

## **EXECUTIVE SUMMARY**

## **Introduction**

Under this Technical Assistance program funded by the Asian Development Bank (the ADB TA-4095-PRC), three independent consultants were separately contracted by the ADB to perform the TA work. Deliverable for this TA is a collective work of three consultants and each consultant will take full responsibility of his own work.

This paper is structured into three parts: Part I is the working paper on key issues and recommendations, written by the BOT Expert together with the International Consultant and discussed by the Urban Infrastructure Expert; Part II is the regulatory framework for PPP in water industry, written by the Urban Infrastructure Expert; and Part IV is the International Consultant and the BOT Expert's comments on the Regulation for Chartered Operation Urban Infrastructure Facilities.

### **Part I: Working paper on key issues and recommendations**

China started to experimenting utilizing private capital in its water industry about 8 years ago. Initially, it only allowed foreign investment in the water sector. Followed by corporatization and decentralization of the industry, domestic investors gradually came into the sector and today it is the domestic investors that become major investors in the Chinese water industry. After nearly a decade of utilization of private funds to mainly build and renovate water plants, China is still facing a number of fundamental issues that are critical to the success of attracting private capital. An incomplete comprehensive legal framework, underdeveloped local financial markets, transitional accounting systems and a yet to be developed institutional capability for implementation are major areas that need to be carefully studied and addressed.

#### *Key issues*

Most private investors still believe that the project approval process for water projects is one of the major difficulties faced by them. Excessive approvals required for launching a water project adds more development costs, and is time consuming. The rigid approval process does not provide investors with enough flexibility to amend the project structure according to the latest market developments. Once the project is approved, it's too difficult to change terms even if the approved structure would appear to be unrealistic following changes in the markets.

More confusion is being created by inconsistencies between different pieces of regulation that affect water projects. For instance, the Bidding Law, developed mainly for engineering procurement, sets out a stringent procedure for all tendering and bidding, which does not allow any negotiations after the winning bidder is announced. For a competitively bid water or other infrastructure project using PPP structure, it's almost impossible not to open a negotiation after the preferred bidder has been selected.

Sale of state-owned assets, which should be a common arrangement at this stage since water industry has largely been owned and operated by the government, appears to be more challenging after the implementation of the new regulation governing sales of state-owned assets which requires competitive bidding or a public auction to be used for the sale process. The valuation process for these state-owned assets is also

frustrating. Valuation is done based on replacement costs approach which is different from the practice seen in other countries, where discount cash flow method is largely used. The valuation has to be done by a certified statutory valuer and the authority (normally the State Administration and Supervision of State-owned Assets) will have to approve the value. In no circumstances can this approved value be substantially changed or adjusted without repeating the same process of getting valuation approval even when major issues that impact on the value are subsequently discovered by the buyer and acknowledged by seller.

Tariffs have always been an issue that frustrates investors and puts them in a weaker position. In general, the government will not promise to allow tariff increases even where there is a clear need. In other words, the government has full control over tariffs from its setting to adjusting. Even when the government agrees that the investors will be compensated in case the tariff increase is blocked by the government, the investors still, to a certain extent, takes a risk because of concerns over the ability to enforce such arrangements. There are examples of breaches of concession contracts by local or provincial governments because they are incapable of paying or simply do not want to pay. These have damaged the government's credibility, sent negative signals to the investment community.

Underdeveloped local financial markets limits the sources of capital that could be available for the water sector. With fewer financial products available to finance long term investments like that required in PPP projects the possible benefits gained from innovative and flexible financing structures are reduced. Floating-rate Renminbi loans with shorter terms, underutilization of bonds, higher equity investment requirements and infant pension funds management all put constraints onto project developers to structure a deal that can get maximum benefits from financial engineering.

Absence of a sound credit rating system and limited knowledge of credit enhancement on the government side make a well designed security packages for financing impossible. Lenders will have to look for solid credit support in forms ranging from assets pledged to the third party guarantees. This limitation in security options forces water project to use more conventional financing methods, thus reducing the advantages of typical infrastructure financing.

Foreign exchange risk contributed by a non-convertible currency, cash traps caused by inflexibilities in the rules concerning distributions of excessive cash make total project costs higher.

### *Recommendations*

Solutions to most issues listed above need significant efforts from the government side in streamlining approval process and in consolidating different pieces of legislation. It also requires the government to clearly define the responsibilities of each agency involved in the approval process and in monitoring water projects. This will takes some time to achieve and the Ministry of Construction alone does not have a full capacity to do this. At the request of the Ministry of Construction, consultants came up with some recommendations which the Ministry can practically execute without too much interaction with other agencies.

The Ministry needs to set up clear objectives for water industry both in the immediate and the longer term. Based on these objectives, different options should be chosen to achieve established goals.

The Ministry needs to develop a formal procedure for developing PPP projects. The procedure will help set up standards for PPP projects nationwide and regulate activities undertaken by governments at various levels. The procedure will also provide clear guidance for private investors who can assess the risks involved in a project adequately.

