

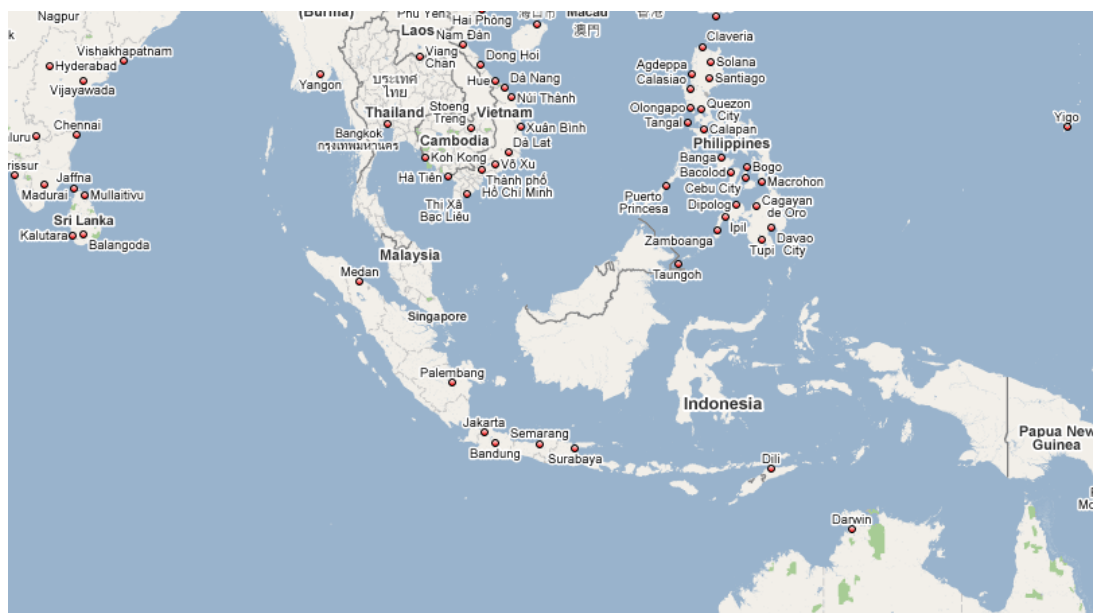
INDONESIA CONTEXTUAL ANALYSIS in WATER SUPPLY AND SANITATION SECTOR

I. NATIONAL PROFILE

1.1. Geography, Demography and Economy

Indonesia is the largest country in Southeast Asia, both in population and in area. It is an archipelago between the Indonesian Ocean and the Pacific Ocean. It has 17,508 islands of which 6,000 are inhabited. The length of archipelago is approximately 5,500 km running east-west, and its width is 1,770 km. The total land area is approximately 192 million ha. The islands are divided into three major groups, namely Greater Sunda Islands, which includes the islands of Sumatra, Java, Kalimantan, Celebes, and Papua. The other two groupings are the Lesser Sunda Islands (Nusa Tenggara) and the Maluku Islands.

Figure 1. Map of Indonesia



Indonesia has a total population of 237.5 million (2008), with an average population growth rate of 1.17% (2008). The distribution of population is uneven among the islands; with Java (the smallest among the major islands) being heavily populated (around 65% of the total population). Indonesia is divided into 30 provinces, 2 special regions, and 1 special capital city district. Following the implementation of decentralization beginning 2001, the 440 districts or regencies have become the key administrative units responsible for providing most government services.

Agriculture is Indonesia's major economic activity. Water is a central input for agriculture production. Potential water resources include rainwater, groundwater and surface water. The amount of water in Indonesia fluctuates by season and it is distributed differently among the regions. In general, most Indonesian regions have an annual rainfall of about 2,000 – 3,500 mm (60 percent). Some areas (3 percent) have annual rainfall over 5,000 mm and other having rainfall of less than 1,000 mm annually.

With an average annual rainfall of 2,700 mm, only an average of 278 mm (10 percent) infiltrates and percolates as ground water. The remaining (larger) portion flows as runoff or surface water. If this water – groundwater and surface water – can be managed properly, it would readily be available with a total amount of about 2,100 mm annually.

Indonesia is rich in natural resources – oil, gas, minerals, timber and rubber. Recently, the government has reduced its income dependence on oil and gas by encouraging investments in agriculture, forestry and manufacturing. More than half of Indonesia's workforce is employed in agriculture, as small farmers or laborers on large estate. Another one-third of the workforce is in the service sector, and more than 10 percent are in manufacturing. Millions work in the informal sector, as street trading, making goods at home, or scavenging for scrap items. Indonesia has a market-based economy in which the government plays a significant role. It owns more than 164 state-owned enterprises and administers prices on several basic goods, including fuel, rice, and electricity. In the aftermath of the financial and economic crisis that began in mid-1997, the government took custody of a significant portion of private sector assets through acquisition of nonperforming bank loans and corporate assets through the debt restructuring process.

The following is the economic profile described in the state budget 2008:

- Indonesia economic growth 2007 is 6.3% and will be estimated up to 6.8% in year 2008.
- Indonesia Gross Domestic Product in 2008 at the current level of growth will be come to Rp 4,306.6 trillion (US\$ 478.5 billion).
- Total government expenditure for 2008 will increase to Rp 863.4 trillion, with spending for capital goods- which will mostly be for infrastructure 48% to Rp 101.5 trillion
- Central Bank interest rate is 8% in 2007, and expected to 7.5% in 2008
- Un-employment 10% in 2007 and expected to come down to 8% in 2008
- Income per-capita 1900 US\$/years in year 2006-2007, it is increase from US\$ 600/year in year 1997-1998.
- Level of poverty from year 2000 to 2004 were decreased from 19.14% ; 18.41% ; 18.20 ; 17.42% ; 16.60%, but increase to 17.75% in 2006.
- Indonesia Corruption Perception Index (CPI) is 2,4

The recent national economic profile, 2005-2008, presented below.

