landscape through co-evolution unprecedented in China for over half a century.

**Vivendi**

The Vivendi’s joint venture with the Shanghai Pudong Water Supply Corporation was a striking development during fieldwork in Shanghai in 2002. It had been commonplace to see various types of joint ventures in Shanghai as well as other areas in China, such as the Suez Group’s joint ventures to provide water services in the Shanghai Spark Development Zone. However, Vivendi’s acquisition of a fifty percent share of the Shanghai Pudong Water Supply Corporation was unprecedented and regarded as a genuine breakthrough for foreign private enterprises to take part in the entire waterworks process, from water processing to water distribution, in Shanghai as well as in China. Vivendi was selected as the winner of the international bidding for the contract. The contract period is fifty years, and Vivendi agreed to invest around US$ 311 million.\(^58\) The Sino-French Joint Venture is scheduled to make, distribute, and sell running water for domestic use. The service area by the new Joint Venture covers 319 sq.km and about 550,000 customers whose average daily drinking water consumption is estimated at 1.2 million m\(^3\)/d.\(^59\) The increase in water sales is expected to be up to three percent per annum, and Vivendi plans to enhance water quality with its advanced technology and know-how.

In addition to the first foreign private enterprise’s involvement in the entire water service

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\(^57\) This practice means that private enterprises often tend to skim off the most lucrative or potentially most interesting business, whereas leaving all non-lucrative operations to government, local authorities, NGOs, and communities in some poor areas. Fingers and Allouche (2002), p180.


process and acquisition of state-owned water supply corporation’s shares, the importance of this project lies in the fact that Vivendi will be able to contact Chinese customers directly for the first time as a foreign private water enterprise. For customer service, the Joint Venture Company will establish customer call centres as well as make and distribute water customer handbooks. The direct contact with Chinese water consumers by foreign private enterprises has in the past been banned in accordance with the Catalogue for Guiding Foreign Investment in Industry in 1997. The flexibility of the interpretation of laws and regulations by local authorities may allow Vivendi to provide customer services through its direct contact with Shanghai customers. As a profit-seeking private enterprise, Vivendi seems to be happy about this new breakthrough, because water prices and distribution systems will be more transparent. This may enable Vivendi to realise more profit through price negotiation. However, it is expected that Vivendi will be involved in painstaking and long-term negotiations with the Shanghai government about water prices. With regard to some concern about higher water prices due to privatisation, the Shanghai authorities have reiterated their policy of maintaining the unitary water price system throughout the Shanghai municipality areas.

The ramifications of the Vivendi’s contract in Pudong are evidence of the dynamic co-evolutionary processes in which divergent actors (joint venture partners, Shanghai government agencies, and other equipment/supply companies involved) have been and are interacting in order to shape environments favourable to their own interest. Vivendi has endeavoured to lobby for the rationalisation of water prices, and the Shanghai government has been defensive in keeping water prices low faced by the through-going political and social pressures established by the socialist egalitarianism of the Communist state since 1949. There have been no particular patterns or rules on how these actors influence each other and what the outcome would be. However, the final version of the new political economy landscape is the one formed on the basis of co-evolutionary processes rather than zero-sum game assumptions.

**Chinese Private Enterprises: Youlian Consortium and Sound Group**

One of the most frequently quoted projects in the media during the summer of 2002 was the Zhuyuan No. 1 Sewage Treatment Project. The contract winner was a consortium (Youlian Consortium) consisting of three Chinese private enterprises, namely, Youlian Enterprise Development Company, Huajin Information Industry Investment Company, and the Shanghai Construction and Engineering Group. The Youlian Consortium agreed to invest RMB 870 million (US$ 110 million) for the next twenty years, and the contract is based on the BOT scheme. The sewage treatment capacity is expected to reach 1.7 million m$^3$/d. The capacity of the Zhuyuan sewage treatment plant is the biggest of all the sewage treatment plants in China except for that of a plant in Hong Kong. The Zhuyuan plant is one of the subprojects in the Shanghai Sewerage Project Phase III, which has been underway since 2001. It is reported that the Youlian consortium’s bidding costs for sewage treatment were much lower than the current market cost, which illustrates the potential of the lucrative sewage treatment market in Shanghai. Jin Zhigang, chief engineer of Youlian Enterprise Development Company,
presented his optimistic view that the Youlian Consortium would be able to start payback in the thirteenth year of the project during the twenty year contract period.65

The Beijing Sound Environment Industry Group (Sound Group) is another Chinese private enterprise that is expected to expand its influence in the Shanghai water market. The Sound Group is an engineering company specialising in water and sewage treatment facilities. The Group’s entry to Shanghai was in June 2001 when the Sound Group agreed to build sewage treatment plants in eleven Chinese cities, including Jinshan District in Shanghai.66 Each of the eleven sewage treatment plants will have the capacity of more than 1.7 million m$^3$/d, which will be equal to that in the Zhuyuan No. 1 sewage treatment plant. The contracts were made on the basis of a BOT scheme, and the total investment for all the plants will be around RMB 2 billion (US$ 240 million) during the twenty-five year concession period.67 Considering its financial and engineering capacity confirmed from the case of its simultaneous eleven contracts, it will be interesting to observe if the Sound Group can grow to be one of the major competitors with water TNCs.

