

VICTORIA UNIVERSITY OF WELLINGTON
Te Whare Wananga o te Upoko o te Ika a Maui



**Ten Years of Public Private Partnership
in Jakarta Drinking Water Service (1998-2007)**

Eastern Jakarta Drinking Water Service by Thames PAM Jaya

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ABSTRACT

Clean water is crucial for survival and economic development. Everyday, people need a sufficient amount and a suitable quality of water for drinking, cleaning and sanitation. However, rapid population growth, pollution and climate change have made water a scarce resource, which everyone competed. The United Nations Development Program's recent report stated that more than 1 billion people, up to this day, are without access to safe drinking water and sanitation. Lack of access to clean water can cause social, economic and health problems. Therefore, there is an urgent need to find solutions to this problem.

To solve the problem of water scarcity, International Financial Institutions introduced Public Private Partnership (PPP) in the management of water sector. PPP is a concept which involves private sector participation in the management of drinking water service. In PPP, water is recognized as an economic good which is recognised under the 1992 Dublin Principles. It was hoped that by placing an economic value on water, efficient and equitable use of water can be achieved. It was also hoped that it would encourage conservation and protection of water resources. However, studies show opposite results from the Principle. Jakarta drinking water service is one example of a failed PPP.

Jakarta, the Capital City of Indonesia, adopted Public Private Partnership (PPP) in the management of its drinking water service in 1998. The twenty five years concession contract was granted to Thames Water International (TWI) and its local partner, Kekarpola Airindo (KATI), now known as Thames PAM Jaya (TPJ). This company is responsible for the management of Eastern Jakarta drinking water service.

This research was aimed to evaluate Thames PAM Jaya (TPJ) performance on water provision in Eastern Jakarta, ten years into the twenty five years concession by undergoing a qualitative research method. A range of semi-structured interviews were

used to: gain perceptions and opinions of each stakeholder on the Public Private Partnership (PPP), identify the advantages and/or disadvantages of the water privatization in the capital city and to identify the constraints and limitations facing the private sector. Participants involved in this research include Government officials, Thames PAM Jaya, Jakarta Water Supply Regulatory Body (JWSRB), non governmental organizations (NGOs), and TPJ customers.

The analysis concludes that Public Private Partnership (PPP) in Eastern Jakarta does not bring improvement to the region's drinking water service. Thames PAM Jaya (TPJ) had failed in fulfilling targets set in the Cooperation Agreement. Lack of transparency and public tendering in the process of forming the public private partnership may have contributed to this poor performance because the proper search for a competent partner was short circuited. Political interference in the bidding process is a form of corruption in which the company granted the contract was clearly complicit.

The water tariff in Jakarta is not only the highest in Indonesia, but it is also the highest in the Southeast Asia region. The quality of its service, however, is still of poor quality. Limited access to water due to its high price and low service has resulted in water hacking and the on-going use of groundwater. The Cooperation Agreement, on the other hand, has locked the Government of Indonesia into a long term partnership which is very disadvantageous for the government and the residents.

Private sector involvement should be the last alternative to improve the management of the water supply service in Indonesia.

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ABBREVIATIONS

ATA	Automatic Tariff Adjustment
BPS	National Statistical Agency of Indonesia
CA	Cooperation Agreement
CAPEX	Capital Expenditure
GDS	PT. Garuda Dipta Semesta
IFIs	International Financial Institutions
IMF	International Monetary Fund
JWSRB	Jakarta Water Supply Regulatory Body
KATI	Kekarpola Airindo
LACA	Legal Adjustment of Cooperation Agreement
OPEX	Operational Expenditure
PALYJA	PAM Lyonnaise Jaya, a privately owned water enterprise operates in the Western Jakarta
PAM Jaya	Stately owned Jakarta Drinking Water Enterprise
PDAM	Municipal Drinking Water Enterprise
PPP	Public Private Partnership
PPSES	Performance Supervision and Evaluation System
RCA	Restated Cooperation Agreement
SOE	State Owned Enterprises
TPJ	Thames PAM Jaya now called Aetra, a privately owned water enterprise operates in the Eastern Jakarta
TWI	Thames Water International
NRW	Non Revenue for Water, it is water that has been produced and it is lost before it reaches the customers.
WHO	World Health Organisation

Chapter One – Introduction, Aim and Objectives

1.1 Introduction

Sufficient clean water is essential to everyone's wellbeing. Yet nearly 20 percent of the world's population or up to 1 billion people do not have access to safe and affordable drinking water (Budds and McGranahan, 2003). Access to water is a basic need and a nation's socioeconomic development can be measured by its ability to provide water. Lack of access to a safe supply of water reduces the productivity of people and it is a clear indication of whether they are in a poverty trap. Waterborne diseases impact disadvantageously on the ability of a household to generate income. The long hours waiting in line for water which is mainly done by women and children is time consuming, reduces opportunities for education and other activities that might generate better household incomes.

The problems of water supply were given high priority by the 2000 UN General Assembly, when it declared The Millenium Development Goals (MDGs). The objective of target 10 is to halve the number of people without access to clean water by 2015. Indonesia is one of the countries that committed itself to the MDGs and participated in the 2002 World Summit on Sustainable Development (WSSD) held in Johannesburg. Jakarta, the capital city of Indonesia, with an estimated population approaching 10 million people (Pemerintah DKI Jakarta, 2005) and growing at 1.4 percent annually (2005 Statistics, World Bank, 2007), faces a huge challenge in overcoming short falls in water supply.

According to figures provided by the WHO, each person requires approximately 50 litres to 60 litres a day to remain healthy (Goldman, 2007). This means, the city requires approximately 600 million litres per day to keep basic utilities such as drinking,

cooking and sanitation operating. The problem in Jakarta water supply is that although the two water companies, Thames PAM Jaya (TPJ)¹ and PAM Lyonnaise Jaya (PALYJA), are capable of producing the amount of water required, high percentage of water loss which reaches up to 50 percent along the distribution system reduces the ability of both companies to provide all of its customers with sufficient quantity and quality of drinking water (JWSRB, 2007).

On top of this there is a need for a much greater volume of water required to support economic growth and the activities associated with industry, agriculture and various kinds of businesses such as hotels, offices, shopping malls and recreation centres. Although these problems will not be the focus of this research they indicate how current demand is growing faster than the ability of the city administration to provide enough water.

The capital city's water supply comes from various sources which are unevenly distributed and of poor quality. These sources include a piped water network connected to the Capital City's drinking water service, groundwater, surface water (e.g. rivers), collected rain water, and water vendors (Shofiani, 2003). Less than 60 percent of the city's residents are connected to the network, which to this day still delivers non-potable water and owing to the presence of faecal coliform, residents are advised to boil their water. High percentage of water loss has continued to present a major financial problem to the Capital City's Drinking Water Service.

Those who neither formally nor informally access water from the Capital City's drinking water service rely on groundwater and a small percentage relies on other sources such as water vendors and commercialised bottled water which has been judged to be of poor quality and expensive (Bakker, 2006). Due to poor sanitation facilities, untreated

¹ Thames PAM Jaya (TPJ) has changed its name to Aetra since April 2008 after it sold its entire share to Acuatico and Alberta, the new shareholder. However, the name Thames PAM Jaya (TPJ) will continue to be used throughout this report.

industrial waste and overexploitation of the city's groundwater and surface water, the quality of the water supplied continues to fall. There are few supply alternatives like water sold by vendors. However, it is too expensive and certainly unreasonably priced for the poor.

To solve the Capital City's water supply problems the Indonesian government has agreed to adopt a twinned strategy backed by the World Bank. This involves placing water supply in the hands of the private sector and initiating appropriate water law reform. It is hoped that through efficiency gains, improved management and better access to finance, the private sector can improve access to water by extending networks and providing new connections to previously un-serviced customers (Bakker, 2006). Thus, with the hope for better service that will benefit everybody including the poor, Government of Indonesia in 1998 invited Thames Water International (British) and Suez-Lyonnaise des Eaux (French), two of the biggest private water companies in the world, to be involved in the operation and maintenance of Jakarta drinking water service as partners in Public Private Partnership (PPP)². Each private sector was awarded with twenty five years concession.

A few years after the establishment of Public Private Partnership (PPP) in Jakarta drinking water service, however, only little improvement was evident in the Capital City's water service performance. The majority of residents were not satisfied with the service and displeased with the continuing price increases set by the private sectors. Despite all the complaints made by residents, Government of Indonesia still sees private sectors involvement in water service as beneficial. In 2004, the new Water Law Number 7 was introduced by the Government of Indonesia to provide a framework for

² The term public-private partnership (PPP), not privatization, will continue to be used throughout the report to describe private sector involvement in Jakarta Water Supply Service. This is to emphasize that Jakarta Water Supply Service is using a concession based model which is not completely privatized as the word 'privatisation' can be viewed differently.

water sector management at the national level which also provide framework for private sector involvement in water utility. The public and Non Government Organisations (NGOs) claimed that the new Water Law is more of corporate centred than people centred. Public Private Partnership (PPP) in water supply continues to be a controversial issue both in Indonesia and globally.

This research was attempted to clarify what is happening to the Jakarta water service by interviewing different stakeholders to obtain their views on how the reformed system was working. This research was also undertaken to establish the reasons why the Indonesian government felt the need to give in to the pressure to privatise its water supply and determine the factors that led them to take this path rather than explore other alternatives. In conclusion this research also tried to answer the question “Was privatisation of the Jakarta water supply economically justified and socially advantageous for the city’s residents? If not, then why the Government of Indonesia continued the contract agreement with the private sector?”

1.2 Principal Research Question

After ten years of private sector involvement in Jakarta drinking water service, has the private sector succeeded in providing enough drinking water of sufficient quality that is economically justified and socially advantageous to Capital City residents?

1.3 Aim

The aim to this research is to evaluate the impact of public private partnership in Jakarta’s drinking water service and its impact on the City’s residents, ten years into the twenty five years contract.

1.4 Research Objectives

The specific objectives proposed were to:

1. describe and evaluate private sector participation in managing the provision of drinking water to Jakarta in a way that provided an informed response to the questions above;
2. identify and determine the advantages and/or disadvantages of the private sector involvement in the Capital City water provision;
3. establish customers satisfaction on the quality of Thames PAM Jaya (TPJ) service i.e. water quality, quantity and continuity, and the cost of water;
4. establish the customer income, the size of their families and use this information to find out what they could afford and get a measure of their willingness to pay;
5. identify the constraints and limitations facing Thames PAM Jaya (TPJ) in providing water to the residents of Jakarta.

1.5 Research Outline

This report of the research is divided into six chapters. Chapter One describes what the research is about and outlines the aim and objectives of the research. Chapter Two outlines the methods used and briefly introduces the range of institutions and organisations involved and the scope of the research. Chapter Three reviews the literature, articles in journals and previous dissertations which address the topic and provides background information on DKI Jakarta and its water service, privatisation theory, and water privatisation in particular. Chapter Four summarises Jakarta Water Supply Service performance, which are then discussed and analysed in Chapter Five. Finally, this research is concluded in Chapter Six.

1.6 Research Limitations

Time has been the major constraint in this research. My lack of familiarity with the institutions involved and lack of relevant contacts and informants slowed the process of gathering information and put pressure on me to complete the work within the set time

limit. The research involved sensitive issues and to establish trust with stakeholders was a major constraint. Even though my status as an independent researcher is understood by the institutions involved in this research, some were reluctant to share their views. It was difficult to get people's genuine thoughts.

Although Jakarta is my home town, when I started the research I had been living overseas for sometime and it took time for me to readjust to life in this complex metropolitan giant. Jakarta is a city where people from different provinces and different cultural backgrounds congregate. They arrive with a diverse range of expectations and the political, social and economic environment has a significant impact on individual attitudes, identities, personalities and the communities within the city which they live. This needs to be taken into account when conducting research and it does not make the task any easier.

Chapter Two – Researcher Background and Methodology

2.1 Researcher's Background

As I explained to those when I asked to participate in this research, I am a postgraduate student doing a Masters degree in Development Studies at Victoria University of Wellington. I have a background in Environmental Engineering, where the technological aspect of drinking water provision was part of my studies. The reason I choose this topic was to broaden my knowledge on the development of drinking water service to include its economic, social and political aspects. As a fluent speaker of Bahasa Indonesia, I had the advantage of being able to access relevant literature and local reports and conduct fieldwork with different stakeholders.

Water supply is a basic public service, traditionally provided by local government and maintained with revenue drawn from rate payers. However, due to the failure of local government to either collect the company revenue necessary to maintain the service or competently manage and extend the service as Jakarta grew in which demand has far outstripped supply, making up the shortfall has proved to be difficult. Developing the service means borrowing money. Since the economy crisis of the 1997 to 1998, international funding led by the International Monetary Fund (IMF) have been particularly reluctant to give loans unless they follow neo-liberal guidelines which promote private ownership. The underlying rationales argues that the disconnection between agencies with responsibility for providing the service and those who use it needs to be restored by introducing a 'user pays' arrangement.

Everybody is aware of the increasing demand for drinking water and the problem of short supply. Private sector participation has become a solution forced on developing countries rather than accepted as a popular choice. Private sector participation involves a second party outside the government, an agency that needs to make a profit. The downside to this arrangement is the reduction of government responsibility

to provide a public service and the likelihood of rising charges and therefore, making it increasingly difficult for people to pay for and get water. In Indonesia private sectors' involvement in the management of drinking water remains a public-private partnership, but is the service equally available to all?

Jakarta water supply was once managed by the city's public water sector company, PAM Jaya. However, due to its inability to provide drinking water for the rapidly increasing population, Government of Indonesia decided to invite two private companies as partners in a Public Private Partnership (PPP) in the management of Capital City's drinking water. The two private companies invited were directly awarded the contract by Government of Indonesia without having to go through public tendering process. They were Suez-Lyonnaise des Eaux (French) and Thames Water International (British), which in 1998 were granted a twenty five years concession contract with PAM Jaya (Bakker, 2006).

Several stakeholder groups were involved in the process of appointing the companies that were to participate in the Public Private Partnership (PPP) in Jakarta drinking water supply system, according to PAM Jaya (1998), they were as follows:

- The government which included the Ministry of Public Works, Ministry of Home Affairs, Ministry of Finance, National Development Planning Agency (BAPPENAS), Investment and Construction Development Agency (BAPEKIN), and the Regional Government of Jakarta;
- The Regional House of Representatives (DPRD Jakarta);
- The Regional Water Authorities which include PAM Jaya and the Regulatory Body;
- The International Donor Agency which include the World Bank and the Asian Development Bank;
- The two private companies, namely Thames Water International (TWI) and Lyonnaise des Eaux;

- Non Governmental Organisations (NGOs) which included the Indonesian Consumers Organisation (YLKI), Friends of the Earth (WALHI), Indonesia Drinking Water Communication Forum (FORKAMI), and International NGO Forum on Indonesian Development (INFID);
- Indonesia Water Supply Association (PERPAMSI);
- And consumers.

From the discussions I had with some of the stakeholders above (listed in section 2.4), all agreed that the Government decision to establish Public Private Partnership (PPP) in Jakarta drinking water service was rushed, unprepared and high risk. Indonesia, at the time when the decision took place, did not have a regulatory framework that regulates private sector involvement in public utilities, especially water which utility is human right. The decision was conflicting with the Constitution of the Republic of Indonesia³. It was especially difficult for PAM Jaya to finally agree to the partnership. Despite all of these debates which arose among stakeholders, PPP continued to take place and the Cooperation Agreement established.