Table 1. National Economic Profile 2005-2008

Indicator	2005	2006	2007	2008
Economic growth (%)	5,7	5,5	6,3	6,1
Unemployment (%)	11,2	10,3	9,1	8,4
Poverty rate (%)	16	17,7	16,6	15,4
Inflation (%)	17,1	6,6	6,6	11,1
Exchange rate (to USD)	9.840	9.020	9.419	10.950
Central Bank rate (1 year) (%)	12,75	9,75	8,00	9,40
Stock composite index	1162,6	1805,5	2745,8	1355,4
State budget deficit (%)	- 0,5	- 0,9	- 1,3	- 0,1
Forex reserves (USD Billion)	34,7	42,6	56,9	51,6
DSR (%)	17,3	24,8	19,2	4,7

Sources : Central Bureau Statistic (2005-2008), Bank Indonesia/Central Bank (2005-2008), Department of Finance(2005-2008), National Planning Board (2005-2008), Jakarta Stock Exchange (2005-2008).

Indonesia has managed its government debt burden well. The broadest measure of the impact of debt is the ratio of total government debt to total economic output or GDP. The ratio of public debt to GDP has fallen from 100 percent (1999) to 40.8 percent in 2006 and is expected to decline to 30-35 percent by 2009. This is comparable with neighboring countries.

Due to growth, fiscal performance and a strengthening currency, debt levels are now on par with regional competitors. As of end-2006, Indonesia's government debt to GDP ratio stood at 40.8 percent. This level is comparable to regional competitors such as Thailand and Malaysia, and much better than the Philippines.

1.2. Water Resources

The Indonesia's 1945 Constitution article 33 states that *"The land, the waters and the natural resources within shall be under the powers of the State and shall be used to the greatest benefit of the people"*. The statement "under the control" does not mean all activities should only be implemented by the government, it is allowing to at certain extent on natural resources to be utilized by private, community or cooperative however it should be under the control of the Government. This includes land and water having economic value and social functions. Utilization should be based on sustainable manner and for the maximum prosperity of Indonesian people.

Law No. 7 Year 2004 on Water Resources stipulates that water resources shall be managed based on the principle of conservation, balance, public benefit, integrity and harmony, justice, independence, as well transparency and accountability. Based on this main governing law in water resources, river area shall mean the integrated water resources management area in one or more river flow areas and/or small islands having an acreage that is less or the same as 2.000 km². The stipulation of the river area comprise the river area in one regency/municipality,

trans regency/municipality river area, trans provincial river area, trans national river areas and nationally strategic river area.

Data on water resources which includes surface and groundwater shows that the potential of surface water is among others are in Papua 1.401×10^9 m³/year, Kalimantan 557×10^9 m³/year, and Java 118×10^9 m³/year. Surface water is scattered in river bodies (5,886 units), in lakes, dams and wetland (33 million hectares). Around 64 of 470 watersheds in Indonesia are in critical condition. Of those critical watersheds are 12 areas in Sumatra, 26 areas in Java, 10 areas in Kalimantan, 10 areas in Sulawesi, 4 areas in Bali and Nusa Tenggara, 4 areas in Maluku, and 2 areas in Papua.

River water quality in Indonesia is mostly affected by domestic waste as well as industrial and agricultural waste. River water monitoring has been carried out in 30 Provinces in 2004, with samples taken twice per year. The monitoring result indicates that parameters of DO, BOD, COD, fecal coli and total coli form are mostly above the water quality standards class I under Government Regulation 82/2001. For biological parameter especially fecal coli and total coli forms indicate most river in populated areas such as Java is very critical, for example in Kulonprogo River (Central Java), Ciliwung (Jakarta), and Citarum (West Java). Whilst, more than 98% of all water is groundwater, only the rest of 2% is in rivers, lakes and reservoirs. One half of this 2% is in artificial reservoir. Monitoring to 48 wells was conducted in Jakarta in 2004, and indicated that most of wells has contained coli forms and fecal bacteria. Iron (Fe) concentration in groundwater of Jakarta has been increasing, which some wells contain iron above the standard. Percentage of Jakarta's wells containing Mangan (Mn) above standard was around 27% in June 2005 and increased to 33% in October 2005.

Increasing population and development cause the increasing need for water resources. On the other hand, water resources availability is getting limited and critical at several locations. The decrease of water resources is due to some factors, namely pollution, deforestation, heavy agriculture activities, the change of function of water catchment area, water user behavior, and natural phenomena (global climate change).

Indonesia population growth rate is about 1.17% annually. Man activities and development for food production, housing, energy, industrial products, domestic purposes, have continued to put pressure on the existing water and water resources. The availability and performance of water resources infrastructure and facilities in Indonesia can be illustrated as follows.

Number of rural household without access to drinking water is 30.88% in 2003 and without access to sanitation is 36.04 %. Clean water supply system serves about 45 million or 40% of urban population and 7 millions or 8% of rural population. Poor water continuity in water stressed areas forcing poor people obtains water at higher price than those with higher income. In Bengkulu, North Maluku, Central Kalimantan and West Kalimantan Provinces, drinking water supply mostly is obtained from river and unprotected wells. In several large cities, 73% of water need for household is obtained from groundwater sources. Total irrigated land is 6.77 million ha, where most of its water supply is critical to seasonal river flow factor (only 800,000 ha of water is

supplied from dam). River basin infrastructure and its utility facilities (i.e. irrigation networks, water supply and sewerage facilities) are not in perfect technical conditions and also far from adequate. Hydrological network has not adequately receiving appropriate attention.

Other problems faced with respect to the institutional aspect are the limited role of the government at central and regional levels, weak institutional capacity in monitoring and evaluation, weak coordination among sectors, and absence of high-quality national strategic planning. The role of government institutions at central and regional levels is more dominant on development and rehabilitation of existing infrastructures. Monitoring and evaluation of water resources condition still is not adequate in term of its institutional capacity as well as the quality of its personnel. Some sectoral programs that are expected to contribute to the water resources conservation efforts is still not integrated. Performance of sector related to water resources conservation is not as yet adequately optimized due to weak coordination among sectors. And, absence of good national strategic planning that could become reference and framework in program preparation and activities among various sectors and among region is also influential.

These physical and institutional problems are being compounded with social problems due to negative water user behavior. Water saving practice for irrigation up to present is still experiencing a number of constraints, especially due inefficient use of water that waste water, time, energy and also money. Furthermore not all farmers are organized in Water User Organization. Application of water saving technology is still limited while water consumption and water pollution is increased. The problems are further worsening by lack of controlled of pollution due to industrial waste.