The next section introduces a discussion of the implications of private sector participation in Shanghai water policy. The reform of public water services is addressed, and then socio-political and economic challenges and multi-faced aspects of privatisation confronting the numerous stakeholders are also discussed. With the advent of the fast mode of privatisation, since 2001, the Shanghai government was determined to spearhead water sector reform. At the same time, private enterprises vigorously pressured the government to rearrange organisations and regulations in favour of privatisation. The intense conflicts between different actors have accelerated the creation of a new institutional context. An insight into the socio-political and economic risks which private enterprises have faced reveals that the risks function as bargaining instruments with which the Shanghai government have been able to utilise. Such a government stronghold has, however, been weakened by the constant attempts by private enterprises to change the institutional context in favour of themselves. Meanwhile, there has been the entry of new actors in the water market, environmental NGOs and Shanghai citizens. Privatisation of the water sector in Shanghai confronts a very complicated situation with complicated multilateral discursive activity. These complex interactions reflect a co-evolutionary process that has evolved into a new socio-political and economic system.

Initially there will be a discussion of the background of what has pushed the Shanghai government to pay attention to private sector participation in the provision of water services. The second discussion explores challenges to private sector participation, often found in the form of various risks for private water enterprises. The Shanghai government will, however, be shown to have favoured private sector participation. Lastly, the alliances between the private and public sectors coupled with environmental NGOs in the Shanghai context will be explored. These interactive relations between the public and private spheres were possible because of the relatively benign circumstances that obtained where private enterprises and the Shanghai government could co-evolve. Both the Chinese institutions and the private sector bodies had to change their approaches to enable the goals of water policy to be achieved.

67 Owen (2002).
### Table 3. Water Projects by Private Enterprises in Shanghai Since the 1990s

<table>
<thead>
<tr>
<th>TNC/Chinese</th>
<th>Name</th>
<th>PJT Name</th>
<th>Contract Type</th>
<th>Cost (US$ Mil)</th>
<th>Concession Period</th>
<th>Capacity (m³/d)</th>
<th>Partner/Client</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mott MacDonald</td>
<td>Shanghai Sewerage Project II</td>
<td>World Bank Loan</td>
<td></td>
<td>1995-1999</td>
<td></td>
<td></td>
<td>Shanghai Government</td>
</tr>
<tr>
<td></td>
<td>Shanghai Environment Project</td>
<td>World Bank Loan</td>
<td></td>
<td>1995-2001</td>
<td></td>
<td></td>
<td>Shanghai Government</td>
</tr>
<tr>
<td>Thames Water</td>
<td>Da Chang Water Treatment</td>
<td>BOT</td>
<td>78</td>
<td>20 years from 1996</td>
<td>400,000 (peak 520,000)</td>
<td>Shanghai Waterworks Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>National Research &amp; Development (Drinking Water)</td>
<td>Technical Guidance and Advice Service (Consortium)</td>
<td>9</td>
<td>2003 -</td>
<td></td>
<td></td>
<td>Ministry of Science &amp; Technology</td>
</tr>
<tr>
<td>TNC</td>
<td>Pudong Spark Industrial Zone Water Supply Services</td>
<td>Joint Venture</td>
<td></td>
<td>30 years from 2001</td>
<td></td>
<td></td>
<td>Shanghai Government</td>
</tr>
<tr>
<td>Suez (Ondeo)</td>
<td>Pudong Spark Industrial Zone Industrial Sewage Treatment</td>
<td>Joint Venture</td>
<td>54</td>
<td>50 years from 2002</td>
<td>50,000</td>
<td></td>
<td>Shanghai Chemical Industrial Park</td>
</tr>
<tr>
<td></td>
<td>Reconstruction of the Nanshi and the Yangshupu Water Treatment Plants</td>
<td>Reconstruct</td>
<td>31</td>
<td>2002 -</td>
<td>860,000 (combined capacity)</td>
<td></td>
<td>Shanghai Shinan and Shibei Water Supply Company</td>
</tr>
<tr>
<td>Vivendi</td>
<td>Shanghai Pudong Vivendi Water Supply Corporation</td>
<td>Joint Venture (Purchase of a 50% share of the Chinese counterpart)</td>
<td>311</td>
<td>50 years from 2002</td>
<td></td>
<td></td>
<td>Shanghai Pudong Water Supply Corporation</td>
</tr>
<tr>
<td>Chinese</td>
<td>Youlian Consortium</td>
<td>Zhuyuan No.1 Sewage Treatment Plant</td>
<td>BOT</td>
<td>20 years from 2002</td>
<td>1.7 million</td>
<td></td>
<td>Shanghai Government</td>
</tr>
<tr>
<td></td>
<td>Beijing Sound Group</td>
<td>Shanghai Jinshan Sewage Treatment Plant</td>
<td>BOT</td>
<td>25 years from 2002</td>
<td>1.7 million</td>
<td></td>
<td>Shanghai Government</td>
</tr>
</tbody>
</table>