The Ministry should create a dedicated department to develop, negotiate and monitor PPP projects. A PPP project involves design, construction, operation and financing which will often be constructed in a complex way to gain maximum financial benefits. A dedicated department within the government is therefore needed to better manage the entire process. Knowledge and skills of developing PPP projects are evolving in line with the development of the industry and the market, and with changes in political and economic situation. A dedicated department is therefore needed to follow up these developments and to revisit the government objectives so that projects can be structured to achieve the optimal results. Such a department is also necessary to keep track of the performance of a PPP project which normally has a lifespan of 15-20 years or more.

The Ministry should take the initiative of launching some pilot PPP projects that are representable in current water industry. Through the implementation of these pilot projects, the Ministry can assist local government in establishing good practice, winning trust from private investors and providing training for local officials.

## **Part II: Study on Government Regulatory Framework in Water Sector**

This part is written by the Urban Infrastructure Expert and the report is structured in three parts:

- Part 1 summarises the activities during the TA study, including the project overview, phase meetings and survey activities.
- Part 2 describes the detailed work findings and outputs for the TA study, including the development background of China urban water sector, the review of existing policies and statues in water sector, the findings of government regulatory framework in water sector, the change of governments' role and responsibilities, the findings of the reform of property rights in China urban water sector and the models of financing for urban water sector.
- Part 3 summaries the findings of cases study, including the Chengdu No.6 Water Supply Plant, Shanghai Zhuyuan Sewerage Treatment Plant and Xuzhou Sanbahe Sewerage Treatment Plant.

The report summarizes the background of China urban water industry development and listed out main laws and regulations that govern the Chinese urban water project development. Policies, mainly in market entry, pricing and production cost as well as quality of water and service standard, the government needs to install to better regulate and monitor water projects in China are suggested. The report further

discussed changing role of the government along the process of transition to market oriented economy and the issues faced by corporatization of water assets.

Main findings and policy recommendations in this part are given as following:

- Governments have to respond to regulate urban water sector due to its specific characteristics: (1) it is a natural monopolised sector; (2) it is the essential condition for public health; (3) it provides quasi-public goods; (4) the investment recompense is low ; (5) the policy risk is high ; (6) it is indispensable and non-alterative for public and urban development; (7) the return of operation is highly stable; (8) highly sunk and specialized capital; (9) low demand elasticity ; and (10) the evident regional limitation and difference.
- The marketlization reform of China urban water sector has been listed in the governments' agenda. However, the reform now is meeting various resistances, including the conflict between the traditional institutions and the new ones; power balancing within different actors; public protestation to the increased water price; and the theoretical dispute on marketlization.
- In order to promote and standardize the marketlization of urban water sector, national and local governments have enacted related policies on sector management, marketlization, rectifying fixed investment return, enterprise reforms and ownership transfer. However, there still exists a great gap in existing policies and statutes of water sector to meet the demand of the marketlization of urban water sector.
- Due to a natural monopoly of urban water sector, governments should macro-control indirectly on one hand, while regulate the urban water sector directly on the other hand. The regulatory policies of urban water sector mainly include as following: regulation on approval, regulation on cost and pricing, and regulation on water quality and service quality.
- The concession management is one of the principal strategies of approval regulation for natural monopolized industries. Promoted by the MOC, the policy on concession management has been the core issue of the marketlization of urban water sector. The Administrative Method of Urban Utilities Concessions (2004.5.) issued by the MOC and the oncoming document on The Contract of Urban Utilities Concessions are crucial to direct and impulse the marketlization of China water sector, as are the basis for the future legislation.
- The regulation of China water price is based on the regulation of cost. The Benchmarking approach which is an effective instrument to regulate the cost and price of water enterprises, could assist government to evaluate and control the cost information of the operation management in urban water sector.
- The regulation on water quality and service quality of water corporations is also significant elements of the regulation system of urban water sector, it has a great impact on protecting public health.
- China government is confronted with critical reform of institutions with the deepening marketlization. The government has to establish a new institutional arrangement for the future urban water management and shift its role in the water sector. On one hand, the government has to withdraw from the concrete

service in the new management hierarchy and hand over the service function to enterprises. On the other hand, the government has to change its role from the construction manager to market regulator, because the government is the represent of public interests, not the enforcement agent of sector interests.