These problems have contributed to the degradation of watersheds in various locations. Watersheds (DAS/river basin) which are being damaged and becoming critical are increasing. Data in 1984 showed 22 critical DAS and in 1992 the total critical DAS increased to 39, furthermore in 2005 it rose to 62 critical DAS. The facts of course cause more flood, drought, erosion and sedimentation all over Indonesia.

Land management in the upper watershed without consideration to soil and water conservation tends to create critical lands, causing devastating floods and drought in the middle and lower areas. Indonesia at present has approximately 8 million ha of critical agricultural land. Water functions such as lakes, rivers, or dams as well as irrigation canals tends to decrease along with an increasing rate of soil erosion creating siltation and swallowing processes. Water consumption tends to increase with population increase and sector's development that produces pollutant or by products. Inefficient irrigation water management due to irrigation facility damages and inefficient irrigation water practices at farm levels lead to overuse of irrigation water. Extreme climatic change can give rise to flood and drought disaster. Such disasters are often caused by abnormal global climate changes, such as El Nino or La Nina. Long drought periods destroying hundreds of thousands of hectares of paddy rice field occurred in 1991, 1994, and 1997. Over pumping of groundwater without considering the ecosystem threshold has created intrusion of seawater, groundwater pollution, and land subsidence. Weak water user associations have also reduced the effectiveness of irrigation water management at the farm

level. To illustrate, it is reported that of 39,000 existing or newly created water user associations, only 11,000 units (28%) are in fact developed enough to function properly.

Indonesia is categorized as economic water scarcity country. Its water balances by islands (2003) shows that water deficit occur in the dry season in the islands of Java, Bali, and Nusa Tenggara Barat. Other islands show surplus during the wet and dry seasons. Total current water demands for domestic, irrigation, municipal and industry reach 1,074 m³/second. Water availability during low flows (dry season) at normal year only reach about 790 m³/second or only about 76% of the total water demands. In term of island viewpoint, water deficit occurs in islands in which population is dense and water availability is limited such as islands of Java, Madura, Bali, NTB, and NTT.

II. WATER SUPPLY AND SANITATION PROFILE

2.1. Sector Development

Indonesia's water service sector has experienced transition and transformation since the private sector involvement in the 90s and the economic and political reforms in 1997. Before, the provision of water supply is viewed as a public function operated by the local government. Whilst, the primary role of the central government is developing an overall water sector policy and providing technical assistance for sector development. Started in the 90s the private sector was given an opportunity to participate in the sector development in view to provide incentive in the sector investment. Due to economic crisis in 1997, the Government of Indonesia began to put an emphasis on water as both economic and social good. In 2004, water resources law was enacted giving a framework for utility provision. The law further opens the way for the cooperative, private enterprise and the community to participate in the development of the drinking water provision and the establishment of regulatory body to ensure a quality service at an affordable price, maintain a balanced interest between the consumer and the service provider, and improve the efficiency and scope of service of drinking water.

Prior to 1968, there were only few cities in Indonesia that managed public water utilities (PDAM). The number then grew to about 306 PDAMs in 1995. But, few years after the economic crisis, the condition of most of the PDAMs have deteriorated. 243 PDAMs have outstanding debts to the Central Government through the Ministry of Finance. Based on an assessment of these PDAM's performance in 1998, there were only 21 PDAMs classified as healthy, while the majority was rated less satisfactory to critical. Overall, the water coverage in urban areas only reached approximately 39% of the total 85 million people. Unaccounted for water is over 40%. Because of the financial constrain, new development and expansion were halted or postponed.

This situation has led to policy reform aiming to address a number of concerns in the area of improved service and increased access, sustainability of service delivery, and new investments. In 1999, the Government issued Law No. 22/1999 on Regional Autonomy which transfers some infrastructure function to the local governments. In support to private sector participation in infrastructure, it also issued regulation allowing cooperation between government and private sector. Restructuring the PDAMs was also undertaken in order to increase their performance. In view of financial constrain and to accelerate the development of infrastructure, the Government has established a committee at national level, KKPPI (National Committee for Acceleration of Infrastructure Development) with the tasks to coordinate and minimize the constraints hindering the development of infrastructure.

Regarding the tariff, in 2006 a new regulation by Ministry of Home Affairs was passed. Based on this regulation, PDAM should combine block tariffs and customer classification with regard to their economic background. The tariff structure is designed to allow cross-subsidy to the lower income customer. The tariff rate is fixed by the local government with consideration of the local affordability and socio-economic situation. The affordability is varied according to

disparity in water supply service provision and variation in the cost of water. Overall, households in general pay around 1-2% of their average annual income on water, but in many cases the people especially those who have limited access to piped system must spent considerable amount of their income for water through water vendors.

2.2. Institutional Framework

Policy and regulatory responsibilities for the water and sanitation sector are shared among several ministries namely Ministry of Public Works, Ministry of Home Affairs, Ministry of Finance, Ministry of Health, State Minister for Environment, Ministry of Mines and Energy and etc. Below are responsibilities relates to water among each departments:

- Ministry of Public Works (MPW)

MPW has the responsibility for determining policies and standards in the water sector, including water supply and sanitation, at a national level. As a technical department, Ministry of Public Works (MPW), formerly Ministry of Settlements and Regional Infrastructure or KIMPRASWIL is responsible for the development of water resources, roads and bridges, water supply and sanitation, and spatial planning. Under the new Unity Cabinet (2004-2009), its organization is currently being restructured. Beside policy making functions, the Ministry of Public Works also issues and publishes technical regulations, covering Norms, Standards, Guidelines and Manuals known in Indonesia as NSPM. These products are used as references to be complied by the construction industries engaged in the development of public works sector, in order to ensure good operating practices are implemented in all public works undertaking. The MPW established a Water Supply Supervisory Support System Agency (BPPSPAM) responsible for the giving recommendations to the Minister of Public Works on the development of water supply provision system.

- Ministry of Home Affairs (MOHA).

Under the Law No. 22 Year 1999 regarding Regionally Owned Companies, its has issued guidelines on: (i) drinking water tariffs, (ii) PDAM management, (iii) management of loans, (iv) accounting systems, (v) financial performance assessment and monitoring. The Ministry of Home Affairs (MoHA) through its Directorate General of Regional Development (PUOD) is responsible for the supervision and monitoring of local governments and the performance of their principal personnel. A second important function of PUOD is the overall management and support of the local water works enterprises.