Source: author’s compilation of information from fieldwork

### 4 Implications of Private Sector Participation in Shanghai Water Policy

#### 4.1 Reforms in the Shanghai Water Sector for Privatisation

The public utility sector in Shanghai had remained ‘a sacred cow’ even under the rapid and wide range of economic reforms since the late 1970s.\(^68\) The monopolisation of the Shanghai

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government in the water industry continued until the late 1990s, which caused losses of more than RMB 800 million (US$ 97 million) in 1999.\textsuperscript{69} Then, in the late 1990s, a radical reform in the Shanghai water supply sector was introduced, and this resulted in integrating ten waterworks companies into four limited ones, covering Minhang area, Pudong area, southern city, and northern city, respectively. The Shanghai Water Authority was also established to operate water and sewage services in an integrated way after converting various water related bureaus into one in May 2000.\textsuperscript{70}

Even though it was reported that the Shanghai water industry began to make profits in 2001, the Shanghai authorities came to realise the need to enhance operational efficiency and management due to the accumulated deficit of water sector services over the last two decades. Chi Jianguo of the Shanghai Water Assets Operation and Development Corporation\textsuperscript{71} commented, “To break the monopoly is the first step in reform. We have to import foreign technology and management to create more value to increase our competitiveness in the local market.”\textsuperscript{72} It is argued that these problems and circumstances have generated favourable conditions for private sector participation and have driven the Shanghai government to allow Vivendi’s acquisition of the Shanghai Pudong Water Supply Corporation’s equity and the Youlian Consortium’s investment in the Zhuyuan No.1 sewage treatment Project in the mid 2002. This development illustrates the beginning of governmental recognition of the need to bring in new elements (private enterprises with investment and technology) that can rejuvenate the existent system, which generates positive feedback that is one of the essential parts in co-evolution.\textsuperscript{73}

Increasing loans from international development agencies such as the World Bank and private banking consortiums have continued to pressure the Shanghai government to repay its debts. The loans channelled from the World Bank, the Asian Development Bank (ADB) and other commercial banking consortiums became a budgetary problem for the Shanghai government.\textsuperscript{74} Therefore financing through other channels, such as the BOT scheme and Joint Ventures in Shanghai was considered. Based on these new strategies, a myriad of water projects successfully attracted private investment through water TNCs and Chinese private enterprises in the early 2000s.

It is argued that China’s entry to the World Trade Organisation (WTO) in 2001 has, to some

\textsuperscript{71} This was established in part of the water sector reform in Shanghai in the early 2000s. The corporation has RMB 9 billion asset (US$ 1 billion) and aims: 1) to provide water enterprises with necessary fund for water business; 2) to take charge of national assets; 3) to monitor enterprises’ business activities; and 4) to experiment the marketisation of water market. ‘Modernisation of Water Management in the Twenty-first Century in Shanghai, Zhongguo Shuilibao (China water Conservancy News). Available Online: http://www.mwr.gov.cn/tjzzth/bjzl/xw-9.htm Following the water supply sector, the water drainage sector in Shanghai was reformed in the early 2000s. The government divided the Shanghai Municipal Drainage Company into five specialized companies. These are the Drainage Works National Asset Investment Company, the Shanghai Water Environment Construction Company, and three drainage management companies covering different areas, southern, northern, and central part of the city.
\textsuperscript{73} Lewin and Volberda (1999), p527.
extent, contributed to an increase of foreign water private enterprises’ entry to the Shanghai water sector as well as the expansion of water TNCs business activities in Shanghai. In addition to the tariff reduction and liberalisation of a wide range of services sectors, transparent laws and the rule by law will be necessary for the WTO system in Shanghai and China. Such new environments for the water industry caused by the WTO entry of China expect the fast growth of the China water market, requiring an investment of around RMB 1,000 billion (US$120 billion) by 2005. This investment includes RMB 200-300 billion (US$24-36 billion) from central and local government. The remaining portion, equivalent to more than seventy percent, would be channelled through foreign investment, which will pave the way for water TNCs to extend their market shares in the Shanghai and China water market. Shanghai’s blueprint to attract an investment of around RMB 38 billion (US$5 billion) for water services by 2005 will be viable only if there is enough foreign investment, particularly through water TNCs under the WTO system in China.

4.2 Embryonic Stage of Privatisation in the Shanghai Water Sector: Challenges

The recent emergence of private enterprises in the Shanghai water sector indicates that Shanghai is in a new era in which the demarcation between the private and the public sector has become clearer although very complex. This process has accelerated since the economic reforms embarked on in the late 1970s. In other words, the willingness of modernising Communist China during the reform era has facilitated the resurgence of the private sector so that private enterprises have become a constituent of the process. The Shanghai water sector has become more multi-dimensional in the process. The year-long de-emphasised private sector has started to exercise influence on the reformed but government-controlled water sector in Shanghai. This indicates the early stage of a co-evolutionary process. Faced with this situation, water TNCs and Chinese private enterprises are not satisfied with the current business environment. Although Shanghai boasts its strategic location, a highly skilled labour force, foreign investment favouring policies, and political stability, private enterprises perceive a high degree of uncertainty as well as various risks in putting their investment in the Shanghai water sector. Such uncertainty and risks facing private sector participation in the Shanghai water sector can be analysed according to three categories: socio-political challenges; regulatory uncertainty; and revenue risk.

