

Case Study Infrastructure Privatization In Indonesia

Water Supply - DKI Jakarta

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**PRIVATE SECTOR PARTICIPATION IN
INDONESIAN WATER SUPPLY
DKI JAKARTA - A CASE STUDY**

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INTRODUCTION

1. Over the last 25 years Indonesia's economic growth measured in terms of GDP averaged 6% per annum. Annual income per capita rose from US\$ 50 in 1967 to over US\$ 1,000 today and the proportion of the population classified as poor has been reduced from 60% to an estimated 15%. There has also been a recent shift in the emphasis of economic activity resulting in the acceleration of industrial and secondary production relative to primary production. GDP is projected to continue to increase at an average rate of 5.5% per annum over the next 25 years, with an annual increase of 7.1% in the next five years.
2. Since 1980 Indonesia has also experienced one of the fastest rates of urban growth in East Asia. Urban population has increased at 5.5 percent per annum, from 33 million or 22% of the total population in 1980 to 55 million or about 31 percent of the total by 1990. The largest cities and metropolitan areas (those over 300,000 persons) account for some 66% of the urban population. Ten of these cities are on the island of Java where an urban corridor is also developing along the northern coast.
3. The growth in the economy, coupled with an increase in population and the net movement of population from the rural to the urban areas, is causing a rapid increase in the total demand for water to satisfy urban, industrial, irrigation and other requirements. The government is therefore faced with the challenge of both improving water resources management and of further developing sustainable water supplies to meet these demands.
4. Because of the increasing complexity and cost of providing public services, and the need to achieve improved operational efficiency in the utilisation of valuable resources, the government has invited the private sector to invest in the expansion and management of Indonesia's infrastructure, including its water supplies.
5. This short paper presents an overview of the current status of water supply development, summarises the opportunities open to the private sector, and concludes with a case study of the cooperation arrangements with the private sector proposed for DKI Jakarta.

STATUS OF WATER SUPPLY DEVELOPMENT

6. Water resources management will be increasingly important in the years ahead, especially in Java which has more than 65% of the country's population, 70% of the irrigated agriculture, and 75% of the industry. A number of dams have been built to balance supply and demand and several new dams could be constructed, but implementation, especially in Java is likely to be constrained by high population densities and the social and economic costs of resettlement.
7. It is estimated that 60% of Indonesia's piped water supplies are derived from surface water sources, 25% from springs and only 15% from groundwater. There is also considerable variation between regions. In Kalimantan more than 88% of total water production is derived from surface water, whilst in the eastern islands such as Bali, West and East Nusa Tenggara and Irian Jaya 64% of total production is from groundwater.
8. Recent discussions have focused on the design of a more integrated strategy for water resources management based on watersheds rather than administrative boundaries, and the conjunctive use of surface and groundwater. The government is already assessing the institutional and regulatory changes that this will require.
9. The provision of water supplies is generally the responsibility of public utilities, the PDAMs which are owned by municipalities. At present there are 304 PDAMs in Indonesia., of which 179 are in Java. During the first five year development period (1969-1974) total production capacity of all PDAMs was 9,000 l/sec. This had increased to more than 61,000 l/sec by the end of 1992. In addition private developers of new residential, commercial and industrial estates often implement and operate their own water treatment plants and distribution systems outside PDAM control.
10. Service coverage in many cities is well below the planned target of 80% to be achieved by 2004 and expansion of the water distribution networks is essential. However, most PDAMs could achieve a significant improvement in consumer service and water sales simply by reducing the proportion of production that is non-revenue water (often well over 50%). The reduction of water losses, which are often in the range of 35-40%, is also needed to maximise the distribution of increasingly valuable treated water.