- Ministry of Finance (MOF).

The Ministry of Finance (MoF) with respects to water supply development is actually the owner of all assets under the State-Owned Regional Water Works Enterprises that enjoyed

state funding either in the form of foreign loan (debt) or government equity. These enterprises are then obliged to pay its debt to the MoF. Any transfer or disposal of state assets therefore must be approved by the MoF. MoF through its Directorate General Budget is responsible for allocating funds for sector's development projects and through its Directorate General Financial Institution manages subsidiary loan agreements, whereby local governments and their incorporated businesses (such as a water works enterprise) can borrow money provided through externally assisted project financing at the central level.

- Ministry of Health.

In the water supply sector, the Ministry of Health (MoH) is responsible for the issuance of the quality standards for clean water and potable water. The water providers shall comply with these standards, and the MoH has the right to inspect and monitor the clean and potable water produced by water treatment plants.

- State Minister for Environment.

The State Ministry of Environment establishes policies on water pollution control and environmental issues. It also plans the implementation of environmental programs, support public participation in environmental affairs, and coordinates the operational activities of Bappedal (The Environmental Impact Management Board). Bappedal, established in 1990, is directly responsible to the President, but its operation is coordinated by the State Ministry of the Environment. It assists in policy formulation regarding the implementation of pollution control, including toxic and hazardous waste management. The ministry also acts as reference center on environmental pollution, and promotes public participation in environmental impact assessment.

- Ministry of Mines and Energy.

The Ministry of Mines and Energy is responsible for groundwater exploration and its relevant data collection, as well as the granting of exploration permits through its Directorate of Environmental Geology under Directorate General of Geology and Mineral Resources.

- National Development Planning Agency (Bappenas).

Bappenas is responsible for preparation of long and medium term national development programs, and in particular the sectoral target and its budget. Other functions are program coordination, evaluation of project effectiveness and proposal for future program planning.

- Local Government and PDAMs.

In Indonesia, all the water services provided by local government through their local government own corporation named Perusahaan Daerah Air Minum (PDAM, *Local Government Owned Corporation on Drinking Water*)

- Indonesian Consumer Foundation Institute (YLKI).

An NGO engages in advocating the issue of consumer protection.

- Indonesian Association of Water Works Enterprise (PERPAMSI).

A professional organization of water utilities.

Tabel 2. Institutional Framework

Function		Institutions
Regulator	National	Ministry of Public Works Ministry of Home Affairs Ministry of Health Ministry of Finance Ministry of Environmental Issue
	Local/regional	Local Government (Province, City, Municipality) Regional Regulatory Body
Operator	Local/regional	PDAM, <i>Local Government Owned Corporation on Drinking Water</i> Concession's holder (private sector, smalholders, cooperatives)
Civil Society Organization	National	YLKI Perpamsi

2.3. Water Laws and Regulations (Legal Framework)

The basis of Indonesia's regulatory reforms is the Medium-Term Development Plan or known as RPJM, which outlines the main policy and priorities and direction of the country development. The RPJM sets out three agenda, namely creation of a safe and peaceful Indonesia, establishment of a just and democratic society, and improvement of the welfare of all citizens. Within the third agenda, priority areas for actions are set forth; among others is the infrastructure development. According to the RPJM, an investment of approximately US\$ 150

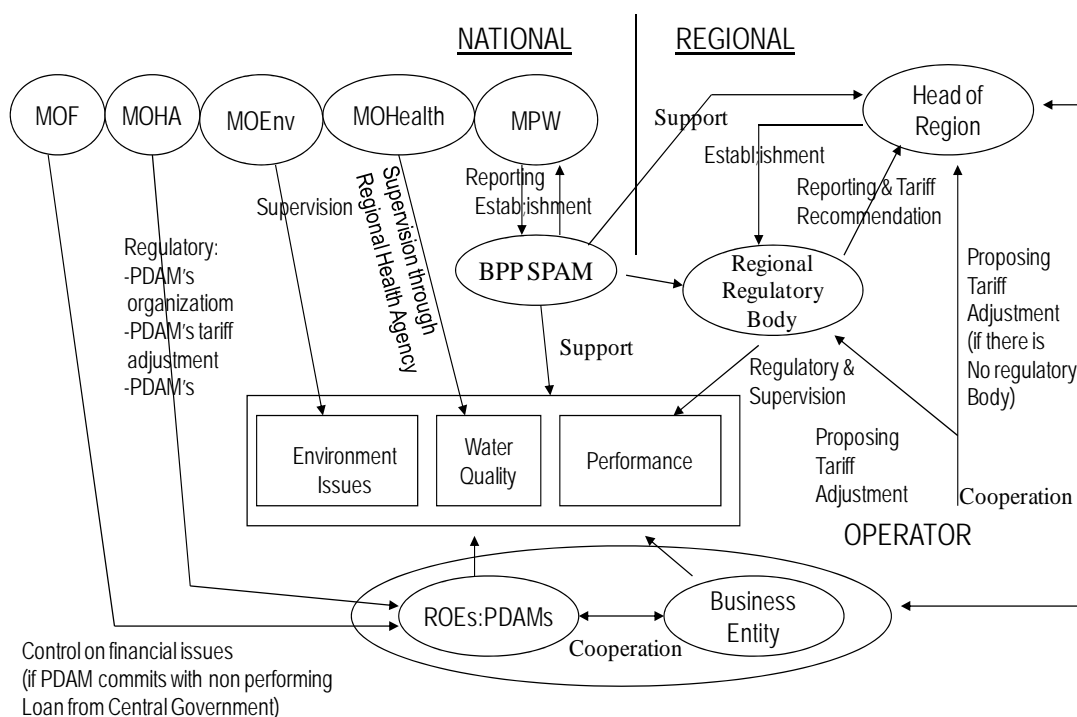
billions would be required for infrastructure development. Investment through the state budget will provide only US\$ 25 to US\$ 37 billion. Between US\$ 20 to US\$ 37 billion is expected to come from the domestic capital market. Bilateral and multilateral assistance is expected to contribute US\$ 10 billion. Thus, there will be a financing gap ranging from US\$ 74 to US\$ 98 billion.