Socio-political Challenges

With regard to socio-political challenges, attention is first paid to the issue of challenging the traditional perception of water as a public and social good in China, rather than an economic

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76 She Shui (2002).

good as it is seen in most Northern countries. This situation has caused water prices to be much lower than would be reasonable if they were to reflect the actual costs of construction, distribution, and maintenance for water supply and sewage treatment services in Shanghai. A Chinese source points out that the water prices of Shanghai are much lower than those of cities in Europe. The current water price for domestic use in Shanghai is RMB 1.03/m³ (US$ 0.13), and there is no price adjustment to reflect the volume used.

Although the water authorities in Shanghai seem to be well aware of inappropriate water prices, it is difficult for them to plan and launch a radical change of water pricing that would recover the costs of water supply and sewage treatment services. Such sensitivity of water prices for the public has prevented the Shanghai government from allowing private enterprises to adjust water prices in order to bring about commercial gains. Rather, as observed from the cases of negotiations between the Shanghai government and Vivendi and Suez, the Shanghai government has shown its explicit will to keep the unitary water price system which applies to all areas in the municipality, including the economic development zones in Pudong covered by Vivendi and Suez’s joint ventures. This implies that the government would not be inclined to provoke public anger or unrest through a sudden increase of water prices but will keep the water prices low in order to maintain the government’s legitimacy. The government’s position contradicts its privatisation policies vis-a-vis water services and indicates a fuzzy relationship between the public and the private spheres in Shanghai and China. Although privatisation has been stressed and pursued since the late 1990s in the Shanghai water sector, the socialist political economy system and state-led society have prevented the government from operating the private modes of management optimally. It is relevant here to note Lewin and Volberda’s assertion that a co-evolutionary process is susceptible to previous experiences and historical trajectory. This means that different previous experiences in each organisation may result in some unpredictable patterns of behaviour. The Shanghai government has been reluctant to adapt to the new external environment, which is the wave of privatisation across China, even if the national government is promoting it.

Political uncertainty for private investors in China has continued to make water TNCs seek some form of guarantee from politically influential government bureaux related to water projects, such as the State Planning and Development Commission and the Ministry of Water Resources. This legally unbinding guarantee is called, a ‘Government Support Letter/Comfort Letter’. Given political uncertainty and local government’s low creditworthiness, water TNCs have had no option but to appeal to hierarchically superior central ministries and bureaux for these letters. Since the concept of these letters is based on a Chinese tradition of ‘gentlemen’s honour and agreement’, it would be difficult for project-concerned local governments to give water TNCs with these letters unfavourable deals, worrying that they would ‘lose face’. The use of these letters has been commonplace in a number of joint venture water projects until 2003.

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80 Owen (2002). The water bill for each month during the summer of 2002 (May, June, and July) was always RMB 16 (less than US$ 2), the fixed price no matter how much I consumed.
81 Lewin and Volberda (1999), p527.
As the decentralisation process has gone further, the central government has become reluctant to provide these letters to local water projects. As for water TNCs involved in water projects in Shanghai, it may not be necessary to gain these letters for the avoidance of political and credit risks, because the relative risks of political unrest and creditworthiness in Shanghai are lower than in other areas in China. However, it can be contended that these letters will remain as important as other essential documents for water projects in Shanghai and China. Nothing can be sure and guaranteed in the future for water TNCs in China, particularly during the water project concession period of about 20-30 years, based on the previous experiences of Chinese politics. This case illustrates a useful example of the public and private interface under the situation that there is no politically stable environment for private enterprises. It shows that private enterprises are adapting to the new environments where totally different socio-political and economic settings obtain in relation to other countries and areas in which they have worked in. Under the hard to fathom and unpredictable political systems encountered, private enterprises have realised the need of co-evolving to shape their approach to the new political economy in Shanghai and China. A political guarantee like Government Support Letters/Comfort Letters has been a medium with which private enterprises can minimise their risks in complex negotiations and contracts with local and central government agencies, local enterprises, and other stakeholders.

