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Local Service Delivery in the Water and Sanitation Sector

Contents

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Editor's Message

What is the first thing you think of when someone says "local service delivery in Indonesia"? Chances are, your thoughts turn immediately to Local Governments (LGs), and the numerous challenges they face post-decentralisation. After all, as Poppy Lestari explains in her article, "Local Service Delivery in Indonesia's Water and Sanitation Sector: A Primer on Current Modalities" (page 3), ever since Indonesia embarked on its massive decentralisation efforts more than a decade ago, it has been the LGs that bear primary responsibility for ensuring that services such as water and sanitation are satisfactorily delivered.

If your first thought is not "Local Government" or "decentralisation," perhaps you think in terms of how essential locally delivered services are for citizens. Water and sanitation are particularly critical, playing a significant role in improving overall health and well-being, which in turn promotes increased prosperity. Sulistiani and Devi Miarni Umar explore this process in their article "Contributions to Poverty Alleviation Through Local Service Delivery in the Water Sector" on page 10.

Because water and sanitation is so important, Indonesia has ambitious goals for improving access to these vital services. Yet, as is noted by all the authors in this issue of ***Prakarsa***, the nation has a long way to go before its targets are met.

So what will it take to meet those goals? Funding is an obvious answer, but it is an incomplete one. The articles here offer a more nuanced view. "Business-to-Business Financing: A Model for Small Scale PPP Project Financing in the Water Sector" by Eko Bagus Delianto (page 16) acknowledges the role that the private sector can play, while "A Promising Tool to Improve Water Governance" (page 24) emphasises how an informed citizenry can contribute to long-term improvements in service delivery.

Taken as a whole, the articles bring home the fact that while responsibility for local service delivery may technically reside with LGs, they do not operate in a vacuum. Other players – ranging from the local House of Representatives to civil society to water companies to individual citizens – are integral to the process. It is the dynamics of how these players interact that determines whether a service delivery system will function well over the long term. In short, governance is at the heart of the matter. If this edition meets its goals, your answer when someone asks you what the key is to local service delivery won't just be LGs, or funding, or any single component. Instead, you will more accurately note that the real key is "good governance." • CSW

Infrastructure by the Numbers

50%

Approximate amount of the national budget of Indonesia that is expended as transfers to subnational governments.

30%–40%

Average levels of Non-Revenue Water produced by local water companies in Indonesia, according to a 2012 report by the Coordinating Agency for the Development of Water Supply (BPPSPAM).

USD 6.3 billion

GDP lost due to poor sanitation and hygiene in Indonesia, according to a World Bank study.

11%

Number of households with unsafe levels of turbidity in their water, according to data collected during the WSSI pilot project (see article on page 24).

93%

Number of local water companies in 2009 where the growth in new piped water connections lagged behind population growth, according to a World Bank report.

5%

Amount of local budgets that should be spent on administration, according to international best practices. Districts in Indonesia are believed to spend up to one-quarter of their budgets on administration.

7%

Percentage of households that said they had ever complained about the quality of local government services, in a 2007 survey.

Local Service Delivery in Indonesia's Water and Sanitation Sector: A Primer on Current Modalities

Local Governments are responsible for ensuring that their citizens have adequate access to water. This responsibility can be fulfilled through a variety of means, involving Public Private Partnerships, Community-Based Organisations, and other arrangements. • By Poppy Lestari

Ordinary citizens like Ibu Darmanto from Surakarta need access to clean water, but are often unaware of where responsibility lies for service provision. *Courtesy of Eleonora Bergita*

Institutions and individuals who deal with water and sanitation infrastructure must keep abreast of GoI regulations to ensure that they know: who is responsible for providing services? Do the responsible parties fully understand their role? In an environment where the financial and regulatory context is still changing, what have these parties been able to accomplish and how have they done it?

Law No. 7/2004 on Water Resources says that the State guarantees the right of each citizen to be supplied with enough water to meet the minimum daily basic requirements to achieve a healthy, clean and productive life. The Local Government (LG) is responsible for fulfilling the minimum basic need for water for its community, as is the village government at a lower level. The provincial government is to provide technical assistance to the municipals/districts.