The Indonesian Law follows the Continental legal system, in accordance with hierarchical manner from Basic Constitution, Law, Government Regulation, Presidential Regulation, Ministerial Regulation, and Local Regulation. Since 1998 reforms were made in many areas through enactment of new legislations, notably the decentralization law that has expanded the possibility for PSP at local level

As it is mentioned earlier decentralization laws have expanded the possibility for PSP at the local level. Local government can execute PSPs in two ways: either directly by awarding a PSP contracts to the private sector or indirectly through a Regional Owned Enterprise. Based on Government Regulation Number 16/2005, for PDAM having limitation in developing the service within their area can enter cooperation with private or cooperation amid approval from their commissioner and board of supervisor (article 37). And for areas where there has not any operation by PDAM the local government directly making cooperation with private or cooperation (article 64). The new Water Resources Law as mention above confirms the possibility of PSP on piped water supply.

The institutions responsible for developing PSP in the water and sanitation sectors are shown in below.

Figure 2. Water Supply and Sanitation : Institutional Arrangement



The line ministries that implement the PSPs are the Ministry of Public Works (MPW). BPPSPAM, a unit under MPW works as consultative body at national level should give recommendation to be adopted by local government. BPPSPAM is not a contracting authority or a regulatory body. The ideal arrangement in the water supply sector is to have a separate and independent regulatory body and based on government regulation, the establishment of water supply regulatory body is the responsibility of the local authority.

Figure 3. Existing Laws and Regulations : Water Supply and Sanitation

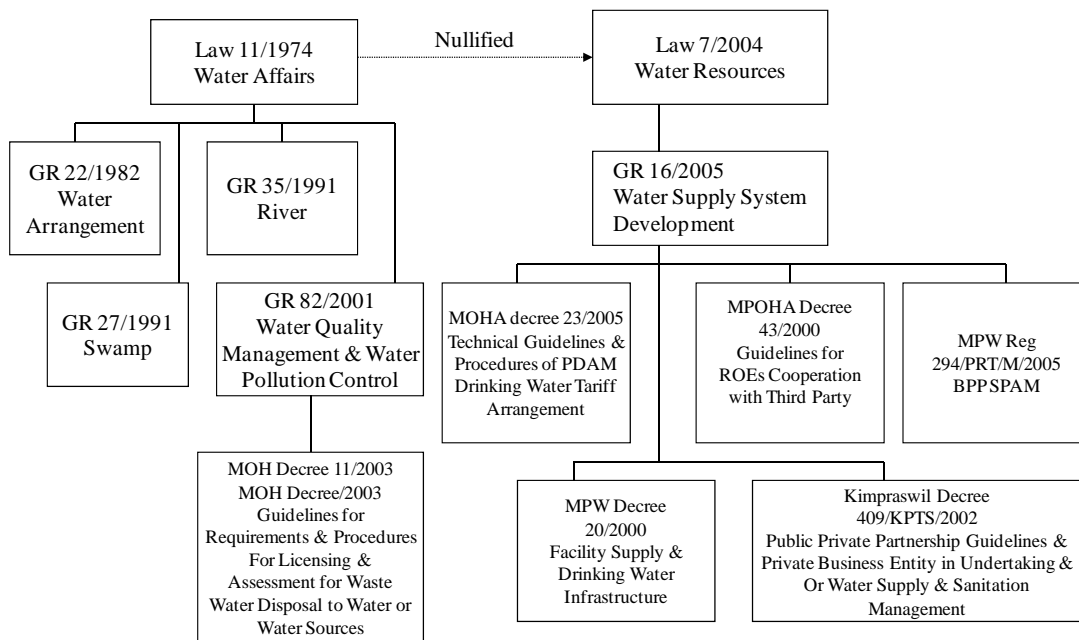


Table 3. Comparison of Old And New Regulation For Water Commercial Use

ISSUES	LAW No. 11/1974	LAW No. 7/2004
Private Involvement Constraints	Government License based on cooperation and mutual principles (Articles 11)	<ol style="list-style-type: none"> 1. License from Central, Provincial or District Government (Article 46); 2. The control of whole river basin is prohibited (Articles 46); 3. Based on Water Allocation decided by government (Articles 47); 4. Proposed through public consultation (Articles 48); 5. The service given to another river basin is prohibited except water allocation is sufficient for the stated basin.
Private Responsibilities	No arrangement	<ol style="list-style-type: none"> 1. Ensure the social function and preservation (Article 46); 2. Responsible for conservation activities and the improvement of regional welfare (Article 48); 3. Promote the involvement of small and medium enterprises (Articles 48).
Government Responsibilities	No arrangement	<ol style="list-style-type: none"> 1. Monitor commercial service quality (Article 48); 2. Facilitate public complaints for water commercial use (Article 48).

2.4. Financing

Total infrastructure spending in Indonesia was Rp 55 trillion in 2005 (US\$ 5.7 billion). These expenditures were financed mainly by the local (Rp 23 trillion) and central government (also Rp 23 million), followed by the provincial government (Rp 9 million). Infrastructure investment stood at 10% of total government expenditures, as shown in the table below.

Table 4. Infrastructure Spending Indonesia 2005

	National	Province	City	Total
Infrastructure	23	9	23	55
Total	357	38	141	536
Share of Infrastructure	6.4%	23.7%	16.3%	10.3%

Source: Calculations based on World Bank Indonesia Public Finance Data Page. All figures are in current trillion Rupiah for 2005.

While it is not entirely clear how much of this sum has been invested in water supply and sanitation, the ADB estimates that only US\$ 124m per year (average of 2004-2005) from the regular national budget were allocated to water supply and sanitation.

Since decentralization in the year 2001, local Governments have typically invested less than 2% of their annual budgets on water supply, even less on sanitation and almost nothing on improving hygiene practices. Assuming that 2% of local government (provincial and district)

budgets are spent on water and sanitation, local government investments in water and sanitation were Rp 3.6 trillion or US\$ 375 million or about three times higher than the US\$ 124 million financed through the national budget. Total investments thus can be very tentatively estimated at about US\$ 500 million, or slightly more than what has been estimated by one source as the required investments to meet the MDGs, or US\$ 450 million per year. At about US\$ 2 per capita and year these investments still remain far lower than investments in water and sanitation in other middle-income countries.