According to the Cooperation Agreement for Eastern Jakarta, the general purposes of the Public Private Partnership (PPP) arrangement were to upgrade PAM Jaya production, distribution, management and technological capabilities. Thames Water International (TWI) has the expertise and financial and other sources relevant to the design, construction, management (including meter reading, billing and collection) and operation of facilities for the production and distribution of clean water and potable water. This is why Government of Indonesia decided to invite TWI to be involved in the operation and management of Jakarta drinking water service in the shape of Public Private Partnership (PPP).

³ Constitution of the Republic of Indonesia of 1945 and its Amendments stated in Article 28 regarding the 'right to water' and Article 33 regarding 'right to exploit water'.

The establishment of Public Private Partnership (PPP) in Jakarta drinking water service is expected to benefit all parties involved in which include to support economic and social development through water infrastructure development; achieve comprehensive coverage of piped water supply, extension of the distribution network, removal of the water supply backlog, change the use of ground water supply to piped water; upgrade supply and management; increase efficiency; ensure quantity, quality and continuity of the water supply; meet technical targets and service standards; upgrade customer services; reduce the quantity of unaccounted for water; improve operational performance, managerial capability and personnel performance; increase coverage ratio; and make the project self financing and economically viable.

After ten years of Thames PAM Jaya (TPJ) involvement in Jakarta drinking water service, has it met these targets? Above all I sought an answer to the following questions: Does the company provide a better service than PAM Jaya? Are residents of Eastern Jakarta satisfied with the service?

2.2 Methodology

2.2.1 Preliminary Data/Information

Preliminary data/information in this research was used as a background to the field study. It was gathered through VUW search databases on academic journals, related websites, books, reports, and domestic inter-loan requests. These are listed in References. Most of in country and local data/information used came from publications written in Bahasa Indonesia, while the general debate and comparative material was available in English.

2.2.2 Field Data/Information and Ethical consideration

Field data/information was gathered by conducting semi-structured interviews with different stakeholders in Bahasa Indonesia. Most of the interviews were recorded with

the consent from the interviewee and were later summarised before being analysed. All material collected was kept confidential. Audio tapes and summaries from interviews were kept confidential and safely locked in a cabinet and on a computer with password access. All material will be destroyed one year after the thesis is completed. This procedure follows the guidelines laid down by the Victoria University of Wellington Human Ethics Policy. All participants could choose whether to have their comments attributed to them personally or to have their identity remain confidential.

Human subjects are central to this research because it used interviews to get the views of different stakeholders on the Jakarta drinking water service, Thames PAM Jaya (TPJ). Thus, ethical considerations were very important. To avoid any possible harm that could arise from my research, I carefully followed the guidelines and got approval from the Human Ethics Committee of Victoria University of Wellington before I commenced fieldwork.

2.2.3 Semi-structured Interviews

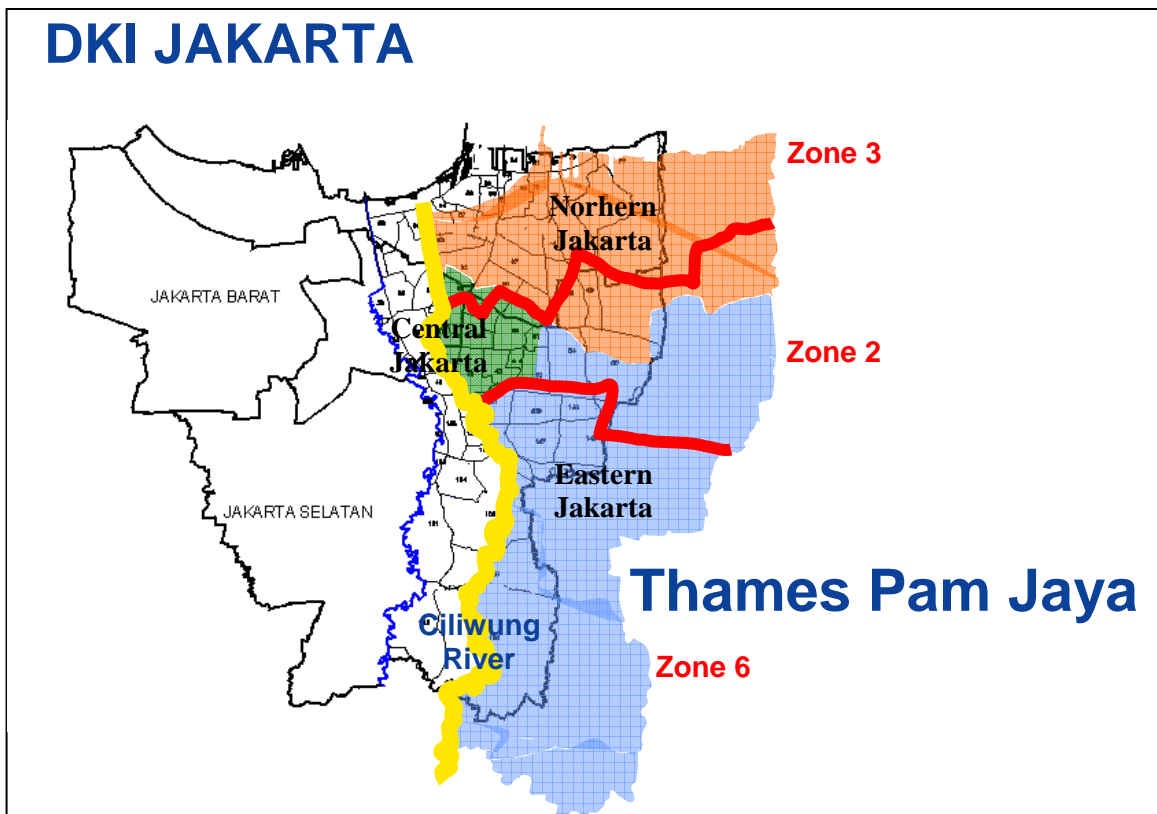
Semi-structured interviews were used in the field. The interviews were guided by a list of questions, but neither the exact wording nor the order in which the questions were asked was determined ahead of time. The interviews started with very broad open-ended questions and let the responses of the interviewees guide the flow of the conversation (The list of interview questions is attached in the Appendix D).

To get the view of consumers on water privatisation in Jakarta, a set of required questions was asked of consumers (Section 1 and section 2 of Appendix D) and followed by a very broad open ended question. To strengthen the results of the interview and have the advantage of being able to compare, these questions were adapted from a Master Thesis, written by Shofiani (2003).

2.3 Location

As shown in figure 2.1, *Daerah Khusus Ibukota Jakarta (DKI Jakarta)*, the Special Capital Province of Jakarta, is subdivided into five municipalities, including North Jakarta, Central Jakarta, West Jakarta, East Jakarta and South Jakarta. This research focuses on the eastern part of Jakarta, which is the service area of Thames PAM Jaya (TPJ), a privately owned water enterprise. This area was chosen because of its dense population and the majority of the city's poor live in the area, especially in the central and northern part of the company service area. Thames PAM Jaya's service area consisted of zone 2, zone 3 and zone 6 as shown in Figure 2.1. The total number of customers in these areas, according to PAM Jaya (2007) is 376,139 people. Thames PAM Jaya's total production capacity is 9,000 liter per second.

Figure 2.1 Map of Jakarta and PT. Thames PAM Jaya Service Area



Source: Thames PAM Jaya. (12 June 2007). *Pertemuan FKPM di Hotel Grand Mahakam. Jakarta.*

2.4 List of Participants

Two different groups of people were interviewed:

1. Representatives from the wide range of institutions, including

A. Government

- Department of Public Works of the Republic of Indonesia, Directorate of Drinking Water Development – responsible for the local governments' capacity building in the provision of urban and regional infrastructures, including urban settlements and its infrastructures in the framework of regional autonomy. The Department was involved in the process of Public Private Partnership (PPP), but did not play a major role.
- National Development Planning Agency (BAPPENAS), Sub-directorate of Drinking Water – responsible for the establishment of development plans and policies at the national level. BAPPENAS is in charge in preparing medium and long term national development programs for all sectors and of coordinating the ministries and evaluating the effectiveness of programs. Like the Department of Public Works, BAPPENAS was also involved in the process of Public Private Partnership (PPP).

In 1997, BAPPENAS initiated a series of discussions, which resulted in a new vision of water resource management that involve equal allocation of water supply utility, implementation of an integrated approach in the management of water resources, and introduction to the concept of water as an economic good (Shofiani, 2003).

B. Regional Water Authority

- PAM Jaya – a State owned Jakarta water enterprise, responsible for monitoring and evaluating private sectors performance in drinking water provision for the Capital City.

C. Regulatory Body

- BRPAM (Jakarta Water Sector Regulatory Body, JWSRB) – an independent and professional body, established in 2001 to mediate, facilitate and regulate the Jakarta Water Service Concession. The body is responsible to ensure a balanced interest between the water consumers and water operator with respect to the implementation of the concessionaire agreement for the provision of drinking water in the DKI Jakarta Province. The private sector is basically interested in the generation of profit while the public sector more considers service delivery at affordable prices.

D. Local NGOs

- Indonesia Drinking Water Quality Communication Forum (FORKAMI) – a local non governmental organisation (NGO), whose members consist of independent, non-bureaucratic professionals and experts working in the field of drinking water quality, who intended to provide a dialog mechanism among all stakeholders to guarantee efficient and effective cooperation to achieve the goal of a safe and healthy drinking water supply service for the community.
- Friends of the Earth Indonesia (WALHI) – a local Non Governmental Organisation (NGO), involved in the water privatisation campaign.
- People's Coalition for the Right to Water (KruHA) – a local Non Governmental Organisation (NGO), established in 2002, with a mission to fight for a people based water resource management system run by users and government in a manner consistent with the national constitution and excluding private and individual business from participation in water resource management.

E. International Financial Organisation

- The World Bank – one of the two major financial agencies, besides Asian Development Bank (ADB), involved in the provision of loans in water resources management in Indonesia. The World Bank was involved in the early process of PAM Jaya's Public Private Partnership (PPP). The bank, however, decided to step back from its involvement due to the direct appointment of the two private companies, Thames Water and Lyonnaise des eaux. Still, the Bank continued to provide assistance for the province of Jakarta to carry a study on the establishment of a regulatory body. The bank also provided the Water Resource Structural Adjustment Loan (WATSAL) to carry out a policy reform in water sector. One of the outputs of WATSAL is the Law of the Republic of Indonesia Number 7 of 2004 concerning Water Resources which is the framework of water resource management in Indonesia.

F. Private Water Enterprise

- Thames PAM Jaya (TPJ) – a privately owned water enterprise operates in the Eastern Jakarta. The company is responsible for the operation, maintenance development and investment of the Capital City drinking water system.
2. Interview with the customers – Sixty interviews were run. Customers included residents of Cipinang Cempedak, Koja Selatan, and Tanjung Priok which are located in the Eastern Part of Jakarta and as indicated above fall within Thames PAM Jaya (TPJ) service area. These areas were chosen because of several reasons. First, they are connected to TPJ pipe networks. Second, groundwater quality in the north-eastern part of Jakarta is brackish due to its location that is close to the sea which means they are highly dependent on the pipe water service.

Third, eastern part of Jakarta is known for its dense population, especially in the north-eastern area. Thus, the areas are highly potential for the private sector to obtain profit.

Customers interviewed range from low to high income households. They are civil employees, pensioners, traders and labourers with monthly income varied from less than five hundred thousands Rupiah to more than five millions Rupiah. The exchange rate of US Dollar to Rupiah in 2007 is approximately nine thousand and six hundred Rupiah per one US Dollar (Rp. 9,600.00/US\$ 1.00). Most customers own electronic appliances such as TV sets, radios and/or VCD players, even those who come from low income households.

Chapter Three – Literature Review

3.1 Public Private Partnerships (PPP) in Public Services

Public Private Partnership (PPP) is the name used by the World Bank to refer to private sector participation in the management of what used to be, almost exclusively, public service infrastructure. PPP was introduced as part of global economic reform during the 1980s and 1990s (Ariff and Iyer, 1995). Poor performance of state owned enterprises (SOEs) in the late 1970s triggered the move towards PPP. They emerged first in Great Britain under Thatcher governments in the early 1980s. They were part of a neo-liberal economic agenda and have quickly spread to other countries all over the globe, both in the developed and developing countries (Bayliss and Cramer of 2001). PPP is commonly found in the management of railroad, water utilities, banking, electric power provision, oil and gas production, healthcare delivery, education, telecommunications, and transportation services. PPP in public infrastructure can be divided into five types according the allocation of key responsibilities as shown in the table below.

Table 3.1 The Range of Private Involvement in Public Infrastructures and the Allocation of Key Responsibilities

Types of Contract	Service Contract	Management Contract	Lease	Concession	Build-Own-Transfer (BOT)	Divestiture
Asset Ownership	Public	Public	Public	Public	Private / public	Private
Capita Investment	Public	Public	Public	Private	Private	Private
Commercial Risk	Public	Public	Shared	Private	Private	Private
Operations / Maintenance	Private / public	Private	Private	Private	Private	Private
Contract Duration	1-2 yrs	3-5 yrs	8-15 yrs	25-30 yrs	20-30 yrs	Indefinitive

Source: Budds and McGranahan. (2003). Are the Debates on Water Privatisation Missing the Point? Experiences from Africa, Asia, and Latin America. *Environment & Urbanisation* Vol. 15, pp. 87-114.

Many governments invite private sector participation in their state owned enterprises (SOEs), in the form of Public Private Partnership (PPP), with the hope that the private

sector will run the enterprises more efficiently, bringing better service than the state could provide by infusing the enterprise with new capital, improved management practices, and better technologies. Another reason is to shed state enterprises that are operating at a loss and draining governments' funds.

Thatcher, herself, in the early 1980s, justified private sector by agreeing that their involvement in state owned enterprises (SOEs) can raise revenue for the State, improve economic efficiency, reduce government interference in the economy, promote more widely share ownership, introduce competition and subject SOEs to market discipline (Prasad, 2007). The following is a set of typical objectives pursued by private sector parties in SOEs, adopted from Prasad (2006) and Dinavo (1995). They are obliged to:

- achieve higher allocative and productive efficiency;
- strengthen the role of the private sector in the economy;
- improve the public sector's financial position;
- free resources for allocation to other important sectors such as social policy
- maximise consumer choice;
- promote competition; and
- improve quality and efficiency of the goods and services provided by state-owned enterprises

(Prasad, 2006, p. 672 and Dinavo, 1995, p. 5).

Efficiency is the central point of private sector involvement in state owned enterprises (SOEs) and economic growth becomes the reason for moving towards Public Private Partnership (PPP). North American and Western European economists assume that by increasing economic efficiency, the national financial performance will automatically be improved. This improvement, thus, brings net welfare gains and reduces poverty (Rodrik, 2004 and Bayliss and Cramer, 2001). PPP in its implementation, however, is

not always this simple, especially when the object is of social importance, such as water.

3.2 Public Private Partnership in Indonesia (PPP)

Initiatives leading towards private sector involvement in Indonesia's public services began in the 1980s during state economic policy reforms. However, it was a slow process. One explanation for this was the high degree of government involvement in the country's economic activities. Large numbers of enterprises in Indonesia were owned by the government. There was a huge concern that sudden reform would cause disaster to the nation's welfare. When Public Private Partnership (PPP) was introduced in Indonesia, the country did not have an adequate system of social security. With the absence of this system, a sudden withdrawal of government support increases the possibility of general destabilisation which may have resulted in the collapse of industrial and labour policies (Ariff and Iyer, 1995). This is why Government of Indonesia opposed to changes.

