

## **DEVELOPMENT OF PIPED WATER SUPPLY IN INDONESIA: PROBLEMS AND SOLUTION**

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### **ABSTRACT**

With an average of 2,700 mm of rainfall per annum, Indonesia has abundant water resources. However, more than 50% of the water flows on earth and becomes surface run off, making it un-available for human use. In addition, water availability and demand vary among islands. Kalimantan has 30.4% (of total 2,287 km<sup>3</sup> potential surface and ground water) and is inhabited by 5.8% of population, while Java and Bali islands have only 8.0%, but they are inhabited by about 63% of population of Indonesia.

Rapid population growth, urban development and industrialization in most cities of Indonesia have put pressure on the increasingly scarce water. There are three main categories of water users: agricultural, domestic and industry. Agriculture is still the biggest user of the water (82%). However, demands for domestic and industrial use are steadily increasing thus, has increased competition for water (inter-sectors and inter-regions and over time). Households are the main water users under the category of domestic water demand. Since piped water supply is still limited, most of the households and industries make use of groundwater as their source of water. At the same time, discharges of wastes from households and industries have increased as well. These result in the quantity and quality problems of water resources.

Currently there are 394 regional (city/district) piped water utilities (PDAM) in Indonesia. However, most of these water utilities are not satisfactorily performed. Currently, water service coverage is still 24% of the total population of the country. Unaccounted for water and Non-revenue water are still high, which lead to the financial problems of the water utilities.

Indonesia started water utility privatization program in 1998, with Jakarta Water Utility (PAM Jaya) as the first privatized utility. It was privatized in the pursuit of technical and economic improvement. Unfortunately, this privatization, through private-sector participation, has not solved the problems of the water utility, but instead has created new ones. The root of the problem is because of the selections of the two

concessionaires of PAM Jaya were directly appointed by the President. Thus, there is “*no competition for the field*”. This un-transparency, without a transparent and competitive bidding in the selection of the concessionaire, has resulted in significant price water increased, while the quality of service has not yet improved. It has also resulted in a big loss to the utility and its customers. These privatization contracts have to be re-negotiated among the parties involved.

In general, concession is attractive to both the government and the private sectors. With low clean water service coverage, Indonesia needs a lot of funding to develop water treatment and distribution systems in its four hundreds of cities and districts water utilities. However, there are some points to be considered: (1) Transparency in the bidding process, (2) Transparency in the contracts, (3) The bidding companies should form a joint venture with international operator with at least 60% Indonesia-owned, (4) PDAMs have to retain ownership of fixed assets, but transfer its operational and investment responsibility to the private companies. At the end of the concession period, the PDAM will assume ownership again, and (5) The role of government as a good regulator.

As a regulator, the government as could regulate the privatized utility in various forms, including: (1) Government-support monopoly with regulated price (the British model), (2) Government-support monopoly with regulated rate of return (the American model), (3) Government-control franchise, lease or concession agreement (the French model and its variant), and (4) Complete public provision of water, which is common throughout the world.

**Key words:** Water use competition, quantity and quality aspect, objectives and problems of PAM Jaya privatization, strategies to PAM Jaya