The economic crisis of the late 1990s had severely curtailed investment in infrastructure. Central government spending on development dropped from US\$ 14 billion in 1994 to US\$ 5 billion in 2002, within which the share of infrastructure spending further declined from 57 to 30% over the same period. Moreover, according to the World Bank, poor institutional and regulatory frameworks and rampant corruption in the infrastructure sector, which were prevalent even before the crisis, continued without serious sector reform efforts by the government until today.

- For - MDGs target 2015; Rp 43 trillion is needed for water supply and sanitation, Government budget capacity estimated is 500 billion/year, the rest will be from others (private sector, external & domestic loans);
- After decentralization announced since 2001, today provincial and district governments in Indonesia spend 37 percent of total public funds, representing a degree of fiscal decentralization;
- public infrastructure investment has still not fully recovered from its post-crisis lows (at only 3.4 percent of GDP in 2006);
- Total government expenditure for 2008 will increase to Rp 863.4 trillion, with spending for capital goods- which will mostly be for infrastructure 48% to Rp. 101.5 trillion;
- Current loan for water sanitation sector: International Donor Institution through MoF/ Bappenas (two step loan), Private Sector (local & international), local bond

Tariff calculation is based on cost recovery and affordability principle. In the water supply, cross subsidy is applied for lower income customers. The tariff is determined by Head of Region (administrative head) based on the analysis and recommendation of the PDAM or an independent regulatory body. Unlike in the energy sector, the water supply sector has no direct public service obligation policy. However, comprehensive studies are being undertaken by the Bappenas (National Planning Agency) on the possibilities to finance PSO originated from the government budget. Indirect PSO, in term of cross subsidies for the benefits of poor people are already in existence.

2.5. Urban/Rural Water Supply and Sanitation

In 2003, the total population is estimated at 217 million people, 44% are living in urban area and 56 % in rural area. National coverage ratio piped/tap water in urban area is 41% and 8% in rural area in 2004. There are currently 319 PDAM or Local Government's Drinking Water Supply Enterprise that manage and operate the urban piped water supply systems. The total water demand is estimated (2003) at 180,000 liter/second, and the total installed production capacity is 110,000 liter/second.

Access to safe water 1982-1985 was 39%; 1990-1996 was 62%; 2004 was 56% (% of population). Access to improved water source 2004 was 77% , which is 89% in urban & 72% in rural. Annual freshwater withdrawals 2002 was 91.3 (% of total freshwater). Access to safe water is measured by the number of people who have a reasonable means of getting an adequate amount of water that is safe for drinking, washing, and essential household activities, expressed as a percentage of the total population.

Data on access to water and sanitation in Indonesia vary significantly depending on the source consulted and the definition of access. According to the Joint Monitoring Program by WHO and UNICEF (see table below) access to improved water supply stood at 77% and access to improved sanitation at 55%.

Table 5. Water and Sanitation Coverage in East Asia and the Pacific

Country	Population			Sanitation Coverage			Water Supply Coverage					
	Total (x1000)	% urban	% rural	% total	% urban	% rural	% total		% urban		% rural	
							total	HC	total	HC	total	HC
Cambodia	13,798	19	81	17	53	8	41	9	64	36	35	2
China	1,307,989	40	60	44	69	28	77	69	93	87	67	57
Indonesia	220,077	47	53	55	73	40	77	17	87	30	69	6
Kiribati	97	49	51	40	59	22	65	36	77	49	53	22
Korea, DPR	22,384	61	39	59	58	60	100	77	100	81	100	71
Lao PDR	5,792	21	79	30	67	20	51	14	79	44	43	6
Malaysia	24,894	64	36	94	95	93	99	94	100	98	96	87
Mongolia	2,614	57	43	59	75	37	62	28	87	49	30	1
Myanmar	50,004	30	70	77	88	72	78	6	80	16	77	2
Papua New Guinea	5,772	13	87	44	67	41	39	12	88	61	32	4
Philippines	81,617	62	38	72	80	59	85	45	87	58	82	23
Solomon Islands	466	17	83	31	98	18	70	14	94	76	65	1
Thailand	63,694	32	68	99	98	99	99	38	98	85	100	16
Timor-Leste	887	8	92	36	66	33	58	12	77	28	56	11
Vanuatu	207	23	77	50	78	42	60	39	86	74	52	28
Viet Nam	83,123	26	74	61	92	50	85	24	99	73	80	6

Source: WHO-UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation (2004 data set)

However, according to Indonesia's 2004 socio-economic survey (SUSENAS) only about 47% of the population has access to water from improved sources considered relatively safe. That includes 42% of the urban and 51% of the rural population. In the 8 years from 1994 to 2002, this figure increased by only 10% in rural areas and 9 percent in the urban. At this rate, by 2015, only about 56% of the rural population can be expected to gain access to safe water supply, when the MDG target for the whole country is 73%.

Urban sanitation is the least well addressed of major policy issues in Indonesia. Poor sanitation in cities and small towns is posing population health hazards through pollution of both ground and surface water sources used by urban populations for a variety of purposes. Disposal and treatment of sewage is available for less than 2% of the population. Top-down delivery systems of the past have led to the poor not gaining appreciable access to safe sanitation services in both urban and rural areas.

Access to improved sanitation facilities in 2004 is 55 % while access to sanitation 1982-1985 was 30%; 1990-1996 was 51%. There are currently 10 cities with pipe network or sewerage system. The national coverage ratio is less than 10%, (WHO data in 1999 is 2%). The majority of the people still using residential septic tank for their daily domestic waste. Others, especially in rural areas, discharge sewage directly into river, pond, simple traditional-hole, etc.

The provision of water and sanitation services in urban areas is the responsibility of PDAMs. Of 306 PDAMs in Indonesia, two PDAMs (Jakarta and North Sumatra) are operating at provincial government level. All others operate at city/district government level (city level operation are 91). There are also very few utilities dedicated exclusively to sanitation, called PD-PAL or Local Government Owned Wastewater Utilities.