It was not until 1997, when Indonesia was hit hard by the Asian economic crisis that PPP came under serious consideration. The Indonesian Government, finally, committed itself to involve the private sector in its state owned enterprises (SOEs) as a condition for the provision of financial assistance by the International Monetary Fund (IMF). The reasoning seems to have been that since private capital was fleeing the country it was necessary to change conditions which determined the nature of the market and allow foreign investment in basic utilities.

3.3 Public Private Partnership (PPP) in Water Utilities

As mentioned in my opening chapter over one billion people worldwide today do not have access to safe drinking water, especially in developing countries. The World Health Organisation (WHO) estimates that in 2005, 1.6 million children under the age

of five (an average of over 4,000 every day) died from unsafe water and inadequate hygiene (Prasad, 2007). Both maintenance and extension of water supply networks require considerable investments. This is a dilemma that has changed the way we look at water from a social necessity to an economic imperative.

This view of water as being of economic importance arose out of agreements reached in the International Conference on water and environment that took place in 1992 in Dublin, Ireland. The Dublin Statement on Water and Sustainable Development or widely known as The Dublin Principles makes four points one of which is that “water has an economic value in all its competing uses and should be recognized as an economic good.” Thus water today not only has social value, but also economic value.

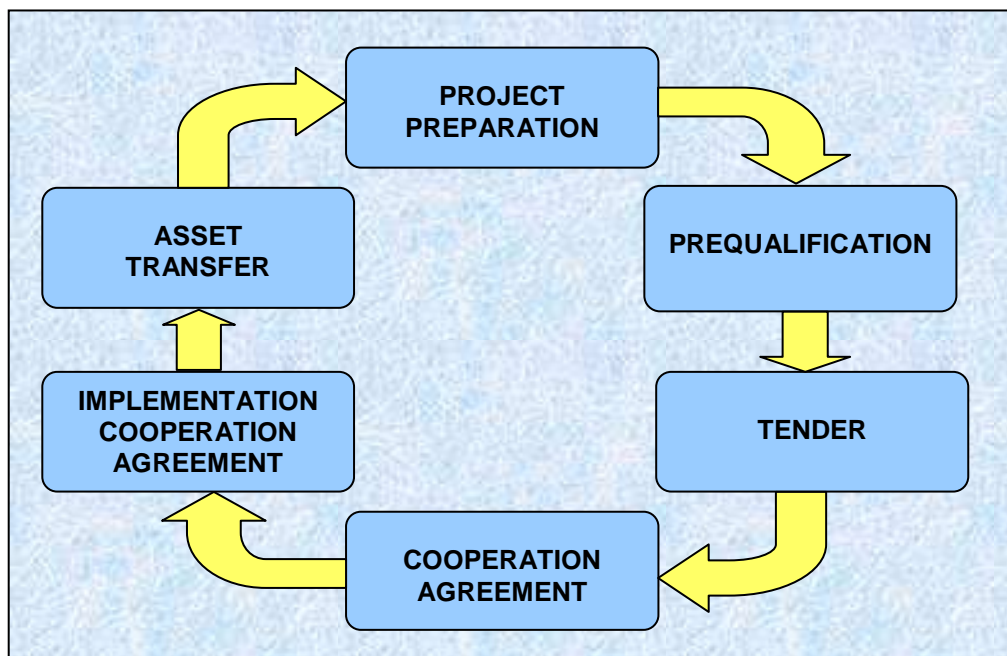
Based on this view, Public Private Partnership (PPP), which involves operating the water supply system on a full cost recovery principle, becomes a solution that is often used as a rationale on which to justify the need for considerable capital investments in the maintenance and extension of water supply. Efficiency is often the central point of this solution. Private sector can provide the much needed investment (new capital, better management practices and better technologies) to provide better service and to extend water services to the poor (WDM, 2006a). Thus, it is believed that the private sector can increase efficiency in the management of water utilities much more than the government could ever do.

Under Public Private Partnership (PPP), water becomes an economic good. This however, is not without problems. Given that water is a basic necessity, affordability of the service becomes a major issue. The water supply system is a natural monopoly and as such it is not free from problems associated with lack of competition, regardless of who owns or operates it (Prasad, 2007). Such problems may include charging higher prices or lowering production costs by decreasing the quality of service. In these

circumstances, government intervention, either through public management or through appropriate regulation, is often proposed.

PPP in water services is usually negotiated through contracts between public authorities and private companies. Figure 3.1 shows the main stages which have to be followed in the establishment of PPP. These stages include: (1) preparation state; (2) pre-qualification stage; (3) bidding stage; (4) contract agreement stage; and (5) monitoring and transfer stage.

Figure 3.1 PPP Life Cycle



Source: Water Supply Development Supporting Agency (2005)

Contracts are usually in the form of Cooperation Agreement. According Bakker (2003), the majority of Cooperation Agreements are granted on a concession basis. Under this type of contract, the private contractor manages the entire utility and is required to invest in the maintenance and expansion of the system at their own commercial risk (Budds and McGranahan, 2003). The role of the government, on the other hand, is predominantly regulatory.

In a concession, the government's rights and obligation to provide services and maintain the infrastructure are handed over to private firms under a specified contract to achieve the agreed targets under time duration of 25-30 years (Hidayat, 2006). However, in this type of contract, the government still owns the assets which mean after the contract is finished, responsibility for the operation and maintenance of the infrastructure is returned to the government.

In Indonesia drinking water service, Cooperation Agreements are mainly granted on Build-Own Transfer (BOT) and Concession basis (Table 3.1). The BOT type can be found in several cities in the provinces in Indonesia. These cities include Medan of North Sumatera Province, Jambi of Jambi Province, and Palembang of South Sumatera Province. The concession type on the other hand can found in Batam which according to the Water Supply Development Supporting Agency (2005) had some success stories. The Capital City's piped water service is also managed under concession agreements, but not as successful as Batam. Jakarta drinking water service which will be further discussed and analysed in this research.

3.4 Public Private Partnership (PPP) in Jakarta Drinking Water Service

From 1922 until late 1997 Jakarta water utilities were managed by the Government owned water supply company, *Perusahaan Air Minum DKI Jakarta* (PAM Jaya) (Lanti, 2006). However, due to its inability to provide drinking water for the rapidly increasing population that reached four percent annually, in 1998 the management was transferred to two of the largest private water companies in the world, namely Suez-Lyonnais des Eaux (French) and Thames Water International (British) which were granted a twenty five years concession contract with PAM Jaya (Bakker, 2006). The contract is in force since 1 February 1998 and will end on 1 February 2023.

According to Tutuko (2001), the current Technical Director of PAM Jaya, the process of concession took two years. Starting on June 1995, the President of the Republic of

Indonesia, Suharto at the time, announced that the Jakarta Water Supply System would be organized on a sector basis using the River Ciliwung as a dividing line. The Government of Indonesia then announced its decision to split Jakarta water supply system in two concession areas, Jakarta East and Jakarta West, with River Ciliwung being the boundary.

Two private companies were directly appointed by President of the Republic of Indonesia, Suharto, without public consultation nor a selection of bidding process to undertake operation, maintenance and management of water supply services in the area. They were Thames Water International (TWI) joined with local partner Kekarpola Airindo (KATI), now known as Thames PAM Jaya (TPJ), for the eastern area of Jakarta and Suez-Lyonnaise des Eaux joined with local partner Garuda Dipta Semesta (GDS), now known as PAM Lyonnaise Jaya (PALYJA), for the western area.

PAM Jaya and the two private companies above reached an agreement and signed the Memorandum of Understanding (MoU) on 6 October 1995, which required the consortia to prepare a feasibility study that had to be completed within 4 months from the date of signing the MoU. The final agreement was reached and the contract was signed on 6 June 1997 that came to be effective on 1 February 1998, which coincided with the economical and political crisis in Indonesia.

Due to the crisis the private firms asked for their agreements to be renegotiated. The changed circumstances had at least temporarily made it extremely difficult for them to meet the conditions imposed, and it was clear that they would be unable to meet the financial and operational performance objectives. They proposed a review of water charges based on operational and maintenance costs, poor efficiency, and investment delays. PAM Jaya needed to reschedule debts, adjustments had to be made to technical targets, and the management of human resources along with other aspects of the contract also needed to be clarified. The request was agreed to and an amended

and restated Agreement of Cooperation was finalized on 19 September 2001 and officially signed by the governor of Jakarta on 22 October 2001 (Tutuko, 2001).

3.5 Legal Aspects of Public Private Partnership (PPP) in Indonesia

During the early days of negotiation over private company involvement, several existing regulations were critically reviewed. Those regulations included:

- Law Number 5 of year 1962 regarding Regional Government Owned Companies
- Regulation of Minister of Home Affairs Number 3 of year 1986 regarding Third Party Participation on Regional Investment
- Regulation of Minister of Home Affairs Number 4 of year 1990 regarding Procedure of Cooperation Between Regional Government Owned Company and a Third Party
- Decree of Minister of Home Affairs Number 690.900-327 of year 1994 regarding Monitoring of Financial Performance of PDAMs
- Government Regulation Number 20 of year 1994 regarding Shares Ownership of Company Established on Foreign Capital Investment Framework

According to Shofiani (2003), however, none of the above regulations specify in detail procedural guidelines that must be followed by public private partnership engaged in supplying drinking water.

An integrated framework covering Public Private Partnership (PPP) concerning drinking water supply was established just after the PPP policy concerning the Jakarta water supply system was decided. Those regulations include:

- Instruction of Minister of Home Affairs Number 9 of year 1995 regarding Implementation of Regulation of Minister of Home Affairs Number 4 of year 1990.
- Instruction of Minister of Home Affairs Number 21 of year 1996 regarding Cooperation Guidelines between PDAM and Private Sector.

- Presidential Decree Number 7 of year 1998 regarding Public Private Partnership on Infrastructure Development and/or Management
- Decree of Minister of National Development Planning Number KEP.319/PET/10/1998 regarding Implementation of Public Private Partnership on Infrastructure Development and/or Management.
- Decree of Minister of Settlement and Regional Infrastructure Number 409/KPTS/2002 regarding Guidelines of Public Private Partnership on Provision and Management of Drinking Water and Sanitation.

Recently, a new regulation was introduced, known as the Presidential Regulation of the Republic of Indonesia Number 67 of 2005 concerning the Cooperation between the Government and Business Entities in the Provision of Infrastructure. With this new regulation in place, the Presidential Decree Number 7 of 1998 is no longer effective.

3.5.1 The Cooperation between the Government and the Business Entities in the Provision of Infrastructures

The cooperation between the Government and the Business Entities in the provision of infrastructures is regulated under Presidential Regulation Number 67 of 2005. All shapes of private sector involvement in state owned enterprises are regulated is controlled under this regulation, including those that exist in drinking water infrastructure development and management. The content of the Presidential Regulation consist of the objective, type, form and principle of the cooperation; identification and stipulation of the project executed by virtue of the cooperation agreement; cooperation project based on the initiatives of the business entities; initial tariffs and tariff adjustment; risk management and government support; business entity procurement procedure within the framework of cooperation agreement; cooperation agreement; provision of infrastructure by virtue of an operation permit; and transitory provisions.

There are several points in the content of the Presidential Regulation that I would like to stress. Those include:

- The purpose of the cooperation should be to: meet the financial requirement in a sustainable manner in providing the infrastructure through the mobilization of private funds; improve the quantity, quality and efficiency of service through fair competition; improve the quality of management and maintenance in the provision of infrastructure; and encourage the utilization of the principle of user paying for the services that they receive, or in certain cases take into consideration the users' ability to pay (Presidential Regulation of the Republic of Indonesia Number 67 of 2005, p. 4).
- Infrastructure for drinking water, in which, a cooperation can be entered with the private sector comprise of the structure used to extract raw water, transmission network, distribution network, and drinking water procession installation (Presidential Regulation of the Republic of Indonesia Number 67 of 2005, p. 4).
- The cooperation on the provision of drinking water infrastructure between the Government of Indonesia and the private sector shall be carried out based on 8 principles, including fair, open, transparency, competition, accountable, mutually beneficial, reciprocal need, and mutually supportive (Presidential Regulation of the Republic of Indonesia Number 67 of 2005 article 6 of Chapter II, p. 4).
- Private sector procurement procedure within the framework of the Cooperation Agreement shall be carried out by means of a public tender and the Minister of the Institution shall determine the tender winner based on the proposal from the procurement committee (Presidential Regulation of the Republic of Indonesia Number 67 of 2005, p. 10).

3.6 Indonesia's Water Resources Management

Up until year 2004, Indonesia did not have a legal framework to regulate the use and management of its water resources. The only regulation in existence was the Irrigation Law which hardly mentions drinking water. This became a problem when the need for an adequate supply of drinking water intensified owing to population growth and increased competition for limited water resources. To overcome this problem, in 2004 the Government passed a new law to regulate the management of water resources.

Today, the drinking water supply system in Indonesia is regulated under the Law of the Republic of Indonesia Number 7 of 2004 concerning Water Resources. The implementation of the Law is regulated by the GoI specifically the Presidential Office, and the Ministry of Internal Affairs.

3.6.1 Water Resources Law

The Water Resources Law Number 7 of 2004 is a new law replacing the previous Law No. 11 of 1974 on Water Resources which was no longer applicable under current social, economic and environmental conditions which are so fundamentally affected by globalization. This law makes provision for the sustainable management of water resources, water supply and wastewater, and the participation of the private sector, as well as cooperatives and communities.

Like the previous Law, the Water Resources Law Number 7 of 2004 regulates the exploitation of all type of water resources in Indonesia, including surface water, ground water, rainwater, and sea water. The difference is it provides clauses on private sector participation in the development of water and sanitation which were not included under previous legislation. Indeed, the involvement of Thames PAM Jaya (TPJ) in the management of the Eastern Jakarta water supply from 1998 to 2004 was not regulated

under primary legislation and only fell under specific contract regulations negotiated by TPJ.

The new Water Law established tradable water rights and redefined water as an economic good which is in line with the evolution of international governance frameworks over the past two decades (Bakker, 2005). The new legal definition of water rights, however, has raised issues that are actively contested by Non Governmental Organisations (NGOs), consumers, Community Based Organisations (CBOs) and civil society groups. These parties have launched campaigns and court procedures which challenge the legitimacy of the new water law, arguing that free and open access to water is a basic human right.

3.6.2 Development of Drinking Water Supply System

The development of drinking water supply system is controlled under the Government Regulation Number 16 of 2005 which regulates the implementation of Law No. 7 of year 2004. The Regulation is issued to formulate the role, responsibility, rules and procedures on how the Local Government will manage the water supply and wastewater system and how the private sector participate in the water supply development including the establishment of Water Supply Development Supporting Agency.

The objectives of Government Regulations concerning the development of drinking water service include the need to achieve:

- a high quality service management system that is affordable;
- a balance between the needs of consumers and the drinking water service enterprise; and,
- increase efficiency and better coverage of the consumer area.

To achieve the above objectives large amount of investment is needed. As it is stated in the Government Regulation that capital investment is required for construction, expansion, and improvement in technology and management system. Sources of investment may come from State Grant, loan, small economic enterprises manage by the community (*Koperasi*), Private Sector/business entities, Public, and/or other sources according the existing regulation. Therefore, the Government Regulation supports private sector involvement in Indonesia's water service.

3.7 Tariffs

The tariff (Rupiah per cubic meter) is the charge levied to consumers for customer services. These charges include volumetric charges, fixed charges and meter charges (Appendix A). Since 3 July 2006, water tariffs are determined in accordance with the Ministry of Home Affairs of the Republic of Indonesia Regulation Number 23 of 2006 concerning the Technical Guidance and the Municipal Drinking Water Enterprise (PDAM) Drinking Water Tariff Control. According to the Regulation, tariff levels are based on 6 principles, including affordability for the user and fairness; quality of service; full cost recovery; efficiency of water utility; transparency and accountability; and the conservation of raw water.