**Legal and Regulatory Uncertainty**

Another challenge in the course of private sector participation in Shanghai is how to improve the legal and regulatory frameworks. As discussed before, there have been a series of laws and regulations enacted regarding private sector participation in the China water sector. These laws and regulations, however, do not include any provisions to address terms of financing for private sector participation in water services. This legal vacuum is also linked to the lack of ‘a uniform supervisory legal system’ able to provide a coherent legal system in China. For example, if a private water contractor in Shanghai appealed to the Beijing People’s Court regarding the inconsistency of certain Shanghai regulations with national laws, the Court would not be authorised to examine the regulations due to the lack of ‘a uniform supervisory legal system’. Such a discrepancy between legal interpretation and regulatory mandate comes from the fact that national laws can be differently interpreted depending upon local socio-political circumstances. This situation has driven water TNCs to feel uncertain and insecure about the Chinese legal system and has often discouraged them from expanding their activities, but instead to keep the status quo. The low profile of water TNCs in relation to the Chinese legal system reflects a co-evolutionary process in which they have adapted to the new environment. It would be different if water TNCs were operating in European or American markets. Compared with the Chinese market, these markets provide more predictable and stable circumstances in which legal systems are implemented and enforced in a systematic manner. The external surroundings (legal institutions and law enforcement) in China have had an influence on the organisational behaviours of water TNCs, which has generated more prudent market approach and tactics as part of the co-evolutionary process.

The generally accepted concept, ‘everything is negotiable’, has been popular in China, and this way of life can be linked to the issue of the inconsistent applications of laws mentioned above.

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86 Blackman, Carolyn (2001).

87 Blackman, Carolyn (2001).
The regulatory risk is frequently observed in many of the daily business practices of foreign private enterprises, and one interesting example is found in the taxation imposed on foreign invested enterprises. Blackman (2001) warns that foreign invested enterprises should be careful when making budget projections, because if they are working on the projects relying on national tax rates and regulations, they often have to revise their projections because of unexpected taxes levied by local and municipal authorities.\(^{88}\) As for water projects in Shanghai and China, the process of managing joint ventures by water TNCs together with Chinese counterparts shows the validity of the notion, ‘everything is negotiable’. Since each joint venture has different administrative and management structures in China, it is usual for water TNCs to face numerous negotiations with their Chinese counterparts as Suez has experienced for more than two decades. Although BOT water contracts with standardised process and documents have become commonplace in Shanghai and China, it is still difficult to remove legal and regulatory risks that come from the Chinese customary practice based on negotiation rather than laws and regulations. This situation is another good example of a co-evolutionary process, namely, how water TNCs that are unfamiliar with the Chinese socio-political and economic system have adapted to the new environment in their interactions with different government agencies. Suez’s successful localisation over the past decades exemplifies the extent to which water TNCs can adjust themselves to local customs and norms and at the same time achieve their primary goals, economic gain. It is noted that such dual successes have been possible because of a constant adaptive process through protracted negotiations and compromises between water TNCs and government agencies.

One good example related to the unpredictable regulatory risk is the case from an interview with the representative of a French sewage treatment product supply enterprise in Shanghai 2002. A local factory with sewage treatment facilities approached the French company and purchased some products from the company. The representative assumed that the local factory could become a regular customer, however, the factory afterwards notified the company that they would not need the products any more. Thorough investigation disclosed that the factory was required to meet certain environmental quality standards that the Shanghai Environmental Protection Bureau (SEPB) levied during a ‘special environmental standard monitoring period’. However, after the period, the factory decided not to use the company’s products any more, since the SEPB did not intend to strictly enforce environmental standards on the local factory any longer. This case is illustrative of inconsistent regulatory application by the Shanghai government.\(^{89}\)

**Revenue Risk**

Whereas the Shanghai government has endeavoured to channel foreign private investment, water TNCs do not seem to be fully sure of the creditworthiness of the government regarding various water projects. Because of the 1997 Catalogue for Guiding Foreign Investment in Industry, any water joint venture project company has not been allowed to own and manage the right of water distribution, which makes the project company unable to secure a certain level of profits. This also means that the continuous ownership by the government about the water distribution system prevents the project company from charging users through proper utilisation of metering according to the volume of water they use.

As pointed out before, the public perception of water embedded in Chinese culture makes it difficult for the government to implement the rationalisation of water prices. As a result, the government has to subsidise water services in order to make up the difference caused by

\(^{88}\) Blackman, Carolyn (2001).

\(^{89}\) Interview with chief representative of SNF (China) Flocculant Co. Ltd on 25 June 2002.
unrealistic water pricing. There is little research on how much the current unitary water price system in Shanghai can cover the cost of water supply and sewage treatment services. The expectation of an increase of water prices in Shanghai is high. The projected increase of water prices in Shanghai is one of the main reasons many water TNCs have been knocking on the door of the Shanghai water market.\(^90\) However, it is reasonable to assume that a series of water joint venture projects including the Shanghai Pudong Vivendi Water Supply Corporation should need long and tough negotiations with the government to make water prices realistic.

It is necessary for water TNCs in Shanghai and China to convert their revenue to hard currency and transfer the revenue to oversees accounts. This necessary process for water TNCs, however, is often delayed, which drives foreign private water enterprises to doubt the availability of foreign exchange and RMB convertibility in China. Although the central government has stressed that there will be no devaluation of the Chinese currency (RMB), foreign private water enterprises in China cannot avoid the possibility of RMB devaluation. This is also linked to the issue that revenues of Sino-foreign joint ventures and wholly foreign-owned enterprises in China will be in RMB.\(^91\) Water TNCs in Shanghai, such as Suez, Vivendi, and Thames Water are likely to have experienced these risks and may try to hedge to avoid further risks. It is assumed that these enterprises will have their own strategies to tackle this issue through extensive negotiations with the Shanghai authorities.