Utilities are associated in Perpamsi, the national association of water utilities. In 2002 it initiated a performance benchmarking program with support from the World Bank. The data base currently contains 80 Water Utilities (PDAM) in Indonesia, including most of the larger ones.

Non-revenue water (NRW) in Indonesia's best utilities stands at only 20%, while the worst quartile of utilities participating in Perpamsi's benchmarking exercise have NRW of 43%. However, NRW data is generally unreliable as many PDAMs do not have meters installed to accurately measure NRW. In terms of labor productivity, the best performing utilities have a staff ratio of 4 per 1000 connections, while utilities in the worst quartile have more than 9 staff per 1000 connections.

In Jakarta the level of non-revenue water was 51% in 2001, one of the highest levels in Indonesia. However, in terms of labor productivity, the two water utilities in Jakarta are relatively well with only 5.3 employees per 1000 connections.

As in many other countries, those not connected to water supply networks pay the most for water. A survey in North Jakarta found the price of water in the early 1990s was US\$ 2.62/m³ for vendor customers, US\$ 1.26/m³ for standpipe customers, US\$ 1.08/m³ for household re-sales customers, and only US\$ 0.18/m³ for connected households.

According to the ADB In Jakarta the average tariff in 2001 (average of residential and commercial users) was US\$ 0.285/m³, compared to production costs estimated at only US\$ 0.112/m³. 98% of revenues billed were collected.

Rural Indonesia has a long history of community-based water supply services using naturally occurring springs, rainwater and groundwater sources. However, community capacities to sustain such water systems over long periods have tended to be limited. Some past rural water supply and sanitation projects have often not invested sufficiently in building community capacity to plan, implement, operate and maintain services in ways that benefit and satisfy all sections of rural societies, conditions necessary for service sustainability. Rural consumers have not consistently been offered voice and choice in decisions related to establishing and managing services and paying for them. Services have often been provided in a top-down manner by agencies external to the community, using public sector or donor funds and contractors answerable to government agencies rather than to the users of services. This has led to mismatches between what the users want and get, lack of community ownership of rural water supply and sanitation facilities and unclear responsibilities for maintenance.

In 2003 the government adopted a National Policy for the Development of Community-Managed Water Supply and Environmental Sanitation Facilities and Services that provides a clear route map for sector reform, by:

- Radically changing the policy goals for the sector, from achieving "coverage targets" counted in terms of construction of systems facilities, to the twin goals of sustainability and effective use of water supply and sanitation services;
- Promoting water as a public as well as an economic good;
- Espousing strategies such as empowerment of communities to choose, co-finance, construct and manage and own their water supply services;
- Requiring the use of gender-and poverty-sensitive approaches in working with and empowering user communities to ensure poverty targeting and impact on local poverty;
- Building stakeholders' understanding at all levels of the multi-dimensional nature of service sustainability;
- Measuring success in terms of sustained population access to services, and effective use of those services, i.e. hygienic and health - promoting use of services by all sections of communities and improved sanitation and hygiene behaviors among various age-sex groups of the population.

The new sector policy is currently being prepared in a growing number of provinces and districts. A new generation of community-driven WSS projects has been built on the policy and is demonstrating better results in terms of service access and quality as well as sustainability. However, the new generation of community-demand driven projects also shows that for long-term sustainability of services, in particular in urban areas or rural areas that are increasingly absorbed in urban conglomerations, community management alone may not be an adequate

arrangement. Newer models of support and responsibility sharing between user communities and local governments or local private sector agencies need to be evolved and tested.

2.6 Private Sector Involvement

Indonesia began undertaking its reforms since 1998 at the time of Asia economic crisis. Significant reforms were undertaken, notably the enactment of a number of laws and regulations on regional autonomy and infrastructure provision. The reform on the public (infrastructure) sector is being made in a number of ways. At operational level, government is being transformed from a service provider to an enabler; this make the policy making, strategic planning and regulatory supervision function are being separated from operation, and, the provision of infrastructure is being uncoupled from service provision. All these aimed to ensure good climate for infrastructure provision and investment. The extent of private participation is shown in table below.

Table 6. Private Sector Involvement

Cities	Cooperation/Privatisation	Investor
Jakarta	Full Concession	Suez & Thames
Medan	BOT – Bulk water	Degremont
Batam	Full Concession	Cascal BV & BCS
Tangerang	O&M Contract	Tirta Cisadane
Tangerang	ROT- Bulk water	PT. TKCM
Ambon	Joint Venture	WMD
Jambi	BOT – Bulk water	Novco
Semarang	ROT – Bulk water	Degremont
Serang	BOT – Bulk water	Gadang Berhad
Pekanbaru	Joint Operation	PT. KTDP
Sidoarjo	BOT – Bulk water	Vivendi
Banjarmasin	BTO – WTP	PT. Adhi Karya
Manado	Joint Venture	WMD

Source: BPPSPAM, 2008

The present demand for drinking water is estimated at 180,000 liter/second whereas the installed production capacity is currently at 110,000 liter/second, of which about 22% is supplied by the private sector participation scheme through 24 hour water piped systems, serving about 8.2 million people or 9% of the total urban population. The total urban population served is estimated at 41% or 38.7 million people.

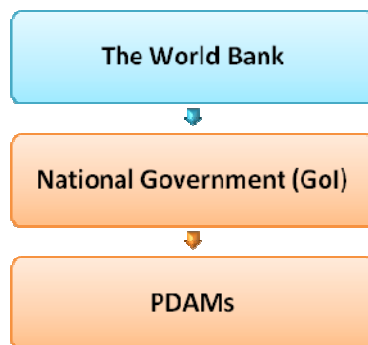
The PSP is under supervision of Ministry of Public Works, Ministry of Home Affairs and local government regulation on regionally owned enterprise (ROE). In the water supply and sanitation the development as stipulated in the laws and regulation is fully under the local government authority. Two major constraints on PSP at the local level have been identified. First, local government must develop a financial capability to contract with the private sector (either directly or indirectly through a state-owned enterprise). Since it is difficult to envisage central government providing financial guarantee as a matter of course for PSP projects, local government needs to be self-financing and be allowed to provide financial support for PSP projects. This implies further reform of local government finance. Second constraint that local government faces is institutional. For the moment, it simply does not have the know-how to select, prioritize and transact PSP projects. This shortcoming needs to be removed, and the necessary institutional capacity to be developed and sustained.