11. Many large urban water supply networks are suffering from low pressure and the possible contamination of piped water. Efforts are required to improve the quality of initial construction, and to invest sufficiently in operation and maintenance. This would also reduce the amount of water loss and improve the reliability of the system.
12. However, the ability of PDAMs to increase the number of connections is sometimes constrained by a number of factors, one of which is the dis-incentive of the cost of the connection itself. Innovative schemes are required to persuade new consumers to connect, perhaps by including the connection fee in the subsequent monthly charges. Government will also need to ensure that groundwater users are legally required, and have every incentive to convert to piped supplies; particularly when there is an urgent need to protect the groundwater environment.
13. Market pricing and cost recovery policies will be especially important for demand side management, but are also needed to finance additional investments in urban water supply and to ensure the sustainability of past and future investments. The coordination of water-pricing among different users, will be needed to ensure environmental sustainability. For example, the current imbalance in pricing policies for piped water and for groundwater used by industry contributes to the excessive use of groundwater in Jakarta and other coastal cities on Java.

PRIVATE SECTOR INVOLVEMENT

14. To achieve the national objective of sustained growth of 6% to 7% infrastructure investments will be targeted to assist commerce and trade, industrial and agribusiness production and tourism. Improvements will generally be concentrated in large urban areas and growth corridors, or in special domestic and international development zones.
15. The water supply development target for the next 5 years is to increase clean water production by 30,000 l/sec for urban areas, and to extend distribution to an additional 22 million people. This programme will also provide small scale supplies to 22,000 villages. Total water supply capital investment needed in the next 5 years is in the region of US\$ 7.8 billion, of which at least US\$ 4 billion has been identified as suitable for participation

by the private sector. This includes 48 cities ranging in size from 100,000 to more than 2 million inhabitants.

16. Although the government's private sector cooperation programme is still in its infancy, project developers and investors are already involved in preliminary discussions for over US\$ 2.0 billion worth of water supply work, and interest is expected to increase rapidly as forerunner projects move forward.
17. Capital Investment Law No. 1 of 1967, amended by Law No. 11 of 1970, is the legal basis for foreign investment, but the issue of Regulation number 20 of 1994 was the most significant demonstration of the government's determination to attract, enable and safeguard private sector investment in Indonesia, with particular emphasis on infrastructure services. International investors are now permitted to set up companies to operate water supply projects on the basis of 95% foreign ownership, the role of government then being to continue to guarantee supplies and to safeguard the public interest.

DKI JAKARTA WATER SUPPLY

18. Despite ongoing efforts and past investments in the Jakarta water supply infrastructure, and the consequent large loan repayment commitments that have been incurred, the service performance, operational efficiency and revenue generation capability of the water utility, PAM JAYA remains poor. Service coverage is too low with the large majority of potential consumers still using groundwater supplies at little to no cost (except in saline groundwater areas in north Jakarta), piped water is not of potable quality, there is a high proportion of non revenue water (over 50%) and the revenue that is being collected from consumers is insufficient to sustain the further development of PAM JAYA. Recent records indicate that water sales are increasing slowly even though there has been a recent increase in production capacity and the number of consumer connections.
19. To improve the performance of PAM JAYA, the government wishes to reform water supply operations through the introduction of private sector management in parallel with private sector financing of further infrastructure development. PAM JAYA has received offers for cooperation arrangements from two private sector consortia - PT Kekarpola

Airindo (KPA) for the production and distribution system to the east of the Ciliwung river, and PT Garuda Dipta Semesta (GDS) for the system to the west of the Ciliwung. Discussions between PAM JAYA and the consortia are now ongoing and the intention is that the contracts will commence in 1997.

20. A Coordinating Committee comprising representatives from PAM JAYA, DKI Jakarta, and the Ministries of Home Affairs, Public Works, Bappenas and Finance, and representatives of the two private sector consortia, has been formed to coordinate the procurement of the two cooperation agreements through direct negotiations. The Chairman of the Committee is the Director General, Directorate General of Human Settlements (DGHS), Ministry of Public Works.
21. Five issues have been critical in the negotiation of the cooperation agreements:
 - **Charging structure and revenue sharing mechanism** - customer revenue is likely to be paid into an escrow account, defined payments then being made from the account to PAM JAYA/DKI and the investors in accordance with the terms of the cooperation agreements. The contracts will also define responsibility for covering any circumstances in which there is a deficit or surplus in the escrow account.
 - **Force Majeure** - events are only to be defined as Force Majeure if they cannot be controlled by reasonable care and diligence of the concessionaires or covered by insurance. The agreements will be drafted to ensure that the onus is on the concessionaires and the agencies responsible for bulk supplies to maintain water supplies, rather than for the contract to be terminated through Force Majeure.
 - **Termination arrangements** - termination can occur at expiration of term, failure to perform conditions precedent, PAM JAYA's right of discretionary termination, material default or in the case of Force Majeure.
 - **Ownership of assets** - retained ownership of new assets by the concessionaire until transfer at the end of the contract improves tariff levels and the bankability of the project.
 - **Government support** - the cooperation agreements will be signed by PAM JAYA and approved by the Governor DKI. Discussion has centred on the degree of central government support that can be provided to ensure the bankability of the project.