Affordability is a major issue in private sector involvement which is profit oriented. Affordability, according to the Ministry of Home Affairs Regulation, is the tariff applied to water users whose income is equal to the provincial minimum wage and that the cost of drinking water shall not exceed 4 percent of a user's income.

To prevent debts due to inflation, tariffs are adjusted. Tariff adjustment may be made every year with the approval from the Governor. Thames PAM Jaya (TPJ) submits the proposal to the Regulatory Body to get approval from the Governor of DKI Jakarta. Tariffs set should be based on 6 principles, including affordability and fairness; quality

of service; full cost recovery; efficiency of water utility; transparency and accountability; and the conservation of raw water. If the adjustment is approved, then the technical targets and service standards will be adjusted according to availability of capital.

What the consumers pay for water, according to the Regulation, is based on a progressive tariff with cross subsidies between the high and low-income households. Progressive tariff system is used to achieve sustainability of raw water because it is dependent on the quantity consumed by a household. Cross subsidies, on the other hand, are used to achieve the social objectives. Table 3.2 show the classification of consumers.

Table 3.2 Description of Consumer Groups

Consumer Group	Description
Group I	Social institutions, orphanages, religious facilities and public hydrant
Group II	Public hospitals, very poor households, water storage and tanks
Group IIIA	Middle-income households, middle-income flats, non-commercial bodies, kiosk, small workshops, small-scale business, and small domestic business
Group IVA	Upper-middle-income households, embassies, consulates, government offices, foreign representatives, private commercial bodies, schools, training centres, military facilities, medium class workshops, barbershops, tailors, small restaurants, private hospitals and laboratories, clinics, law offices, small hotels, small industries, superb apartments
Group IVB	Stars hotels, beauty saloons, night clubs, banks, large scale workshops, large trading, sky scrapers buildings, factories, amusement parks, fantasy lands
Group V/Special	Tanjung Priok Harbour

Source: Governor of DKI Jakarta Regulation No. 11 of 2007

3.8 Standard of Service Performance

To indicate the success or failure of Public Private Partnership (PPP) in Jakarta Drinking Water Service, a Standard of Service Performance is prepared at the beginning of the twenty five years contract and agreed to by both parties as stated in the Cooperation Agreement (22 October 2001). This include the State owned Jakarta Water Enterprise, *Perusahaan Daerah Air Minum Daerah Khusus Ibukota Jakarta (PAM Jaya)* acting as the first party, and the privately owned water enterprise which

operates in Eastern Jakarta, Thames PAM Jaya (TPJ) acting as the second party. The Standard of Service Performance is divided into two types, service standards and technical targets. Thames PAM Jaya (TPJ) in this case needs to fulfill the following standards.

3.8.1 Service Standards

Service standard indicators include water quality, water pressure, time of respond to complaints, repair for interruption in distribution network, and the time to set up new connections.

a. Water Quality

PAM Jaya applies a water quality standard subject to the Decree of the Ministry of Health Number 416/MENKES/X/PER/1990. The standard, as shown in the Appendix B, has two levels, one for potable water, which means directly drinkable, and the other for clean water which should be boiled before drinking. An ambitious target was set in the Cooperation Agreement that Thames PAM Jaya (TPJ) will supply potable water to its consumers by early 2008. This target, however, is too ambitious. Consumers of TPJ up to this day (15 November 2008) still receive non-potable water.

b. Water Pressure

Many large urban water supply networks suffer from low pressure and this includes Jakarta. Almost 26 percent of the customers experience some problems with the continuity of piped water. The standard of water pressure is at 0.3 – 0.75 atm.

Table 3.3 Water Pressure Target

Water Pressure	Percentage of Cooperation Region			
	End of Year 3	End of Year 4	End of Year 5	End of Year 10
≥ 0.75 atm	38%	46%	50%	100%
0.3 – 0.75 atm	-	30%	35%	-

Source: Tutuko, K. (2002). *Jakarta Water Supply*. Jakarta

c. Time of Respond to Complaints

Consumers' complaints can be divided into three types including burst main, break in water supply and water quality complaints. The agreed times allowed to respond to these complaints respectively are less than 2 hours, less than 4 hours and less than 6 hours.

d. Repair for Interruption in Distribution Network

Distribution network here is divided into three types of pipe, including tertiary pipe (diameter of more than 100 mm), secondary pipe (diameter of 150 mm - 250 mm) and primary pipe (diameter of more than 250 mm). Pipes should be fixed in less than 6 hours, less than 12 hours and less than 72 hours respectively under normal condition.

e. The Time to Set Up New Connections

The standard time to set up a new connection is less than 1 hour.

3.8.2 Technical Targets

Table 3.4 below shows the technical targets of Thames PAM Jaya (TPJ) in accordance to the amended and restated Cooperation Agreement of October 2001.

Table 3.4 Technical Targets of Thames PAM Jaya

Technical Targets	Year 1	Year 2	Year 3	Year 4	Year 5	Year 25
Volume of Water Billed (million m ³)	91.96	105.90	117.94	121.83	131.32	183.50
Water Production (lt/dt)	8,523	7,827	7,408	7,282	7,309	7,758
UFW (%)	58.07	51.74	45.74	45.03	43.03	25.00
Number of Connections (unit)	278,083	285,735	304,303	315,126	335,413	430,813
Service Coverage Ratio (%)	57	57	59	60	62	About 100

Source: Tutuko, K. (2002). *Jakarta Water Supply*. Jakarta

a. Volume of Water Billed

Volume of water billed here means the amount of treated water that is produced, delivered and sold to customer. The amount of volume sold is greatly affected by non revenue water (NRW).

b. Production Capacity

Production capacity is the amount of water produced by the water treatment plant. Poor quality and limited amount of raw water availability can negatively affect production capacity. Raw water quality is usually identified by the level of turbidity and coli form presence. In the Capital City, problems lay on poor condition of existing sanitation facilities and waste water system.

c. Non Revenue Water (NRW)

Non revenue water (NRW) describes water that has been produced and is "lost" before it reaches the customer. Losses can be physical losses, through leaks, or apparent losses, through theft or metering inaccuracies. High levels of NRW are disadvantageous to the financial viability of water utilities, as well to the quality of water itself. NRW is typically measured as the volume of water "lost" as a share of net water produced. However, it is often presented in percentage. NRW in Eastern Jakarta remains very high, up to 52 percent in 2006 (JWSRB, 2007). The World Bank recommends that NRW should be less than 25 percent.

d. The Number of Connections

The number of connections describes the number of households that are connected to TPJ water service. Throughout 1998-2006, TPJ has succeeded in extending pipe networks to 885 km (*Media Indonesia*, 12 June 2007).

e. Service Coverage

Service coverage is the percentage of population served by the company. Another ambitious target set the private companies is 100 percent coverage by 2003.

f. Financial Investment

In 2006, TPJ invested Rp. 47.234 billion for rehabilitation of networks, production unit and water meter, as well for installing new district water meter (*Media Indonesia*, 12 June 2007).

3.9 Sanctions and Penalties

According to the Restated Cooperation Agreement of 22 October 2001, sanctions can be applied to Thames PAM Jaya (TPJ) when at any time it fails to meet the service standards which include water quality supply to customers, pressure at customer connection, routine interruption in distribution network, emergency supplies, and/or verified customer complaints. Sanction and penalty can also be applied to TPJ for not complying with obligations related to assets and investment program.

The Cooperation Agreement also explains the procedure of payment. Any penalty payable by Thames PAM Jaya (TPJ) should be paid to PAM Jaya and directly to its bank account which is opened specifically for the purpose of sanctions and penalties. However, if at the same time there remains monies owing by PAM Jaya to TPJ, after fulfilment of the obligation to pay PAM Jaya primary requirements, the Regulatory Body financial requirement and the Local Government of DKI Jakarta in full, TPJ have the right to set-off the amount of penalty against the monies owing by PAM Jaya the amount to set-off accordingly. Any use of funds in the bank account should be for the benefit of the project. Sanctions and penalties will be further discussed in Chapter Five.

3.10 Conclusion

It was unfortunate for TPJ that the introduction of PPP coincided with the political and economic crisis of 1998. This made it difficult to launch the joint enterprise in a favourable and supportive environment. Proper regulations were not in place and

several legal enactments since 1998 may have changed the operating environment to safeguard the interests of the community but it is difficult to generate much sympathy for the difficulties the company has had to face. They were complicit in the closed agreement negotiated with President Suharto. They have continued to use their agreements with the authorities as their main point of reference and challenged the application of new regulations as breach of contract.

The physical state of the treatment and reticulation infrastructure inherited by the joint enterprise also presented a challenge but must have been carefully examined by the companies before they committed themselves to a relatively long term contract. A proper sociological and demographic reconnaissance would have alerted them to the process of rapid urbanisation and the axiomatic growth of the city. This brings us to the following questions: Did they foresee an increasing number of clients as a promise of greater profitability? According to the privatisation doctrine did they think that better management and strategic investment would simply result in increase efficiency and result in a more profitable enterprise?

In the next chapter I will review their performance by comparing it with the history of the service when it was a public utility.

Chapter Four – History of Jakarta Water Supply Performance

This chapter presents an unencumbered history of Jakarta water service delivery from 1993 to 2007. This will enable the reader to see the changes that occurred over two periods, first when the service was provided by the Jakarta Water Supply Enterprise, PAM Jaya, from 1993 to 1997 and later from 1998 to 2007 when it was taken over by a public-private partnership company by the name of Thames PAM Jaya (TPJ).

The review of performance will be in the next chapter (Chapter five) serve as a baseline against which the various opinions of a wide range of stakeholders can be placed in perspective.

4.1 PAM Jaya Performance 1993 to 1997, before PPP was put in place

Table 4.1 below shows PAM Jaya achievements including production capacity, total number of connections, service coverage ratio, non revenue water and the volume of water billed from 1993 to 1997. Over its period of management PAM Jaya was able to achieve improvements in all indicators, except for non revenue water (NRW).

Table 4.1 Achievements of PAM Jaya (1993 to 1997)

Year	Production Capacity (million m ³)	Total Connections*	Total Population Served	Service Coverage Ratio (%)	Non Revenue Water (%)	Volume of Water Billed (million m ³)
1993	298.11	324 433	2 488 491	38	53	158
1994	323.08	349 849	2 658 852	38	52	168
1995	317.31	362 618	2 755 897	39	57	165
1996	308.77	393 746	2 992 606	41	57	176
1997	382.00	428 764	3 258 606	42	57	191

*In average 7.6 people per connection

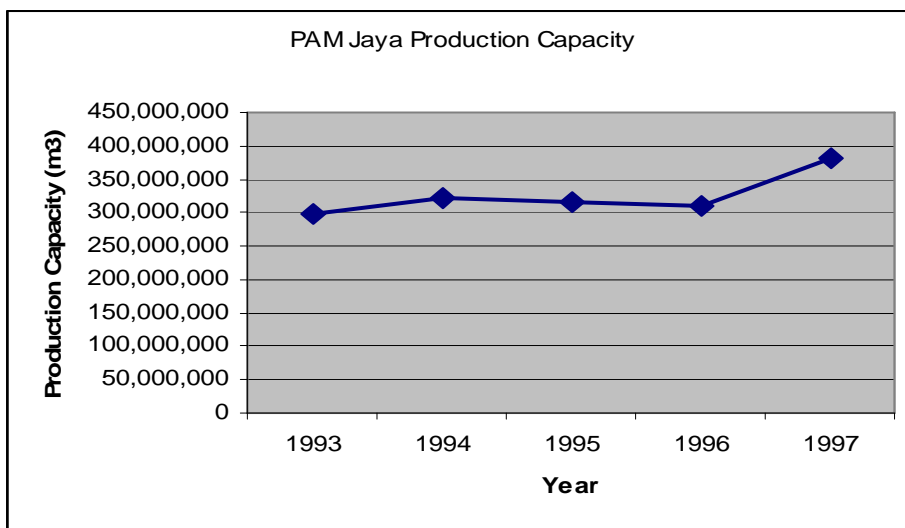
Source: Ardhanie (2005) and Azdan (2001)

4.1.1 Production Capacity

Throughout the period 1993 to 1997, PAM Jaya was able to improve water production by 22 percent (Figure 4.1). However, due to high non revenue water (NRW) losses of

over 50 percent, PAM Jaya was only able to collect revenue on just under half the amount of water produced. The estimated water loss includes 40 percent due to pipe leakages in the distribution network and 10 percent due to unpaid bills. The high NRW was the major reason why PAM Jaya was unable to improve its net profit throughout 1993 to 1997 even though overall revenue increased (Azdan, 2001).

Figure 4.1 PAM Jaya Production Capacity (1993-1997)

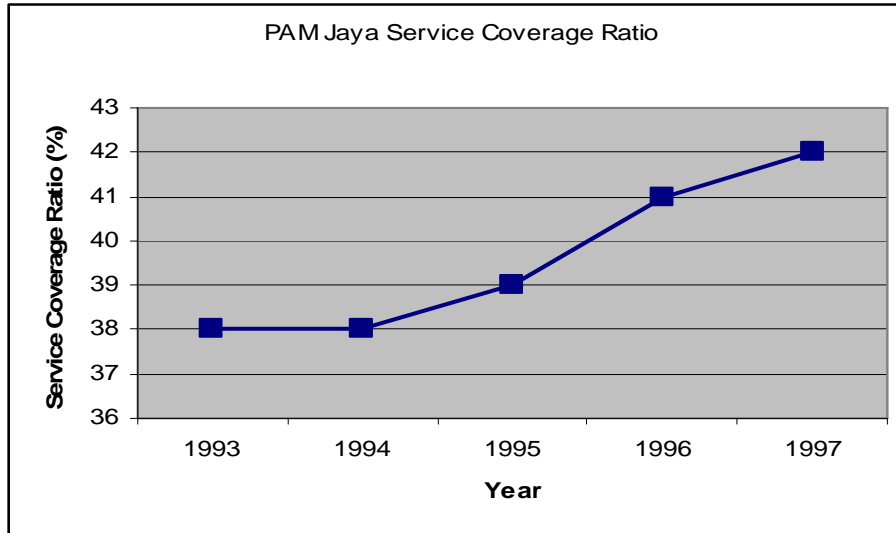


Source: Ardhianie (2005) and Azdan (2001)

4.1.2 Service Coverage

Throughout PAM Jaya's tenure they were able to improve their service coverage from 38 percent of their allocated area in 1993 to 42 percent in 1997. Over this period PAM Jaya installed 104,331 units. This means that on average 20,866 new household connections (5 percent) were installed each year. The number of people served increased by a total of 770,000 people, an average annual increase of approximately 195,000 people (Azdan, 2001).

Figure 4.2 PAM Jaya Service Coverage Ratio (1993-1997)



Source: *Ardhianie (2005) and Azdan (2001)*

4.2 Thames PAM Jaya (TPJ) Water Service Performance 1998 to 2007

When Thames PAM Jaya (TPJ) took over the service, their performance was monitored by PAM Jaya using a monitoring and evaluation methodology known as Procedure on Performance Supervision and Evaluation System (PPSES). The use of this was specified in the Cooperation Agreement of 2001. In monitoring and evaluating the company's performance, PAM Jaya used technical targets and service standards agreed to by all parties, i.e. PAM Jaya and the two concessionaires, TPJ and PAM Lyonnaise des Eaux (Palyja) as indicators of achievement.