2.7. External Support

External support to the water and sanitation sector in Indonesia is provided by 1) international financial institutions, such as the World Bank and the Asian Development Bank, 2) bilateral aid from countries such as the United States, Canada, Japan, Australia and The Netherlands and United Nations agencies such as UNICEF. In East Indonesia, through GTZ, the Government of Germany provides support for water supply system development in the dry areas of East Nusa Tenggara. The project named Pro-Air.

The World Bank conducts special support to water services by providing loans to water service authorities (PDAM) through subsidiary loan agreements or the two-step loans scheme while first the loans are transferred into national government then the Department of Finance on behalf of national government transfers the loans to PDAMs.

Figure 4. Two Steps Loan of The World Bank to Indonesia Water Development



2.8. PDAM Debts Restructuring

Water services in Indonesia is managed by Perusahaan Daerah Air Minum (PDAM), a local government owned corporation. PDAMs is facing some big problems: too many bureaucracy and politics intervention in one side and less-professional management. The two factors drove most of PDAMs toward the same conditions : unsound performance. The figures below describe the condition of the PDAMs.

Table 7. PDAMs Performances

Soundness	2004	2005	2006	2007	2008*	2009*
Sound	38	44	50	80	104	140
Unsound	73	110	113	116	134	145
Poor	224	181	172	139	97	50

* target

Source : Department of Public Works, 2008

Total loan of PDAMs dated in 2007 was Rp 6,3 trillion (ekuivalen to US\$ 630 million), consist of Rp 2,9 trillion of loan and Rp 3,4 trillion of interest and penalties. Most of the loan is belong to central government. As a company, most of PDAMs are in the state of bankruptcy. But, water services has to be carried on, wheter the authority is under sound condition or impoverished. A number of PDAMs than privatized through diverse models and some are undergoing debt restructuring. Recently the restrucring process is being criticized because it takes a long way in compare to debt restructuring of the private sector¹.

Government of Indonesia has responded the problem by issuing Ministry of Finance Decree No. 31/PMK/07/2005 and 120/PMK.05/2008 on PDAMs debt restructuring. It stated that Gol provide debt release for PDAMs in scheme of less than Rp 10 billion by Ministry of Finance approval, Rp 10-100 billion by President's approval, and more than Rp 100 billion should proceed through national parliament (DPR). In 2008 about 30 PDAMs reported were using the debt release scheme.

On June 2008 Ministry of Finance reported that PDAMs loan reduced into Rp 4,65 trillion (US\$ 465 million), consist of Rp 1,5 trillion of loan and Rp 3,1 trillion of interest and penalties. Government of Indonesia also developpe a multi-scheme of debt restructuring, include issued the new policy on debt swap to investment).

¹ Private sector debt restructuring after crises managed throug specific government body. The dept restructuring up to 80% hair cut.

In order to enforce the process of debt restructuring and fostering the services, on January 2009 Ministry of Home Affairs released circular letter stated that every PDAMs which have service coverage less than 80% of the population are discharged from the obligation to provide corporate dividend to government as the owner. And to improve the PDAMs financial capacity, government prepare the Presidential Regulation (PerPres) on Loan Subsidy to PDAMs, especially PDAMs which has bad debt, in shceme 40% of the PDAM's loan will be transfer as PDAM's debt to central government, and 30% of PDAM's loan will be transfer as local government bonds.

Aim to speed up the water services due to Millenium Development Goals, government has released national plan to reach 10 million new connection in 2013. To reach the target, it is exercised a financial requirement amount to Rp 85 trillion (US\$ 850 million) of investment that will be provided jointlyby government and business sector.

III. CONCLUSION & LESSON LEARNED

Water is not only *human need*, but a *human right* since it is determine the existence of any human being. Right to water is turning into *right to life*. Therefore it is in essence to remind that any states and government has to secure the right to water of their citizens. The right to water promoted by Convention on the Rights of the Child on 1990, Dublin Principles on 1992, and UN Committee on Economic, Social and Cultural Rights on 2002 articles 11 and 12 on covenant of the economic, social, and cultural rights.

Indonesia has ratified the international covenant on economic, social and cultural rights by Act No. 11/2005. The commitment implement by Law No. 7/2004 on Water Resources which in articles 5 stated that government guarantee everyone's right to obtain water for their minimum daily basic needs in order to achieve a healthy, clean and productive life. To assure every citizens get the water for their living, government then prepares a policy on drinking water provision system or SPAM (*Sistem Penyediaan Air Minum*) that refer to pipe and non-pipe water system.

Today, majority of people are still using ground water, therefore more approach to develop piped water supply system is needed to be developed. Indonesia target for 2009 is having 60% of service coverage ratio, in compare to 41% service coverage ratio in 2005. While at the PDAM side, the average performance are not satisfactory. Water loss in average is 37%. Water quality is not drinking water and in many big cities, water authorities unable to supply 24 hour a day and even some areas suffer of no-water at all so they need to rely on unhealthy sources of water.

Government of Indonesia strives to promote the better water services for people. The strategy carves up into three approaches. First, develop policy as the groundwork for enhancing water authorities' capacity to provide better services to people. Policy framework range from political support to financial support. Second, national and local government together promoting alternatives and innovation to boost better water services by inviting private sector to conduct *public-private-participation* in some available models; from water production to overall concession in a certain given period. Thirdly, government and local government promote professional management in the water authorities (PDAMs). Some of the PDAMs are shown good performance, such as PDAM City of Pontianak and PDAM City of Surabaya.

It is never an easy way to go since Indonesia has about 230 millions population, and in the year of 2020, 70% of the population will be living in urban areas. The challenge will be immense rather than today. The lesson learned is that government has to acknowledge that water is more than *people's need*, but *people's right*. At national level, government being challenged to develop an appropriate model for the future water demand and develop policy and strategy that assure water availability for all people and of course implementing it prudently and consistently.

The fact is, government is unable to carry out clean water service alone. There must be cooperation and joint effort of government – business - people. Leaving alone water business to government is inappropriate. Leaving to business sector alone might easily fall dawn into to the

water's greed; leaving alone a calling of water as a human need as well as water as a human right.

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