4.3 Onset of Private Sector Participation with Multilateral Involvement in the Shanghai Water Sector

Since the 1990s, Shanghai has experienced an influx of water TNCs into the water market, and during recent years, water TNCs and Chinese private enterprises have rejuvenated the activities and capacity of the private sector in implementing water joint ventures and participating in BOT water projects. Such private sector participation in the Shanghai water sector seems likely to develop further and even speed up thanks to China’s entry into the World Trade Organisations (WTO). This point of view reflects the fast changing picture of the Shanghai water market as well as water policy.

It is also important to be aware of the mechanism of internal change that have impacted on proactive and multilateral relationships between newly emergent private enterprises and other social actors, the Shanghai government, environmental NGOs, and Shanghai citizens. It is understood that private sector participation in the Shanghai water sector is now underway in a rapidly evolving arena where multilateral relationships are producing a localised version of privatisation.

The privatisation process also highlights the ambiguous picture of the public and private distinction in which the government has striven to take control of essential elements for privatisation, i.e., water tariffs. Faced with this situation, private enterprises have adapted to the new Shanghai political economy. An important part of this study is to analyse such co-evolving processes that involves multilateral interactions. There have been a number of players in the privatisation process: the central government in China, local (Shanghai) government institutions, international agencies, and the international and Chinese private sectors.


\(^91\) Nakagawa, Moor and Or (1999), p10.
At the national level, the central government has recognised the importance of private sector participation in the Chinese water industry since the early 1980s. One of the more recent governmental blueprints to attract foreign financing for the improvement of water infrastructure was the 21st Century Urban Water Management Pilot Scheme in 1997. In the Scheme, the liberalisation of water tariffs on projects funded with foreign capital was scheduled, and foreign financiers were allowed to gain favourable rates of return for water projects in China.

Following the Scheme, the Urban Water Price Regulation of 1998 has allowed foreign investors to gain a net return rate of twelve percent and local governments to decide water price on the condition that water companies should provide detailed information on their costs. These governmental plans and regulations have resulted in an increase of private sector involvement in the water sector since 1998. The Scheme and the Regulation are co-evolutionary phenomena at the national level, and their existence may have guided the wave of private sector participation in Shanghai in the late 1990s. The central government was willing to reform the water sector in order to remove irrational management and unrealistic water tariffs that were some of main causes of the large-scale deficit from the 1980s. Such necessity induced an influx of foreign investment as well as of water TNCs in the 1980s and the 1990s. The external influences have reshaped the landscape of the political economy in the water sector. There has been a new era with adjusted coalitions between the Hierarchists (the government) and the Entrepreneurs (private enterprises). New demands and requirements in relation to loans from international development agencies, such as the World Bank and the Asian Development Bank, have at the same time conditioned institutional rearrangements in favour of privatisation. Water TNCs have taken advantage of this trend and influenced Chinese governmental policies in water services in hand in hand with international development agencies.

In response to the central government’s new policy, the Shanghai government has also tried to attract many water TNCs as well as Chinese private enterprises in water supply and sewage treatment services. The recent governmental report in Shanghai announced various water project schemes during the Tenth Five Year Plan (2001-2005), which attracted private water enterprises’ attention. These included: the Shanghai Sewerage Project Phase III, the construction of ten additional sewage treatment plants in the city centre; the construction of a sewage collection network; the renovation of dilapidated sewage treatment plants; and the control of runoff sewage. Most of these scheduled projects expect to attract private sector participation. In addition to many water projects, the Shanghai government has developed a marketing strategy to channel the huge scale of water infrastructure investment required in the future.

These optimistic plans for private investment and project opportunities, however, would not be viable if there had not been much redefinition of governmental roles and responsibilities for the privatisation of the water sector in Shanghai. Most importantly, the Shanghai authorities have to be aware that they are no longer the direct providers of water supply and sewage treatment services but only the regulator. The separation of administrative and commercial functions in the government need to be implemented. The Shanghai Water Authority (SWA) is the likely candidate to become a relatively independent regulatory institution to manage complicated issues related to water services. It is still questionable if the SWA can manage to harmonise

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94 ‘Shanghai’ s Full-fledged Sewage Treatment Works – Commencing of Construction of Two 1 million capacity Sewage Treatment Plants’, 9 June 2002, Shi’rewu Xinwen (Shanghai Water Authority News).
different governmental bureaux’ interests and conduct the regulatory roles effectively. For example, the construction of water supply and sewage treatment plants are handled by the Shanghai Construction Bureau, and water pollution discharge fines and fees levied to companies are collected and managed by the Shanghai Environmental Protection Bureau. It seems that the Shanghai government still needs more time to redefine its new governmental roles for private sector participation. The shift of the governmental role in water services as the regulator and the establishment of the SWA highlights how the approach of the Shanghai government has changed faced with privatisation. The new environment has brought a situation where privatisation does not require the government to sustain the monopolistic power over operation. It requires that the government co-evolves to adopt the new role as guide and regulator in response to private sector participation.