- The reform of property rights is the core of the marketization of urban water sector, is also the premise for the private capital approved to involve in urban water sector. The precondition of the reform of property rights is to separate the asset management from the government, and restructuring asset is the basis of marketization.
- The principles of restructuring asset of urban water sector include: (1) to keep the integrity of main works; (2) to separate the subordinate works from the main works; (3) reasonable capital revenue; (4) clearly-defined capital; (5) equal supervision and control; (6) particularity of the pipe networks; and (7) combination of government investment and financing with market mechanism. There are 4 major models to handle the assets of water sector: (1) the model of opening the market for secondary projects (BOT, TOT, etc); (2) the model of entire transfer (Concession Contract); (3) the model of management contract and lease contract; and (4) the model of combining government investment and financing with market mechanism (Joint Venture).
- The government should be the leader for investing the construction of water sector though the social capital has increased in urban water sector by applying market-based approach. The government is not only the main body for financing, but also the guide to orient the investment in water sector. Furthermore, the government has to guarantee the investment in urban water sector. The local government could raise funds by the transfer grant from the higher authorities, local revenue, charge from users and other financial instruments.
- At present, the major dilemmas of government investment in the financing and investing structure of China urban water sector are lack of fiscal capacity, low-efficient national government market financing and lack of local financing instrument. The government could exploit more rational financing channels in two ways: one is to develop new financing channels within the governments dominant, including application of treasury bonds, increase the fiscal income, and issuing the municipal bonds; the other is open the capital market to the society, in which the PPP approach will be applied.
- The BOT projects in Chengdu and Shanghai case studies show some good lessons: (1) the construction cost decreased against the traditional design with introducing the competition while the operation efficiency is improved; and (2) the higher level of government credit could reduce the policy risk and investment cost. Moreover, the problem of fixed investment recompense is one of the major disputes in China urban water projects.
- The existing banking system in China could not meet the demand of project financing, such as BOT model. Thus, lots of water projects are implemented in a seemingly-BOT way. The case study of Xuzhou Sanbahe Sewerage Treatment Plant indicates: (1) it is possible to cut down the cost in the traditional engineering accounting scheme against the market mechanism; (2) to accomplish sewerage charge is the premise to ensure the operation of

sewerage treatment facilities; and (3) the seemingly-BOT projects is possible to succeed.

### **Part III: Comments on the Regulation for Chartered Operation Urban Infrastructure Facilities**

The Regulation is too general in terms of concrete implementation steps that a PPP project need to take. It does not provide concrete guidance on how a concession project is to be developed and awarded. It is therefore difficult to be implemented in practice. For instance, it does not suggest a detailed procedure which the development of a concession project should follow. Neither does it distinguish Greenfield projects from selling existing assets. Depending upon the nature of project, the procedure and criteria for the project development can be very different.

The Regulation does not provide a clear cut between administrative functions and water companies' operation either. For instance, the Regulation sets out general, but not specific qualification of a concessionaire. It is therefore difficult to address qualifications needed for a specific project. What exactly the expected concessionaire should have will be depend upon the project, which should be a task of the project development team. The concession agreement is the document that defines each party's responsibilities through an agreed upon risk sharing mechanism. It should be negotiated between parties involved. It's a matter of the project implementation. The concession agreement can be different from one project to another. The government should only put such clauses in the concession agreement that ensures that the government's intended goal will be achieved and that the government's interests are fully protected and represented. The Regulation should therefore not focus on the content of the concession agreement itself. It should concentrate on recent administrative reform, spinning off operational functions from the administrative functions undertaken by the government. The reform aims at, restricting government agencies to only be a supervisory body whose main responsibility is to set out regulations, to monitor operation and to coordinate with other agencies to ensure that adequate public services/products will be properly rendered.

The Regulation does not offer a great help in coordinating various authorities involved in regulating the water sector so as to ensure the private sector deals with only one representative from the government. Water industry concession touches many areas where various government agencies are in charge. Without cooperation from these agencies, the MOC, in practice, can not cover all aspects of developing a water project. For instance, tariff setting will need the pricing bureau's involvement because it is the agency that regulates the price of water. Another example is that when an existing water facility is transferred under a concession arrangement to the private sector, the approval for the sale of assets from the State-owned Assets Supervision and Administration Commission must be obtained because it is the agency responsible for supervision and administration of state-owned assets.

The Regulation does not provide any indication of what sorts of support the government will be giving to a concession project so that the private sector knows precisely what they can expect from the government when taking on such projects. When the private sector is considering a concession project, support given by the

government plays an important role in their assessment of the feasibility of the project. By knowing what they can get, and what they can not get from the government, the private sector is in a better position to estimate the likely return on its investment which will be a key factor for them to consider when determining whether the project should be taken. The government's support to a concession project would also indicate how firmly the government wants the concession to be done, hence boosting the private sector's confidence in the project.

The Regulation fails to provide model documents which can be used as a guideline and reference for parties to a concession project. General descriptions found in the Regulation will not resolve the discretionary actions taken by the government at different levels in the process of launching and implementing concession projects. For instance, Chapter 7 lays out general qualifications of a concessionaire. But in reality, lack of qualified water companies is the main obstacle that defers the development of good concession projects. Experience and skills of existing water companies are so diversified it is almost impossible to arrive at a standard for qualification. In the absence of a standard, the government at each level can select "qualified" water companies using very different criteria. This will be against the MOC's intention to strengthen already disorderly activities for developing concession projects throughout the country..