Each private sector agency has to report to PAM Jaya on technical and service standards achieved each month, annually and every five years. If private sector companies could not achieve the targets set, sanctions could be applied. This however did not work. Even though sanctions were applied they could not be enforced and companies basically did what they wanted.

4.2.1 Service Standard

The service standards set for private sector operators in the Cooperation Agreement of 2001 included: water quality, water pressure, time to respond to complaints, the length of time service was suspended while repairs were carried out on the distribution network, and the time taken to install new connections. These are reviewed immediately below.

4.2.1.1 Water Quality

A survey of customer satisfaction with Thames PAM Jaya (TPJ) water service was conducted by Jakarta Water Supply Regulatory Body (JWSRB) in 2005. Results show that since TPJ commenced operations in 1998, they have been able to improve the quality of treated water to a standard acceptable to the Ministry of Health Regulation, PERMENKES No. 416/Men Kes/Per/IX/1990 (PAM Jaya, 2007). However, due to the high number of leaks on its distribution pipes which allows for the ingress of foreign matter, until today TPJ has not been able to provide its customers with potable drinking water.

4.2.1.2 Water Pressure

Owing to low water pressure Thames PAM Jaya (TPJ) is also still unable to provide sufficient water at a number of household connections in its coverage area. As a consequence those closest to the head of the system get enough and those further away go short. According to the target agreed in the Cooperation Agreement, by the end of 2007 water pressure at all customer points should be delivered at more than 0.75 atm. It is still widely acknowledged that water pressure continues to drop between the head of the system to the periphery. This has not improved over time. In a July 2006 survey data showed that 63 percent of all connection points (customer points)

received water flowing at a pressure at more than 0.75 atm. By the end of June 2007 only 31 percent of clients were receiving water at this level (PAM Jaya, 2007). This was caused by over extending the number of new connections. Since 1998, Thames PAM Jaya has installed over ninety nine thousand new connections.

4.2.1.3 Time Taken to Respond to Complaints

According to a survey carried out by PAM Jaya in 2007, there had been no significant improvement in the time it took for Thames PAM Jaya (TPJ) to respond to complaints.

4.2.1.4 Time Taken to Repair Faults in the Distribution Network

Not all the news is bad. Thames PAM Jaya (TPJ) has improved repair times and the consequent interruption to water availability. This improvement holds for cases involving tertiary, secondary and primary pipes.

4.2.1.5 New Connections

A survey done by PAM Jaya in 2007 shows that Thames PAM Jaya (TPJ) has been able to reduce the time taken to install new connections to just under one hour. In September 2006, only 46 percent of new connections took this long but by June 2007 this had risen to over ninety eight percent.

4.2.2 Technical Targets

Technical targets set for Thames PAM Jaya (TPJ) included volume of water billed, number of connections, production capacity, non revenue water (NRW), and service coverage ratio. Table 4.2 and table 4.3 present the targets and achievements of TPJ.

Table 4.2 Target of TPJ 1998-2007

Year	Volume of Water Billed (m ³)	Water Production (lt/sec)	Non Revenue Water (%)	Number of Connection (units)	Service Coverage Ratio (%)
1998	91,960,000	8,523	58.07	278,083	57.00
1999	105,900,000	7,827	51.74	285,735	57.00
2000	117,940,000	7,408	45.74	304,303	59.00
2001	121,830,000	7,282	45.03	315,126	60.00
2002	131,320,000	7,309	43.03	335,413	62.00
2003	141,400,000	8,231	44.43	360,469	64.40
2004	140,390,000	8,860	48.20	368,250	66.80
2005	144,000,000	8,235	44.55	379,032	69.20
2006	146,280,000	8,078	42.58	387,158	71.60
2007	148,474,056	7,925	34.03	391,205	74.00

Source: Jakarta Water Supply Regulatory Body (2007)

Table 4.3 Achievements of TPJ 1998-2007

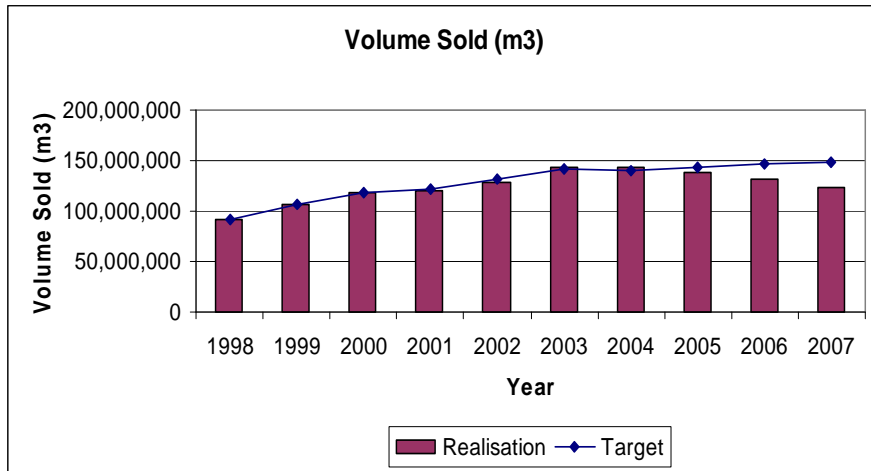
Year	Volume of Water Billed (m ³)	Water Production (lt/sec)	Non Revenue Water (%)	Number of Connection (units)	Service Coverage Ratio (%)
1998	91,962,344	7,799	58.07	278,083	57.00
1999	105,900,328	7,827	51.74	285,735	57.00
2000	117,944,722	7,429	45.74	304,303	59.00
2001	120,422,331	8,054	49.90	320,282	60.97
2002	128,960,781	8,032	48.23	336,550	62.17
2003	142,791,817	8,231	44.43	360,469	65.59
2004	143,569,487	8,860	48.20	368,250	67.06
2005	137,736,032	8,729	49.58	364,551	66.45
2006	131,818,196	8,903	52.56	374,211	67.26
2007	122,852,892	8,303	52.64	377,383	67.30

Source: Jakarta Water Supply Regulatory Body (2007)

4.2.2.1 Volume of Water Billed

The volume of water billed was set as a priority target because it directly determines the revenue received from customers, which is then shared between PAM Jaya and Thames PAM Jaya (TPJ). Up until 2004 TPJ was able to meet the target. However, in following years TPJ failed to deliver. This was mainly due to the increasing number of households drawing off water that they did not pay for (non revenue water, NRW).

Figure 4.3 Thames PAM Jaya Volume of Water Billed (1998-2007)

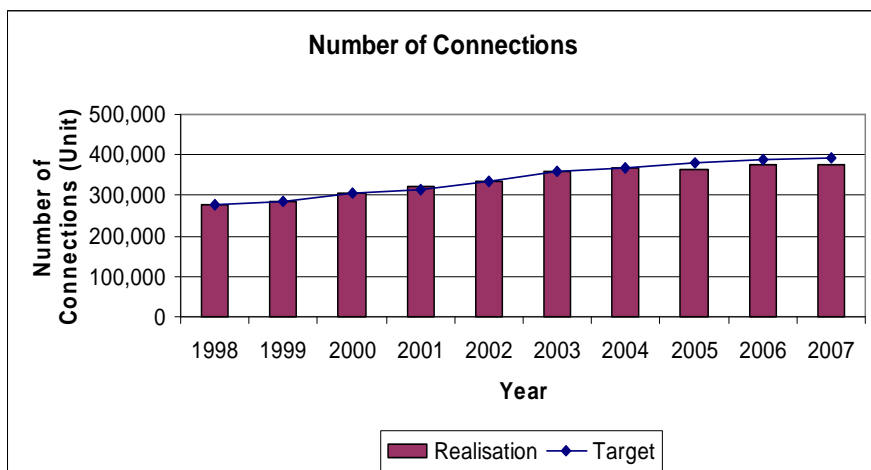


Source: Jakarta Water Supply Regulatory Body (2007)

4.2.2.2 Number of Connections

During the first few years after 1997, Thames PAM Jaya (TPJ) was able to increase the number of connections by 44 percent (Shofiani, 2003). Steady progress continued to be made up to 2004. However, just increasing the number of connections, when there is already not enough water to go round does not make good sense. Clients cannot be made to pay for water they do not receive.

Figure 4.4 Thames PAM Jaya Total connections (1998-2007)

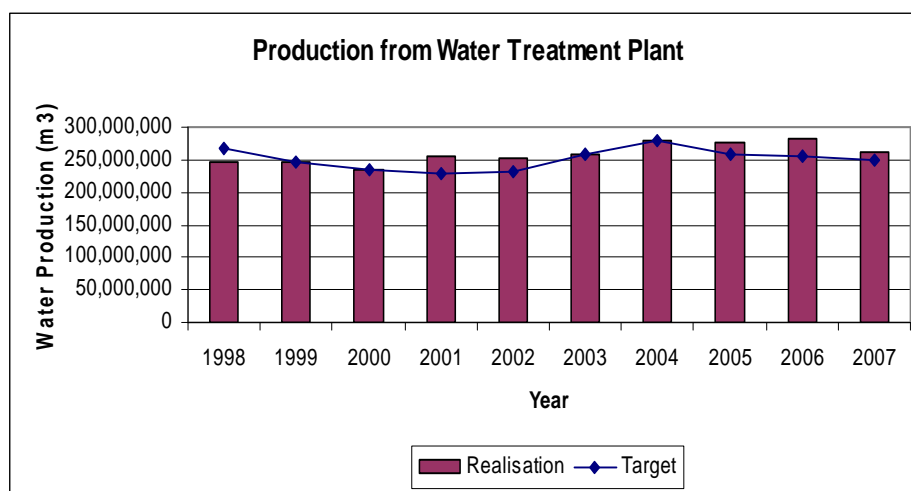


Source: Jakarta Water Supply Regulatory Body (2007)

4.2.2.3 Production Capacity

Figure 4.5 shows that Thames PAM Jaya (TPJ) has been able to meet its water production targets, and repeat this achievement several times. Given this success one would expect that by now all residents of eastern Jakarta would enjoy access to piped water. Unfortunately this is not the case. Due to high non revenue water (NRW) rates there is still not enough to reach genuine paying clients.

Figure 4.5 Thames PAM Jaya Production Capacity (1998-2007)

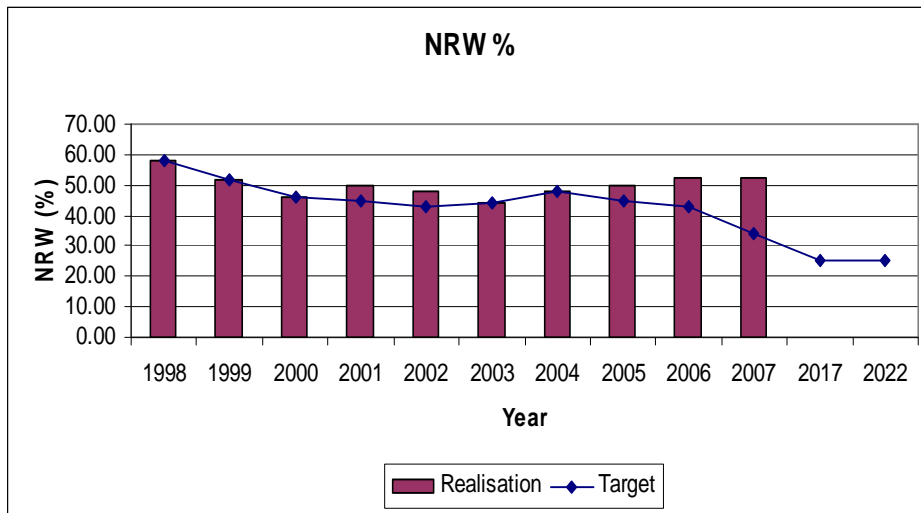


Source: Jakarta Water Supply Regulatory Body (2007)

4.2.2.4 Non Revenue Water (NRW)

Despite all of Thames PAM Jaya (TPJ) efforts to reduce non revenue water (NRW) by tracing down and cutting off illegal connections, as well as rehabilitating old pipes in the distribution network, water losses continue to exceed 50 percent. If it was meeting its NRW target TPJ would have reduced NRW down to 34 percent. However, throughout 2002 to 2007, NRW increased by 4.41 percent, from 48.23 percent in 2002 to 52.64 percent in 2007. The over all proportion of total production available to paying customers has declined.

Figure 4.6 Thames PAM Jaya Non Revenue Water (1998-2007)

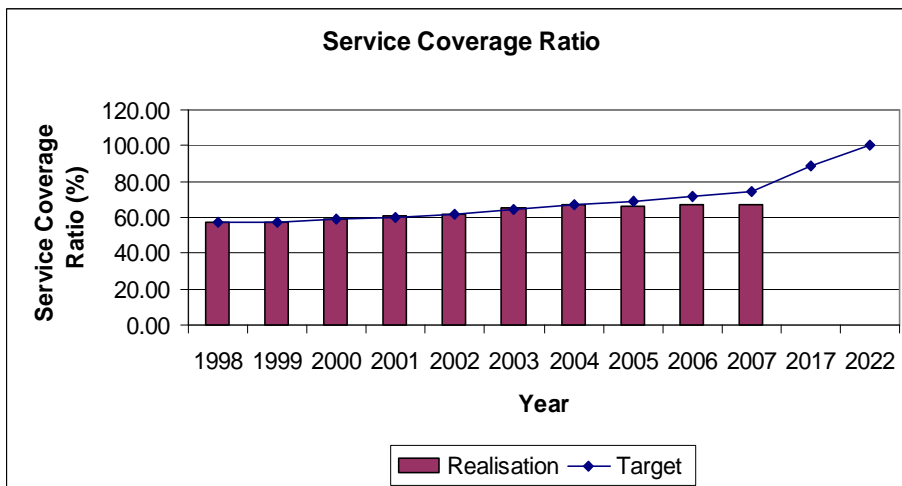


Source: Jakarta Water Supply Regulatory Body (2007)

4.2.2.5 Service Coverage Ratio

Figure 4.7 shows that up to 2004 Thames PAM Jaya (TPJ) performance in improving service coverage was consistent with targets, but the company has been unable to maintain this record. In 2007 TPJ service to coverage ratio should have increased to over seventy percent but TPJ has only able to bring the ratio up to 67 percent.

Figure 4.7 Thames PAM Jaya Service Coverage Ratio (1998-2007)



Source: Jakarta Water Supply Regulatory Body (2007)

4.3 Conclusions

In expectation of higher production, greater efficiency and delivery of a better service, the monitoring system put in place to keep an eye on private companies imposed a more comprehensive set of measures and a set higher standard than that which had applied to PAM Jaya. This makes it a little difficult to compare and contrast Pre and post Public Private Partnership (PPP) management. However the performance categories which both shared can be easily summarized

Table 4.4 Comparative Performance

Measure	PAM Jaya	Thames PAM Jaya	
	1993-1997	1998-2002	2003-2007
Production capacity	22%	3%	3%
Number of connections	24%	17%	11%
Service coverage ratio	4%	5%	5%
Non Revenue Water	Increased by 4%	Reduced by 10%	Increased by 4%
Volume of water billed	17%	28%	Reduced by 4 %

On the overall performance of PAM Jaya and Thames PAM Jaya (TPJ) in each five years time interval, PAM Jaya shows higher percentage of improvement than TPJ. This is especially shown in the achievements made by both companies in production capacity and number of connections (Table 4.4). However it must be observed that TPJ had more capital to invest. What is not shown here but is discussed in the next chapter, TPJ had the initial support of President Suharto an influential investor who was keen to see the enterprise make money for his family so the conditions under which TPJ operated were much more favorable than those that PAM Jaya had to work with. Given this advantage it is surprising that TPJ has done no better than PAM Jaya

The figures presented in this review indicate that the systemic challenges of theft and mistreatment of the reticulation system by un-paying clients remains a problem. Private companies are just as likely to be mistreated as a government service. The issue of whether water should be provided free of charge is a matter that is resolved by direct

action and strictly speaking a 'natural' system of cross subsidization of the poor by the rich appears to be a reality. Just how the different stakeholders see the situation is discussed in the next chapter.