The relationship between environmental NGOs and water TNCs in other countries has not been smooth, and environmental NGOs have often criticised the profit-seeking behaviour of water TNCs and their lack of social, cultural, and environmental values. The situation in Shanghai 2002 illustrated that there were a small number of local environmental NGOs that were not even aware of privatisation issues in Shanghai and did not have enough capacity to organise environmental events against the water TNCs’ encroachment into the Shanghai water market. Their illegal social status caused by the government’s unfriendly policy about NGOs have also influenced their low-key activities. Ethical environmental groups in the Shanghai water privatisation process have played a very minor role to date. The civil movement activists on the green agenda have been much more prominent in Shanghai. There has been no anti-privatisation activism. The public-private culture of Chinese public governance has been effective to date in subordinating such potential discursive contestation. Civil environmental activism in Shanghai water privatisation has no profile because of the way it has been handled by the Shanghai government as well as because civil society has been conventionally deferential. However, the increasing environmental awareness of the public and environmental demands caused by higher living standards in Shanghai may lead to an understanding of water issues and encourage Shanghai citizens to be more concerned that water prices may be raised in the future. The entry of new social actors, environmental NGOs and Shanghai citizens, will affect the privatisation process in the Shanghai water sector. The socially and politically marginalised, which are the Egalitarians (environmental NGOs) and the Fatalists (Shanghai citizens), are beginning to reclaim their positions and participate in political processes taking an active part in environmental issues. This phenomenon also implies that all these divergent actors (the Hierarchists, the Entrepreneurs, the Egalitarians, and the Fatalists) have begun to advance a new phase of adaptive co-evolution in which the new landscape includes more social actors with more complicated and multi-directional interactions than have existed since 1949.

Regarding water pricing, private enterprises that manage water services in Shanghai will be wise to choose a path that requires private enterprises to work with environmental NGOs and Shanghai’s citizens rather than one that may provoke public unrest or opposition. Johnstone and Wood (2001) maintain that a standard service for water may be less efficient than different rates of services for different consumers or neighbourhoods. They add that such differentiated services of water for different customers can be only possible via local environmental NGOs that are well aware of the needs of the local consumers. It is also important to ensure that such cooperation between local environmental NGOs and private water service providers allows the local consumers to have a voice in the course of the design and implementation of water projects. Similarly, water TNCs involved in joint ventures and BOT projects in Shanghai

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should develop cooperative relationships with environmental NGOs in order to make those projects more viable socially and environmentally. The alliance between environmental NGOs and private water enterprises in Shanghai would be an example of the environmental NGOs’ bridging role between water service providers and Shanghai citizens. These evolving relationship in the water sector may be able to realise ‘effective public outreach’ without further commercial cost and to avoid public opposition to higher water prices.  

The collaboration with the Egalitarians (environmental NGOs) in the unstable and unpredictable socio-political and economic circumstances is a new challenge to the Entrepreneurs (private enterprises). Negotiations and interactions with environmental NGOs who advocate ethical principles will induce a new evolutionary tactics on the part of private enterprises. Similarly, environmental NGOs will require more in-depth understanding of privatisation issues and seek innovative approaches to working with private enterprises to achieve their goals. How constructively private enterprises and environmental NGOs establish a relationship is another new dimension in the co-evolutionary processes, which private enterprises have to face in private sector participation in the Shanghai water sector.

## 5 Conclusion

The discussion on private sector participation in the Shanghai water sector has provided an opportunity to review the viability of Mary Douglas’ grid/group theory identifying different social actors influencing Shanghai water policy. One of the major findings during fieldwork 2002 was to confirm the usefulness of grid/group theory by identifying a newly emerging social actor, private water enterprises, namely the Entrepreneurs. The study demonstrates the active interactions of different actors between the public and private spheres. The current picture in relation to private sector participation in the Shanghai water sector provides evidence only of the interaction of government and private water enterprises, such as Vivendi, Suez, Thames Water, and some Chinese private enterprises. However, such a simple picture can change and turn into a more complicated one when environmental NGOs and Shanghai citizens are actively participating in water projects in which private enterprises and the Shanghai government have already been involved.

The identification of multiple actors and the deployment of complexity theory with its co-evolutionary approach have provided a new perspective on how the divergent actors in the water sector in Shanghai interact and influence each other. The Hierarchists (the government) and the Entrepreneurs (private enterprises) have adapted to the new landscape of the political economy in the Shanghai water sector through numerous negotiations and compromises. The need of investment, advanced technology, and rational management skills has pushed the government to adopt private sector participation in the water sector, and private enterprises have responded by contributing to privatisation in Shanghai. These main social actors, however, have faced unprecedented challenges in order to secure their interest, and such conflicts of interest have culminated in a very different political economy landscape. In the co-evolutionary process, private enterprises, mainly water TNCs, have experienced unpredictable and challenging socio-political circumstances, uncertainty of laws and regulations, and revenue risk. The continuous demands from the private sector to reform water tariffs and establish sound legal instruments, for instance, have driven the government to bring about change in its internal organisations. In addition to such interactions between the two main actors,

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environmental NGOs and Shanghai citizens entered the already complicated privatising system. The co-evolutionary process in privatisation in the Shanghai water sector has just encountered a new era in which more social actors are playing a role, and more complicated multi-dimensional interactions are in evidence.