22. The cooperation arrangements are expected to include the full transfer of PAM JAYA responsibility for water treatment, distribution of water to consumers, billing and collection and consumer relations to the private sector companies for a period of 25 years. The companies will also be expected to invest in the rehabilitation of existing treatment works and the distribution system with the objective of attaining defined performance targets.
23. These targets are likely to be based on volumes of water sold to consumers, service coverage, reductions in non-revenue water (NRW), water quality at the tap and maintenance of an adequate supply.
24. Another key element in the agreements will be the arrangements being made for the transfer of existing PAM JAYA staff to the two concession companies, the eventual objective being to achieve a much lower ratio of staff per 1000 connections than at present. PAM JAYA currently has some 7.6 staff per 1000 connections and the eventual target may be around 3.5. Because of the rapid expansion of the service coverage under the concession agreements the opportunity is available to achieve this improved staffing efficiency by natural attrition rather than by redundancy.
25. Government will have a watchdog role and will be responsible for arranging independent reviews of the companies performance under the agreements, and the content and cost of future investment programmes. Such regulatory reviews will be essential to ensure that the agreements continue to meet the requirements of DKI Jakarta, or an expanded service area over a period in which dynamic growth and the more stringent enforcement of environmental regulations can be expected.
26. Another key function of government will be the regular review and setting of tariffs so that they are both affordable to consumers and will sustain the commercial viability of the cooperation agreements throughout the contract period. Although the current perception is that the average tariff in Jakarta is already high compared with other major cities in the region, a real decrease in tariff levels is unlikely to be achievable for some years because of debt commitments and the insufficient revenue being generated from too low a level of service. It is anticipated that through the cooperation agreements it will be possible to rapidly increase service coverage, promote the transfer of groundwater users to the piped

system, improve operational efficiency and achieve a sound financial basis for the operations of the utility; perhaps in the longer term also achieving the goal of reducing the real level of tariffs.

27. The concessionaires implementing the two cooperation agreements will initially purchase bulk supplies of raw water from the Jatilihur Authority (POJ) and treated water from PDAM Tangerang and others. A BOT contractor is also expected to develop a major new treatment works using additional water from the existing West Tarum Canal, and would sell water to the two concessionaires from about 2001 onwards.
28. As part of its plan for strengthened water resources management the government is also considering the benefits and viability of establishing private/public joint venture companies to become responsible for further investing in and managing bulk supplies through BOT type contracts. If this concept is accepted the two distribution concessionaires would negotiate agreements with the new bulk supply companies as they are established, the cost of water then passing through into the cost of the cooperation agreements and the water tariffs. As with the cooperation agreements themselves the operations and prices charged by the bulk supply company would need to be regulated by a third party to protect government, consumer and commercial interests.

CONCLUSIONS

29. The signing of the cooperation agreements for Jakarta is expected to provide a replicable framework for other private sector initiatives in Indonesian water supply. The key issues of low service coverage, inadequate revenues, and hence insufficient funds for infrastructure investment to match demand found in Jakarta are common to most PDAMs in Indonesia, as are the problems of affordability to lower income group consumers and the increasing over use of groundwater resources.
30. Satisfactory finalisation of the production and distribution cooperation agreements for Jakarta, combined with an improved tariff structure designed to generate revenue whilst providing cross subsidy to the poor, will provide confidence to government, PDAMs and investors that such contracts can be concluded for many other cities in Indonesia, and will

also give confidence to investors promoting bulk supply BOTs because they will be able to arrange secure take or pay agreements with distribution concessionaires.