Chapter Five – Interview Results, Discussion and Analyses

This chapter summarizes, discusses and analyses the result of interviews with different respondents identified in Chapter Two. These respondents are stakeholders of the East Jakarta water supply system: Jakarta Water Supply Regulatory Body (JWSRB), government institutions (BAPPENAS and Department of Public Works), state owned Jakarta water enterprise (PAM Jaya), Thames PAM Jaya (TPJ), World Bank, and TPJ customers.

I have sketched a brief background for each of the stakeholders and presented both their opinions and informed views on the privatization of the service

5.1 Interview with Jakarta Water Supply Regulatory Body (JWSRB)

Jakarta Water Supply Regulatory Body (JWSRB) was established in October 2001, three years before Thames PAM Jaya (TPJ) took over the operation of the East Jakarta water supply system from the state owned Jakarta Water Enterprise (PAM Jaya). It is the responsibility of JWSRB to ensure the development of good quality water and an affordable water supply; achieve a balance between the interests of water customers and service providers; improve efficiency and extend service coverage (Anwar, 2004, p. 6).

Jakarta Water Supply Regulatory Body (JWSRB) was an important player in the formulation of the Restated Cooperation Agreement (RCA) which stipulated that the regulatory body would continue to perform a leading role in service provision:

- Coordinate governmental authorities in a manner consistent with implementation of the Agreement of Cooperation;
- Monitor operators' performance;
- Propose tariff adjustments to the Government of Jakarta as put forward by the operators and PAM Jaya;

- Develop mechanisms for dispute settlement with customers; and
- Mediate disagreements or disputes between parties prior to referral to experts or arbitration

(Anwar, 2004, p. 7)

The fact that Jakarta Water Supply Regulatory Body (JWSRB) has a role in collecting and publishing information about service providers which to promote competition between players has generated a lot of useful information. In comparison with other government agencies they are particularly open and willing to share their data. During discussions several issues were raised about Public Private Partnership (PPP) in the supply of water to Jakarta including the performance of Thames PAM Jaya (TPJ) and weak law enforcement. Although these might be considered to be sensitive matters JWSRB staffs were particularly forthright.

According to Jakarta Water Supply Regulatory Body (JWSRB), the process of Public Private Partnership (PPP) in Jakarta drinking water service was directly linked to the former President, Suharto. However, the idea of PPP did not come from him. Corruption and cronyism were evident in the process. During Suharto's leadership, any international corporation that wanted to take over the operations of a utility network had to find an Indonesian firm to act as a partner. A firm basically owned by Suharto family members or cronies showed a keen interest. British Thames Water International (TWI) was partnered with the Sigit Group (run by Sigit Harjojudanto, Suharto's eldest son) and this was all arranged without having to go through the normal public tendering process. British Thames Water International was awarded a twenty five years concession to run the operation and finance the Eastern Jakarta Water supply.

As a result of this strong political interference in the Public Private Partnership (PPP), little interest was shown in improving the Jakarta water service. Only one of the four targets agreed to was achieved by the company. As shown in the previous chapter

(figure 4.5), Thames PAM Jaya (TPJ) was able to reach the target for water production. However, the quality of the service continued to be poor. Investment was not pro-poor based. Due to weak law enforcement the system of cross subsidy between high income and low income households did not work as well as it might. A default system of cross subsidization under which water was basically stolen from the company favoured the poor.

The loss of non revenue water (NRW) continues to be high in the Thames PAM Jaya (TPJ) service area. As pointed out in the previous chapter (Figure 4.7), in 2007 this represented 52 percent of total production. A considerable volume of water is stolen which greatly contributes to this problem, but apart from that there are technical problems such as leaking pipes. A staff member of Jakarta Water Supply Regulatory Body (JWSRB) believes that unequal distribution of water, especially to the poor, is the root of the problem. Like many other private sector enterprises, TPJ interest is profit oriented. In choosing its customers, TPJ focuses on those who are able to pay for connections to water mains in the hope of securing a reliable supply of water. Those who are unable to pay must find other sources of water which leads to a high level of theft. It can therefore be argued that one of the best ways for TPJ to reduce NRW would be by improving its service by taking the poor into favorable consideration.

This is not what Thames PAM Jaya (TPJ) does. Their principal tactic to reduce non revenue water (NRW) is to find and cut off illegal connections. The problem with this method is that it is very difficult to stop people from making illegal connection in other places. As water is a basic need which people cannot live without, the motivation for breaking the law is very powerful. TPJ needs to understand that Jakarta is a very complex city, with a population that exceeds the reach of its services. Many residents are squatters who build their homes illegally on land belonging to others, including government land, and areas which are often classified for uses other than housing.

High levels of insecurity and a sense of temporary residence creates a situation in which people feel they should take any opportunity to make their lives easier. This sense of opportunism discourages even modest investment and encourages theft. If Thames PAM Jaya (TPJ) worked with the people and asked for a modest fee to legitimize connections less damage would be done to the network, cleaner water would be delivered, non revenue water (NRW) would be reduced and everybody would gain. If there is to be a solution to the challenge TPJ needs to work more imaginatively with the government of DKI Jakarta and pay closer attention on the City's socioeconomic and demographic squatter problem.

For the system to work the law must be enforced and appropriate conditions taken into account. It was to accomplish this that Jakarta Water Supply Regulatory Body (JWSRB) as an independent regulatory body was established. However, the fixation on meeting targets seems to preclude a more imaginative approach. When either Thames PAM Jaya (TPJ) as the private sector agent or PAM Jaya cannot fulfil their targets this becomes an all absorbing issue. As JWSRB has very limited powers and is unable to impose new directions, sanctions or penalties. This regulatory body can neither determine water price increases for those who are able to pay nor reduce the charges for those who cannot. JWSRB is unable to maintain a balance between the interests of the public and the public sector because decision is held by the Governor of DKI Jakarta. Thus, there is a need to review and enhance the role and responsibilities of JWSRB by providing stronger both legal and enforcement support for its work.

5.2 Interview with the Government Institutions

Two Government Institutions were interviewed, namely the Department of Public Works and the National Development Planning Agency (BAPPENAS). When the Public Private Partnership (PPP) process was first set up, the Ministry of Public Works

was involved in coordinating and advising on some technical constraints. However, after the PPP was established, which is when Jakarta Waterworks with Thames PAM Jaya (TPJ) took over the development and investment, operation and maintenance of the Eastern Jakarta drinking water system. Public Works involvement was henceforward limited to monitoring and evaluating overall cooperation and performance. The Department of Public Works in the Directorate General of Human Settlement was involved in setting up Technical Guidelines and Implementation Guidelines for drinking water and raw water, along with wastewater and solid waste management.

The National Development Planning Agency (BAPPENAS), on the other hand, was involved in the formulation of policies on how to set up transparent and competitive private investment procedures, protection of public and private rights, and how private sector involvement should be managed. This involved preparing an integrated framework for Public Private Partnerships (PPPs) concerning drinking water supply and a pathway the private sector would be obliged to follow if they wished to become involved in running the Jakarta water supply system.

In the interviews, the government representatives agreed that there were weaknesses in the Public Private Partnership (PPP) process which established Jakarta Drinking Water Service. Owing to the interest taken by President Suharto a proper competitive bidding process was not followed and Thames Water International (TWI) was given a contract under favourable terms. This meant that the PPP process took into consideration neither the competences of the private sector and the ability of the bidding parties to deliver a better service, nor tested the capacity of local government to manage an open and transparent bidding process.

5.3 Interview with PAM Jaya

From 1922 until early 1998, well before the establishment of the Public Private Partnership (PPP) arrangement, PAM Jaya was the only operator responsible for:

- running and improving the Jakarta water supply;
- distributing water of a quality that met appropriate health standards; and
- providing a service that was supposed to serve all the Capital City's residents.

As was shown in the previous chapter, PAM Jaya was able to increase the capacity of water production and the extent of service coverage (Figures 4.1 and 4.2). However, despite all of these improvements, PAM Jaya could not keep up with the rapid growth of population. PAM Jaya needed more investment, better quality human resources and advanced technology to improve its service. This is why PAM Jaya agreed to adopt Public Private Partnership (PPP), with Thames Water International (TWI) as a partner in the management of the Eastern Jakarta water service.

After the establishment of the Public Private Partnership (PPP) PAM Jaya's responsibilities became limited to monitoring the performance of the private partner as stated in the Governor's Letter of Intent Number 25 of the year 2003 regarding PAM Jaya organizational structure and frameworks. Several issues were raised during the interview:

- After ten years of its involvement in Jakarta water supply, Thames PAM Jaya (TPJ) is still unable to achieve both the technical and service standards agreed in the contract. High Non Revenue Water (NRW), low water volume sold, limited coverage area, plus a high level of consumer dissatisfaction shows that TPJ work is not working at an optimal level (Figures 4.3 to 4.7).
- Despite all these failures, Thames PAM Jaya (TPJ) has improved its service through a 24 hour call center, opened their bill counter on Saturday to serve customers, and also undertaken rehabilitation work and expanded distribution.

- As pointed out by Jakarta Water Supply Regulatory Body (JWSRB) and others, the biggest challenge facing TPJ is to reduce non revenue water (NRW) due to leakage in the distribution mains and illegal connections. Currently investment is focused on reducing NRW, through replacing distribution pipes rehabilitated old pipes, cutting off illegal connections and controlling delivery to consumers using terra meters⁴, and replacing old and installing new water meters.
- As for PAM Jaya, it sees its biggest challenge to fulfilling its role as getting full access to Thames PAM Jaya (TPJ) performance data. PAM Jaya feels that the Procedure on Performance Supervision and Evaluation System (PPSES), a format used and applied to assess private sector performance, needs to be refined because the reported data provided by both TPJ and other private sector companies is only of very limited use in carrying out proper evaluations.
- Due to ambiguity in the Cooperation Agreement and weak law enforcement, PAM Jaya, whose responsibility it is to monitor private sector performance, has been able to neither enforce sanctions nor impose penalties against private sector companies. As a consequence this has enabled companies to ignore targets agreed to in the contracts.

5.4 Interview with Thames PAM Jaya

In my discussions with the representatives of Thames PAM Jaya (TPJ), the following problems were presented as principal matters of concern, they included:

- the quality of raw water;
- disturbances in the water treatment process;
- the condition of the distribution network they inherited; and
- poor piped water quality.

⁴ Tera meter is an instrument used to calibrate water meters.

Thames PAM Jaya (TPJ) is very dependant on Jatiluhur Dam for its raw water. The Dam diverts water which flows through the Tarum Barat Canal. The discharge of domestic and industrial waste into the canal adversely affects raw water quality and results in a high level of pollution. This makes it more difficult to treat the water and bring it up to a good potable level. Operational costs have been greatly increased as a consequence of this situation and TPJ often have to buy raw water from other sources which again increases the price of treated water delivered to clients.

Disturbances to the treatment process also reduce water production. Such disturbances include problems in the supply of electricity, maintenance of the water treatment plant and weather conditions. High rainfall during the Monsoon results in a decline in the quality of raw water quality due to run off over contaminated ground. The poor condition of the catchment in upstream areas causes high turbidity in raw water. The water treatment facilities themselves also frequently get flooded during the rainy season and have to shut down for extended periods. All of these involve costs that have to be handed on to clients. During the dry season, raw water supply from the Jatiluhur Dam declines resulting in water shortages. Both wet and dry conditions impact on production making it difficult to meet demand.

Thames PAM Jaya (TPJ) believe that they well on their way to fulfilling their ambitious target set in 1997 of providing clean potable water to most of Eastern Jakarta by the end of 2007. They say they are able to produce drinking water to the standard set in PERMENKES No. 416/Menkes/Per/IX/1990. However, due to water contamination caused by leaks it appears unlikely that they will be able to reach this target. Just to prevent bacterial contamination TPJ is adding more chlorine to the water than clients like and this itself becomes a contaminant.

The sale of Thames PAM Jaya's (TPJ) shares as part of a take over bid was also raised in the interview. TPJ representatives claimed that selling shares is a very

common business practice and it was a clear statement that the management needs additional investment capital and access to expertise. TPJ has sold out to Aquatico and Alberta. The transfer of ownership will not affect the contract. In fact there will be no renegotiation of the Contract until 2022, when it comes to an end. Despite the change in ownership TPJ is still involved in the operation of the Jakarta water service, though the name has been changed to Aetra.

5.5 Interview with the World Bank

According to the World Bank representative, the Bank was not involved in the Public Private Partnership (PPP) negotiation process. In the early days before President Suharto's family became involved the World Bank was willing to participate. They decided to step back from the entire process when President Suharto himself appointed the private sector contractor. However, the bank continued to be involved in several other private water sector projects in Indonesia which commenced about the same time. The Bank was also involved in the negotiation and establishment of the new Water Resources Law which made possible private sector engagement in the water sector.

World Bank specialists identified three factors which to them explain why Public Private Partnerships (PPP) in Jakarta Waterworks, have not done as well as expected.

1. There was very little political support from the Government of Indonesia. Furthermore, being very new to the system with no experience in PPP, local governments were not prepared to work with their business partner in a way that would have been expected of a more experienced partner.
2. During the early days of PPP, there was no regulation to protect the needs of both consumers and the private sector in such joint management arrangements.

3. There was little or no awareness that financial and managerial responsibility was no longer held by the government, and that this had been transferred to the private sector.

5.6 Interview with the NGOs (WALHI, FORKAMI and KruHA)

Three local Non Governmental Organisations (NGOs) were interviewed: Friends of the Earth Indonesia (WALHI), Indonesia Drinking Water Quality Communication Forum (FORKAMI) and the People's Coalition for the Right to Water (KruHA).

The Friends of the Earth Indonesia (WALHI) was established in 1980 in response to environmental problems and insecurity of natural resource management as a result of unsustainable development processes. WALHI's involvement in the water sector focuses mainly on the issues of water provision, authorization, liberalization and commercialization of water.

The Indonesia Drinking Water Quality Communication Forum (FORKAMI) is a new organization formed in 2000. Its mission is to create a platform for information exchange, mediate and advise different stakeholders on water quality management. Starting in 2002, FORKAMI, working together with Jakarta Water Supply Regulatory Body (JWSRB) has conducted several customer satisfaction surveys in Jakarta.

KruHA was established as a civil society group in 2002 in response to a World Bank loan in the water resource sector which laid down new conditions under which investment would be made available. The loan, Water Resources Sector Structural Adjustment Loan (WATSAL), was approved by Government of Indonesia in 1999, and promised a US\$300 million investment package aimed at restructuring the water resource sector in Indonesia. KruHA's mission remains the fight for a people based water resource management system run by users and the government in a way that is

consistent with the state constitution. They entirely reject the rationale for private sector involvement in water resource management.

FORKAMI, WALHI and KruHA represent the voice of the public, those who are against private sector involvement. They share the view that water is a public good and access to water is a human right. For them water cannot be treated like a commodity of principally economic significance. They believe that private sector involvement will in the end inflict a heavy burden on people, especially to the poor. They see private profit and full cost recovery as blight on society and that meeting people's basic needs, such as water, is the responsibility of the state. Treating water as an economic good and transferring ownership and management from the state to the private sector is seen to be a challenge that threatens the social contract between the state and its people.