The analyses of the diverse socio-political, legal and regulatory, and revenue risks demonstrate that the Shanghai authorities are required to implement a number of institutional rearrangements and reforms in order to take the new role as the regulator, not the service provider, for water services. The Vivendi’s joint venture project in Pudong and a group of Chinese private enterprises’ Zhuyuan No.1 BOT sewage treatment plant in 2002 were impressive. However, the success of privatisation in the Shanghai water sector hinges partially on the extent to which the Shanghai government will be able to accomplish its work as a regulator based on laws. Otherwise, the early privatisation projects will become the price the government could pay for such lessons. Alongside the governmental efforts, private enterprises in the Shanghai water sector need to pay attention to customers’ needs in collaboration with environmental NGOs which can play a bridging role between the private sector and Shanghai citizens.

The thorough insight into the interaction between the public and the private spheres in the Shanghai water sector has three important components that reflect the nature of the Chinese mode of privatisation. The first component is negotiation. The Chinese preferred mode of negotiation is an important variable on which to focus. Negotiation normally slows the process of privatisation but if fully implemented, will make outcomes more secure. The second feature of the public and private sector interaction in China and East Asia is the tendency to deference. Hierarchy is assumed to be good, and deference is rational social behaviour. Even though privatisation is appropriately ‘negotiated’ at the central government level, it is likely that it will be different at the lower regional level of government. A mix of deference and negotiation is likely to lead to a measured expansion of privatisation. Financial capacity is the third component. The pace of the expansion will be further affected by the lack of finance available in the course of privatisation. The low degree of financial capacity has caused the Shanghai government to invite water TNCs and Chinese private enterprises and to adopt new forms of financing methods such as BOT schemes, Joint Ventures, and equity sales evident in the deal with Vivendi related to water supply services in the Pudong New Development Zone. The effort of the Shanghai government to strengthen its financial capacity has become an engine to speed up the pace of privatisation in the Shanghai water sector.

It is argued that private sector participation in Shanghai water policy has just begun and seems likely to develop rapidly in the foreseeable future. It is expected that China’s entry to the WTO may become a catalyst to further push the Shanghai government to implement policies favouring the private sector for water services rigorously. Requirements in accordance with the WTO standards will help implement the legal, economic, and institutional rearrangements in Shanghai. This will bring in an influx of foreign investment, advanced technology and management skills to the Shanghai water market, thereby influencing the landscape of Shanghai’s political economy and business environments. More transparent and internationally standardised laws, regulations, and implementation of policies in Shanghai will provide favourable conditions for foreign investment and privatisation in the water sector. The most important contribution of this chapter on private sector participation in the Shanghai water sector is the analysis of private enterprises involved in privatisation and the accelerating trend in the adoption of private sector approaches.

In Shanghai water policy, there are the four social actors, the Shanghai government (the Hierarchists), private water enterprises (the Entrepreneurs), environmental NGOs (the
Egalitarians), and Shanghai citizens (the Fatalists), and they have all played a role. The chapter has mainly concentrated on the interaction of the Hierarchists with the international and local entrepreneurs in Shanghai. It has been shown that the interaction has been intensifying since 1978 and in particular since 2000 with relevance to Shanghai. Ethical environmental groups has played only a minor role in accord with the Chinese public/private mode of conventional deference. Any interaction of environmental NGOs (ethical groups) with the emerging alliance between government and the private sector (hierarchy/entrepreneurs) has been very low profile. Environmental NGOs have been much more conspicuous on green issues. The low profile state-private sector interaction in Shanghai reflects another feature of the Chinese public/private mode of social organisation, namely the importance of negotiation. Negotiation delays the discursive process, avoids high profile confrontations, and legitimises evolving agreements, contracts, and institutions.

The government is expected to play a role as an efficient regulator, and private water enterprises are expected to provide a water service with a reasonable price regime. Environmental NGOs will stimulate the development of the evaluation and regulation of environmental issues and play a bridging role between the private sector and Shanghai citizens. At the same time, Shanghai citizens, as rational consumers, need to be willing to pay a reasonable water price. This complicated picture of the Shanghai water sector exemplifies a complex system in which a number of divergent political and economic factors influence water policy, and diverse actors actively interact in nonlinear fashions. The privatisation process in the Shanghai water sector provides a useful example of how such actors in this complex system have an influence on and adapt to new political, economic, and social landscapes by improving their capabilities. The co-evolution of these actors in the privatisation process can induce the creation of a Shanghai-style model of private sector participation in the water sector.

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