In the case of the Jakarta water supply, the three Non Governmental Organisations (NGOs) named here agree that it was only international pressure to open up utilities like water for private sector involvement; the people of Indonesia did not want it and were never asked. The government decision to push ahead with Public Private Participation (PPP) was rushed and did not go through a proper public consultation process. Representatives of the public and NGOs were not actively involved in the process. Public consultation was just a formality to which representative NGOs were invited, but were never invited to formulate a considered response and hence were never really involved in the process.

Initiatives taken to attract the private sector were also motivated by the wish to meet the Millennium Development Goal (MDG) target 10 which is to halve the number of people currently without access to clean water by 2015. To reach this target, a huge amount of investment is needed. The government's financing capacity for water supply is only Rp. 400 billion (US\$ 40 million) per year which leaves gap amounting to Rp. 17 trillion (US\$ 1.7 billion) which is likely to rise to 40 trillion (US\$ 4 billion) by 2015. This

is one of the principal reasons why Government of Indonesia decided to invite private sector investment and management of the nation's water supply.

However, as overseas experience shows, private sector investment is not a magic bullet that can overcome all problems in water supply provision. Jakarta is one example of how difficult it is. After ten years Thames PAM Jaya (TPJ) has been unable to make a significant improvement in the service. Above all the governments' limited experience in public private partnership and weak law enforcement has made it difficult for the company to solve the many endemic problems presented by Jakarta.

5.7 Interview with Thames PAM Jaya (TPJ) Consumers

Interviews with people in the communities were carried out in three of the Thames PAM Jaya (TPJ) service areas, namely Cipinang Cempedak, Koja Selatan and Tanjung Priok. Sixty respondents were selected by a random sampling method to participate in interviews. Although interviews were conducted on the weekends when I expected to find everybody home, 60 percent of respondents were women who described themselves mainly as housewives. All respondents were aware that Thames PAM Jaya (TPJ) rather than PAM Jaya runs the Jakarta water system. However, according to other studies, even up to 2003, and then largely owing to the lack of public consultation during the PPP process, many residents were not aware of private sector involvement.

5.7.1 Cipinang Cempedak

Cipinang Cempedak is known as an old area, located on the eastern part of Jakarta. The majority of residents are pensioners, who have lived there since the 1950s. From the size and look of the houses, most respondents can be said to belong to upper and middle class socioeconomic groups however I found several households that came from a less privileged group. Although the vast majority of residents were connected to

the Thames PAM Jaya (TPJ) water service, due to high cost many of them do not use the service regularly. They only pay the monthly connection fee and use the water from the service only as an alternative source in the case of drought.

Groundwater is still the first choice for the majority of residents. This is not only because groundwater costs less, but also because it has a better taste and is of superior quality to PAM water. Water supplied by Thames PAM Jaya (TPJ) has strong chlorine odor. Although residents were aware of the fact that Jakarta's groundwater contains Iron (Fe) concentrations over the standard drinking water quality which is a health risk, this does not stop people from using it. Several households at risk prefer a commercial water brand, such as Aqua (from Danone).

Figure 5.1 Cipinang Cempedak Residential Area, Eastern Jakarta



The average household is home to five people with a household income ranging from Rp.1.000.000,00 to Rp.2.500.000,00 (US\$100 to US\$250) per annum. The average cost of water is estimated at around Rp. 200.000,00 (US\$20) per household. This means residents have to spend more than 4 percent of their income for household water consumption (standard according to the Government Regulation Number 16 of 2005 concerning Development of Drinking Water Supply System). The majority of

residents complained that since the City's waterworks fell under the management of private companies, water has become too expensive. The residents of Cipinang Cempedak hope for a better service because there has not been any significant improvement following the imposition of an increase in the water tariff.

5.7.2 Koja Selatan

Koja Selatan is located on the sea side area of the northern part of Jakarta. Groundwater quality in this area is brackish, and unsuitable for consumption. The majority of residents are TPJ customers. The area has been given special attention by the TPJ project. Water in this area runs for 24 hours but the volume declines during the day due to intense activities that are water dependent. The respondents interviewed were mainly from the lower socio-economy group, with incomes ranging from Rp. 700,000.00 (US\$70) to Rp. 1,500,000.00 (US\$150) per household per month (6 people per household). The majority of them own small businesses like *warung* (small shops) or rented rooms. Most of the residents spend between Rp. 150,000.00 (US\$15) to Rp. 300,000.00 (US\$30) on clean water for drinking, cooking and bathing. Similar to the residents of Cipinang Cempedak, the residents find the water tariff is becoming too expensive. Residents are not informed in advance of tariff adjustments. and since they have no alternative have to just put up with what is imposed.

5.7.3 Tanjung Priok

The people of Tanjung Priok district like the residents of Koja Selatan have a groundwater problem. Therefore, the majority of residents are TPJ customers. However, some residents rely on water vendors. This is mainly because they cannot afford the cost of installing pipe connections to the City's Waterworks. Water does not run for 24 hours, and mostly there is no water during the day. The majority of residents interviewed complained about the poor water pressure. Some of the residents still use groundwater for washing and bathing, even though the water is unsuitable for domestic

use. This presents an endemic risk to good health but enables the residents to keep water supply costs as low as possible.

Figure 5.2 Water Vendor refilling Jerry Cans



Figure 5.3 Tanjung Priok residential area



Like respondents from other locations, the water tariff is considered to be too expensive and increased charges have not been followed by a significant improvement in the service. People's incomes range from Rp. 600,000.00 (US\$60) to Rp. 1,000,000.00 (US\$100) per annum with 6 people on average per household. Their monthly spending for water is estimated at around Rp. 70,000.00 (US\$7) to Rp. 80,000.00 (US\$8). Many of them can only afford education for their children up to junior high school.

5.8 Problems in Jakarta Water Provision

This section discusses and analyses problems which occur in Jakarta water provision based on the interviews with different stakeholders. Some of the problems identified include water quality, quantity, continuity and water pressure; water tariff; weak law enforcement; environmental and technical issues.

5.8.1 Water Quality, Continuity and Water Pressure

A survey done by the Regulatory Body in 2005 shows a downgrading of customer satisfaction. Some of the factors affecting this are poor water quality, continuity and

water pressure. Water quality supplied by Thames PAM Jaya (TPJ) does not comply with the drinking water standard. Consumers still have to boil the water before they consume it. This means consumers have to pay more money paying for either gas or electricity to boil the water. Many people interviewed drink bottled water.

Water flowing through household connections is mostly available for 24 hours. However, water pressure drops at sometime every day, mostly during daylight hours. The supply is more reliable during the night and mornings.

In areas far from the water treatment plant, water pressure is very low. This is why many customers in Tanjung Priok complained about water that could not run up to the second floor. In areas close to the water treatment plant, the problem is reversed, water pressure is so high that taps and pipes can be broken.

5.8.2 Water Tariff

Water tariff should be determined by the cost to produce the water, deliver it to clients and the clients' ability to pay. Customer willingness to pay however is different from affordability. Customer willingness to pay can be measured by finding out how dependent customers are on the water service. When customers have other water sources available with better quality and a lower price, they may not be willing to pay for the water delivered by the water company. From interviews with customers it is clear that the quality of water received greatly affects their willingness to pay. The majority stated that they are willing to pay for water even though the tariff continues to increase. However, they stated that it is only fair increases must be followed or justified by improvement of water quality.

Customer affordability is measured by identifying the following indicators for each socioeconomic class of household: average of customer expenditure on water, volume of water used and monthly income. Affordability seems to be a central problem in

private sector involvement whose interest is profit oriented. A survey done by the Regulatory Body in 2006 shows that clients spend up to seven percent of their income on water which is well above the 4 percent guideline laid down by the government ⁵. For many residents this means they have to cut their spending on other important matters, such as education.

Jakarta water tariff is known to be the highest in Southeast Asia. The average water price in Jakarta is now US\$0.7 per cubic meter (m³). This is higher than the average water price in Singapore, US\$0.55 per cubic meter; the Philippines, US\$0.35 per cubic meter; Malaysia, US\$0.22 per cubic meter; and Thailand, US\$0.29 per cubic meter (*Kompas*, Thursday, 26 June 2008). The high water price is justified by the companies involved on the grounds of needing to meet high operational and maintenance costs, such as fixing existing pipes and installing new ones.

Operational costs generally include technical expenses (such as electricity and chemical stock) and administrative costs (such as office and staff salaries). In the case of private sector involvement in the Jakarta water supply, however, operational costs include several extra expenditure items that did not exist under PAM Jaya management, namely leasing two separate buildings in two different business areas of Jakarta instead of using the existing buildings owned by PAM Jaya. The salaries of foreign executives, which are ten times higher than the salary of PAM Jaya executives, high security costs and procurement of new office equipment, computers and operational vehicles also add to the cost of running the enterprise. Just imagine, residents of Jakarta have to bear the burden of paying the salary of foreign executives and the support facilities they require just to get the water which they are entitled to, according to the National Constitution.

⁵ Ministry of Home Affairs of the Republic of Indonesia Regulation Number 23 of 2006 concerning the Technical Guidance and PDAM Drinking Water Tariff Control

5.8.3 Environment

One of the benefits expected from the improvement of Jakarta piped water supply is the conservation of groundwater to prevent land subsidence which has been occurring at a rate of 2.8 cm per year (Lanti, 2006). Despite all of the improvements made by Thames PAM Jaya (TPJ), such as expanding service coverage and increasing connections, they have not been able to reduce people's use of groundwater. People prefer to use groundwater because its quality is good and it costs nothing: a difficult combination to beat.

The use of wells however is mainly restricted to households that have access to good quality groundwater. Depending on their income these households usually have simple shallow wells or wells that are equipped with modern pumps.

Excessive use of groundwater pumping causes saltwater intrusion. This is already a problem in areas of North Jakarta. Land subsidence is making a large part of the capital prone to flooding. The Government has recognized this issue, but because for some the use of the ground water is their only source of drinking water it is difficult for the government to do anything about it.

5.8.4 Weak Law Enforcement

As has been mentioned several times a system of penalties for the failure to meet targets is included in the Cooperation Agreement (2001). This was included to motivate the private sector to meet their commitments. In reality however, despite the failure to meet targets, in some cases on numerous occasions, no fines have ever been successfully levied.

PAM Jaya has not been able to enforce penalty claims because of ambiguities in the contract and weak enforcement. PAM Jaya has been reluctant to pursue claims for fines in the courts and has restricted itself to an exchange of letters, to avoid the

concessionaires bringing a case against PAM Jaya for failure to also meet some of its contractual commitments. Weak enforcement of penalties reduces the strength of incentives resulting in the long run in poor performance outcomes.

Even though Thames PAM Jaya (TPJ) performance, as shown in the previous chapter is far from satisfactory, according to JWSRB (2007) the Cooperation Agreement has locked the Government of Indonesia into a long term partnership. To end the partnership now would be costly. If the government decides to terminate the agreement, the Jakarta Government is obliged to pay Rp. 536 billion⁶ for breaches of contract. If the operators themselves terminate the agreement owing to non compliance on the government side, the Jakarta Provincial Government must pay Rp. 2.54 trillion in fines. To buy back the Jakarta water service, would cost the Jakarta Provincial Government Rp. 4.54 trillion. It is not difficult to see why JWSRB feels there is a need to amend the Agreement of Cooperation

5.9 Advantages and Disadvantages of PPP in Jakarta Water Supply

5.9.1 Advantages of PPP in Jakarta Waterworks

Thames PAM Jaya has been able to increase its coverage ratio from fifty seven percent in 1998 to sixty seven percent in 2007. Although this is a relatively small improvement of only ten percent, the increased coverage ratio means more people have access to piped water at their homes. People do not have to walk long distances to fetch water so they save time. Instead, they can use their time to get a better education and do extra work to improve their financial situation. It also needs to be pointed out that they no longer have to buy expensive water from vendors. However, these advantages can only be felt by a very small number of residents in Jakarta, who can afford the service.

⁶ Currency equivalent (as of November 2007) US\$1 = Rupiah 9,876

5.9.2 Disadvantages of PPP in Jakarta Waterworks

Private sector main interest in PPP is profit centered. This encourages the private sector to focus on the needs of households that can afford to pay for water. This results in an unequal distribution of water supply systems and the delivery of water. The poor are left to rely on the service provided by small water vendors which are unregistered individual small scale private enterprises who charge a much higher price for water than that charged by the big companies. This is due to the absence of standard water price which give the freedom to the private sector to determine the water price.

Continuing tariff increases due to the increasing costs of producing and delivering water is another major disadvantage. Water becomes expensive. According to the clause in the Ministerial Decree Number 23 of Year 2006, the drinking water tariff shall not exceed 4 percent of the customer's income, which is considered as an acceptable level of affordability. Since PPP was introduced, however, the price of water in Jakarta has continued to increase. As the result, a survey carried out by the Regulatory Body (2006) shows the majority of Jakarta residents have to spend more than four percent of their income on water. This may show that customers' level of affordability is higher than the standard, but many customers complained about the poor service by TPJ that does not balance the price they have to pay for water.

Very little involvement of the government in the current PPP can disadvantageously affect the performance of the future operator of Jakarta drinking water supply after the contract with current private sector is over. According to the Cooperation Agreement (2001) the operation and maintenance of the drinking water system will be given back to PAM Jaya after the concession contract is over.

Chapter Six – Conclusions and Recommendations

6.1 Conclusions

The aim to this research was to evaluate the impact of public private partnership in Jakarta's drinking water service and its impact on the City's residents, ten years into the twenty five year contract. The results of the research lead to a number of disturbing conclusions

- Ten years of private sector involvement in Eastern Jakarta Water Supply Provision has not brought any significant improvement in the water service. This is especially evident in the high volume of water lost as non revenue water (NRW) and poor water quality and pressure.
- Lack of transparency and public tendering in the process of forming the public private partnership may have contributed to this poor performance because the proper search for a competent partner was short circuited. Political interference in the bidding process is a form of corruption in which the company granted the contract was clearly complicit.
- High Non Revenue Water continues to make up 52 percent of total production. This is mainly due to hostile attitudes towards the managers of the service built up around the sense of unequal access to water especially on the part of the poor. People excluded from legal access by the high cost of water believe they have no other way of getting what they need and feel justified in hacking into the reticulation system. Thames PAM Jaya like other private enterprises is profit oriented and therefore, focuses exclusively on customers who are able to pay for connections but by excluding the poor create trouble for themselves.

- The water tariff in Jakarta is not only the highest in Indonesia. It is also the highest in the Southeast Asia region. If the service provided justified the charges this would perhaps be acceptable but as it is the service delivered is still of poor quality.
- The Agreement of Cooperation has locked the Government of Indonesia into a long term partnership. Despite Thames PAM Jaya's poor performance, the government cannot take any action to end the partnership because it would be charged with extremely high costs relating to breach of contract.
- Limited access to water due to its high price and low service has resulted in the on-going use of groundwater. Excessive use of groundwater is leading to saltwater intrusion and land subsidence. This is already a serious problem in North Jakarta and elsewhere the deterioration of groundwater has resulted in considerable health risks.

6.2 Recommendations

According to my analysis, after ten years of PPP running the Jakarta water supply serious adjustments need to be made. The following recommendations would make a difference to future implementation and the running of the public private partnership:

- Amendments need to be made to the existing Cooperation Agreement which would enable the Government of DKI Jakarta to take a firm stand regarding the poor performance of Thames PAM Jaya.
- A standard model of Cooperation Agreement in water provision should be established. Negotiation guidelines and due diligence standards need to be prepared and put in place by the central government.
- If PPP is to continue as the principal mode of running the water system the government needs to build the capacity of the regional authorities so that they can competently and confidently play their part in keeping the concession companies in

line. In the meantime the central government needs to provide them with qualified consultants to help them do their job.

- Water and water services should be provided at a fair, appropriate and affordable price. At the moment and over the years the service has been provided under a public private partnership clients have been overcharged for the quality of the service delivered.
- Any improvement made in the water service should give full consideration to the poor. This does not mean that an appropriately clean water service should be provided free of charge but that cross subsidisation from rich to poor should be arranged and set up a low charge out rate that would stop or reduce the considerable damage done by those hacking into the system.
- Any improvement made to the water service should not only be made to achieve targets, such as those specified in both the Cooperation Agreement and as Millennium Development Goals: the most important challenge is to provide enough water of sufficient quality to meet the basic needs of the people in the region.
- Customer rights should be included in any future Agreement of Cooperation and these should be supported by national and trans-national regulations. These rights should be properly publicised so customers understand what their rights are and be able to take legal action against private enterprises that take advantage of them. Water is a basic need. Many customers interviewed were unsatisfied with the service provided by Thames PAM Jaya, but believed they could not do anything about it.
- Private sector involvement should be the last alternative to improve the management of the water supply service in Indonesia. What the Government of Indonesia should do is find ways to improve the performance of local water

providers such as PAM Jaya. As stated in the Government of the Republic of Indonesia Regulation Number 16 of 2005 concerning Development of the Drinking Water Supply System, it is the local government's responsibility to provide drinking water of sufficient quality and quantity to its residents.

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Appendix A: The Structure of Water Tariff

Below is the structure of water tariff adjusted for DKI Jakarta 2007, in accordance to Governor of DKI Jakarta Regulation No. 11 of 2007.

Appendix A1: Water Tariff based on Consumer Classification and Consumption

No.	Consumer Group	Consumption Block and Water Tariff per m ³		
		0 - 10 m ³	11 - 20 m ³	>20 m ³
		Rp.	Rp.	Rp.
1.	Group I	1 050	1 050	1 050
2.	Group II	1 050	1 050	1 575
3.	Group IIIA	3 550	4 700	5 500
4.	Group IIIB	4 900	6 000	7 450
5.	Group IVA	6 825	8 150	9 800
6.	Group IVB	12 550	12 550	12 550
7.	Group V/Special	14 650	14 650	14 650

Appendix A2: Water Meter Maintenance Charge

No.	Diameter of Water Meter (inch)	Group I and II (Rp)	Group IIIA (Rp)	Group IIIB (Rp)	Group IVA, IVB & V (Rp)
1.	0.50	3 400	3 800	4 400	5 200
2.	0.75	6 500	7 000	8 000	9 000
3.	1.00	8 000	9 000	10 000	11 000
4.	1.25	12 000	14 000	16 000	17 000
5.	1.50	15 000	18 000	21 000	22 000
6.	2.00	28 000	35 000	40 500	43 000
7.	2.50	29 000	36 000	42 000	44 000
8.	3.00	36 000	45 000	52 000	55 000
9.	4.00	50 000	60 000	72 000	78 000
10.	5.00	51 000	62 000	74 000	80 000
11.	6.00	60 000	76 000	86 000	92 000
12.	8.00	90 000	112 000	135 000	142 000
13.	10.00	230 000	286 000	345 000	363 000
14.	12.00	299 000	372 000	449 000	472 000
15.	14.00	402 000	500 000	604 000	635 000
16.	16.00	496 000	617 000	746 000	784 000

Appendix A3: Fixed Water Meter Charge

No.	Diameter of Water Meter (inch)	Group I	Group II	Group IIIA	Group IIIB	Group IVA and IVB	Group V
1.	0.50	1 295	1 660	6 640	7 550	14 190	22 465
2.	0.75	2 160	2 790	11 110	12 630	23 755	37 590
3.	1.00	4 315	5 565	22 220	25 265	47 510	75 180
4.	1.25	4 745	6 115	24 420	27 770	52 215	82 620
5.	1.50	5 165	6 670	26 630	30 285	56 920	90 065
6.	2.00	8 195	10 565	42 215	48 000	90 245	142 775
7.	2.50	13 800	17 795	71 100	80 850	152 010	240 510
8.	3.00	18 115	23 360	93 325	106 115	199 520	315 680
9.	4.00	31 920	41 165	164 445	186 985	351 570	556 275
10.	5.00	49 600	63 970	255 560	290 595	546 390	864 515
11.	6.00	72 035	92 905	371 140	422 020	793 475	1 255 475
12.	8.00	127 245	164 120	655 605	745 485	1 401 655	2 217 755
13.	10.00	199 280	257 025	1 026 755	1 167 510	2 195 130	3 473 230
14.	12.00	286 840	369 960	1 477 900	1 680 505	3 159 665	4 999 345
15.	14.00	390 795	504 025	2 013 500	2 289 530	4 304 750	6 811 135
16.	16.00	510 275	658 125	2 629 110	2 989 535	5 620 875	8 893 570

Appendix A4: Extra Administration Cost

Administration Activity	Cost (Rp)
Ownership reversion cost	22 500
Meter sealing cost	10 000
Meter calibration cost	
• diameter 0.5-1.5 inch	40 000
• diameter 2-4 inch	130 000
• diameter 6-16 inch	800 000
Replacement the lost of meter card	10 000
Customer Deposit of Guarantee	
Group I	35 000
Group II	35 000
Group IIIA	55 000
Group IIIB	55 000
Group IVA	260 000
Group IVB	260 000
Group V/Special	260 000

Appendix B: Drinking Water and Clean Water Standard

PARAMETER	UNIT	MAXIMUM CONCENTRATION/LEVEL ALLOWED	
		Drinking Water Standard*	Clean Water Standard**
A. Physic:			
1. Odour	-	No Odour	No Odour
2. Total Dissolved Solid	mg/l	1,000	1,500
3. Turbidity	NTU scale	5	25
4. Taste	-	No Taste	No Taste
5. Temperature	°C	Air temperature + 3 °C	Air temperature + 3 °C
6. Colour	TCU scale	15	50
B. Chemical:			
a. Inorganic			
1. Mercury	mg/l	0.001	0.001
2. Aluminium	mg/l	0.2	-
3. Arsenic	mg/l	0.05	0.05
4. Barium	mg/l	1.0	-
5. Iron	mg/l	0.3	1.0
6. Fluoride	mg/l	1.5	1.5
7. Cadmium	mg/l	0.005	0.005
8. Hardness (CaCO ₃)	mg/l	500	500
9. Chloride	mg/l	250	600
10. Cr +6	mg/l	0.05	0.05
11. Manganese	mg/l	0.1	0.5
12. Sodium	mg/l	200	-
13. Nitrate, as N	mg/l	10	10
14. Nitrite, as N	mg/l	1.0	1.0
15. Argentums	mg/l	0.05	-
16. pH	mg/l	6.5 – 8.5	6.5 – 9.0
17. Selenium	mg/l	0.01	0.01
18. Zinc	mg/l	5.0	15
19. Cyanide	mg/l	0.1	0.1
20. Sulphate	mg/l	400	400
21. Sulphide	mg/l	0.05	-
22. Copper	mg/l	1.0	-
23. Lead	mg/l	0.05	0.05
b. Organic			
1. Aldrin and Dieldrin	mg/l	0.0007	0.0007
2. Benzene	mg/l	0.01	0.01
3. Benzo (a) pyrene	mg/l	0.00001	0.0007
4. Chloradane (total insomer)	mg/l	0.0003	0.007
5. Chloroform	mg/l	0.03	0.03
6. 2.4 D	mg/l	0.10	0.1
7. DDT	mg/l	0.03	0.03
8. Detergent	mg/l	0.05	0.05
9. 1.2-Dikloretan	mg/l	0.01	0.01
10. 1.1 Di-chloro-ethane	mg/l	0.0003	0.0003
11. Heptachlor and Hepachlorepoxyde	mg/l	0.003	0.003
12. Heksachlorobenzene	mg/l	0.00001	0.00001
13. Gamma-HCH	mg/l	0.004	0.004
14. Metoxiklor	mg/l	0.03	0.10
15. Pentachlorophenol	mg/l	0.01	0.01
16. Pesticide total	mg/l	0.10	0.10
17. 2,4,6-trichlorophenol	mg/l	0.01	-
18. Organic Compound (KMnO ₄)	mg/l	10	-

* PERMENKES No. 416/Men Kes/Per/IX/1990 Regarding Standard Quality of Drinking Water.

** PERMENKES No. 416/Men Kes/Per/IX/1990 Regarding Standard Quality of Clean Water.

Appendix C: Interviews and Meetings

Date	Institutions	Address
15 July 2007	The Regulatory Body (BRPAM)	Jalan Pejompongan Raya No. 57 Jakarta Pusat 10210 INDONESIA Tel. +62 21 5704264
18 July 2007	The Regulatory Body (BRPAM)	Jalan Pejompongan Raya No. 57 Jakarta Pusat 10210 INDONESIA Tel. +62 21 570 9732
18 July 2007	The Regulatory Body (BRPAM)	Jalan Pejompongan Raya No. 57 Jakarta Pusat 10210 INDONESIA Tel. +62 21 570 9732
25 July 2007	Indonesian Drinking Water Communication Forum (FORKAMI)	Graha Fortuna Indotama Perkantoran Pulo Mas 1 Gd. 3 Lt. 3
26 July 2007	The World Bank	Jakarta Stock Exchange, Tower II, 12 th Fl. Jalan Jend. Sudirman Kav. 52- 53 Jakarta INDONESIA Ph. +62 21 52993047
27 July 2007	Thames PAM Jaya (TPJ)	Sampoerna Strategic Square. Tower B, Lt. 29 Jalan Jendral Sudirman Kav. 45-46 Jakarta INDONESIA
3 August 2007	People's Coalition for the Right to Water (KRuHA)	Jalan Mampang Prapatan XI/23 Jakarta Selatan INDONESIA Ph. + 62 21 79196721
9 August 2007	Jakarta Municipal Waterworks (PAM Jaya)	Jalan Penjernihan II Pejompongan Jakarta INDONESIA +62 21 570 4250
10 August 2007	Department of Public Works, Directorate of Drinking Water Development	Jalan Patimura No. 20 Jakarta Selatan INDONESIA
11 August 2007	National Development Planning Agency (BAPPENAS)	Jalan Taman Surapati No. 2 Jakarta 10310 INDONESIA
12 August 2007	Jakarta Municipal Waterworks (PAM Jaya)	Jalan Penjernihan II Pejompongan Jakarta INDONESIA +62 21 570 4250
15 August 2007	Walhi	Jalan Tegal Parang Utara No 14 Jakarta Selatan INDONESIA

Questionnaire for Jakarta Water Supply Regulatory Body (JWSRB)

1. Can you go back and tell a little bit about the history of public private partnership in Jakarta water supply?
2. What is the role of JWSRB in Jakarta water supply?
3. As an independent body, how does JWSRB role differ from PAM Jaya?
4. One of JWSRB missions is to protect consumer's satisfaction. How do you measure this?
5. Who is responsible in monitoring the private operator to fulfill their obligations?
6. What are the consequences if operator could not fulfill the obligations?
7. What is JWSRB role in tariff control?
8. Is there any regulatory protection for consumers due to the implementation of market pricing?
9. What do you think of Thames PAM Jaya's performance?
10. What was the initial policy concerning regulation of private company?

Questionnaire for the Government (BAPPENAS and Department of Public Works)

1. What is the role of your Institution in Jakarta water public private partnership?
2. Why did the Government have to ask the private sector to be involved in the city's water provision in the form of PSP?
3. How was PAM Jaya performance before privatization?
4. What do you think of Thames PAM Jaya's performance now?
5. In your opinion, what are the main constraints faced by TPJ in its operation in Jakarta?
6. In your opinion, if the Government had not involved the private sector, would PAM Jaya able to improve its service?
7. There had been strong opposition to water privatization from the public and NGOs. What do you think about this?

Questionnaire for PAM Jaya

1. Can you explain a little bit about the history of Jakarta water supply before the public private partnership, along with PAM Jaya achievements?
2. How was the process of public private partnership in Jakarta Waterworks?
3. How does PAM Jaya monitor TPJ performance?

4. What do you think of TPJ performance, ten years into the contract?
5. What are the advantages and disadvantages of PPP in Jakarta Waterworks?
6. What has been the biggest challenge faced by TPJ as an operator in Jakarta water service?
7. What has been the biggest challenge for PAM Jaya in monitoring TPJ performance?
8. In your opinion, if the Government had not involved the private sector, would PAM Jaya able to improve its service?
9. Why does TPJ decided to sell 100 percent of its share to another investors (i.e. Aquatico and Alberta)?
10. How did the process go?

Questionnaire for Thames PAM Jaya

1. What is Thames Water International role in the Jakarta water privatization?
2. How does Thames PAM Jaya (TPJ) monitor its performance?
3. What has been the biggest challenge faced by TPJ as an operator in Jakarta water service?
4. What initiatives have been taken by TPJ to overcome the problem on water shortage?
5. What are the goals determined in the second rebasing (5 year target and evaluation)?
6. Why does TPJ decided to sell 100 percent of its share to another investors (i.e. Aquatico and Alberta)? How did the process go?

Questionnaire for NGOs (WALHI, FORKAMI and KruHA)

1. What is the role of your organisation in Jakarta water public private partnership?
2. What do you think of Thames PAM Jaya Performance?
3. Is Jakarta water supply public private partnership pro-poor based?
4. Who is responsible in monitoring the private operators to fulfill their obligations?
5. What do you think the constraints faced by the operators?
6. Do you think public private partnership in water supply can push Indonesia to achieve the water supply target in MDGs?

Questionnaire for the World Bank

1. What is the role of the World Bank in the privatisation of Jakarta's water supply?

2. How is the performance of private sector is being evaluated and by who?
3. What are the consequences if operators cannot fulfil their obligations?
4. What do you think are behind any improvements achieved in the provision of the water service? (Availability of money as a loan or the involvement of the private sector for example)
5. Would the public sector be able to carry out the same advancement if it received a loan from donor agencies, banks, etc?
6. Have there been any improvements or success in the water service in Jakarta?

Questionnaire for the Consumers

Section 1: General Information

Information	Response	
Name		
Place of Living (District)		
Sex	Male	Female
Occupation		
Income or salary/month/household (in million Rupiah)	< 0.5	2 - 4
	0.5 - 1	4 - 5
	1 - 2	> 5
Number of persons/household		
Tariff Group	Group I	Group IIIB
	Group II	Group IVA
	Group IIIA	Group IVB

Section 2: Questions

Questions		Response		
1.	Did you think that water supply provision is DKI Jakarta is run by...	Private		I don't know
		Public		
2.	How much you pay for water per month?	Rp.		
3.	Did the water price rise the last 5 years? Is it acceptable?	Yes		No
		Yes		No
4.	How long is the water run everyday?	< 4 hours		13-16 hours
		5-8 hours		17-20 hours
		9-12 hours		21-24 hours
5.	Do you have any problem with the water quality?	Yes		No
6.	Do you use any other source of drinking water?	Yes		No
	If yes, what sources?	Water vendor		Ground water
		Bottled water		Pump
7.	Did you perceive any improvement in the water service provision since the last 5 year? If yes, what kind of service?	Yes		No
		Water quality		
		Water quantity		
		Connection service		
		Complaint response		
8.	Are you satisfied with the water service provision?	Yes		No
9.	Do you have any other comments on the privatisation of Jakarta's water service?			