The extent to which LGs are committed to their responsibilities, and how they carry out their responsibilities to provide access to water, is interesting to analyse. The Ministry of Home Affairs (MoHA) requires a report from each LG on their achievement of Minimum Service Standards, but it is also worthwhile to turn directly to the community for input, in particular those living in remote villages. Are they aware of the level of services that they have a right to expect? When communities accept poor services and are not vocal in their demands for improvement, perhaps this is because they do not know how to advocate for themselves, or to whom they should address their concerns. This can be particularly true for women, who are

especially dependent on water for their domestic and caring work but who have less opportunity to express their needs in public forums.

The extent of community knowledge regarding responsibilities for local water service delivery was illuminated by the Water and Sanitation Services Index (WSSI), initiated in 2012 and piloted in 12 Local Governments (LGs) in 2013, by the Australian Government-funded Indonesia Infrastructure Initiative (IndII). (For an article explaining the rationale behind the WSSI and giving details of how the Index works, see "A Promising Tool to Improve Water Governance" on page 24 of this edition.)

WSSI is an easily understood index that evaluates LG provision of water and sanitation services by combining hard data obtained from official documents, interviews and physical water tests with soft data based on consumer perceptions. Households were asked two questions about citizen awareness: (1) As far as you know, whose responsibility is it to ensure adequate access to clean water for the citizens of the district? and (2) As far as you know, whose responsibility is it to ensure that your groundwater and rivers are protected from wastewater pollution?

Key Points:

Institutions and individuals who deal with water and sanitation infrastructure must keep abreast of GoI regulations to ensure that they know: who is responsible for providing services? Do the responsible parties fully understand their role? In an environment where the financial and regulatory context is still changing, it can be challenging to keep track of who has responsibility for providing public services in the water and sanitation sector and the various arrangements by which these services can be delivered.

Law no. 7/2004 on Water Resources says that the State guarantees the right of each citizen to be supplied with adequate water. Local Governments (LGs) are responsible for meeting the needs of their communities, as is the village government at a lower level. The provincial government is to provide technical assistance to the municipals/districts. Research shows that citizens are not always aware of who is responsible for local water service delivery.

Public service is a service which is provided by government to people living within its jurisdiction, either directly (through the public sector) or by financing provision of services. In Indonesia, public service is regulated by Law no. 25/2009. Two categories of public service are identified: those operated by private organisations and those run by public organisations. The latter is further broken down into services that are provided by the government as the sole agent and those which are available from the government and other providers.

At the regional level, government entities provide public services through several modalities, including Regional Technical Implementation Units, LG-owned enterprises, government-owned service companies (BLUDs), Community-Based Organisations, and Public Private Partnerships. BLUDs are very common in the health sector but rarely used in the water sector. Service providers for water in urban areas are usually PDAMs (Perusahaan Daerah Air Minum, or local water companies), about half of which do not have financially healthy ratings. In areas beyond PDAM services, water supply may be operated by Community Based Organisations (CBOs); there are estimated to be about 6,000 CBOs managing water service provision in Indonesia.

Regardless of the modality selected, good governance is key to enabling LGs to meet their responsibility to provide adequate water services. IndII has focused on promoting good governance through each of its activities in water and sanitation.

The answers collected during WSSI pilot were striking: just 39 percent of respondents were aware that their LG is responsible for ensuring access to clean water. Only 17 percent were aware that the LG is responsible for protecting water resources from sewage.

What is Public Service?

Perhaps it should not be surprising that many of Indonesia's citizens are not well versed in the particulars of who delivers water services, because the subject can get complicated. To begin with, it's commonly accepted that water and sanitation are "public services," but what exactly does that mean?

According to Wikipedia, public service is "a service which is provided by government to people living within its jurisdiction, either directly (through the public sector) or by financing provision of services. The term is associated with a social consensus…that certain services should be available to all regardless of income." Even where public services are neither publicly provided nor publicly financed, it is ultimately the responsibility of government institutions such as central/regional governments or State Owned Enterprises or Regional Owned Enterprises to provide the for community needs and to implement the related laws and regulations.

In Indonesia, public service is regulated by Law no. 25/2009 on Public Service. According to the law, this covers "education, teaching, work and enterprise, housing, communication and information, the environment, health, social security, energy, banking, transportation, natural resources, tourism, and other strategic sectors."[1]

Two categories of public service are identified, based on the type of implementing organisation: First, public service run by private organisations such as private hospitals, private universities, and private transportation companies. Second, public service run by public organisations. This is broken down further into two categories: (a) All supplies of the goods or services are provided by government as the sole agent. Users/clients must make use of them; there are no alternatives. Examples include immigration services, prison operation, and permit issuance. (b) Supplies of the goods or services are provided by government but users/clients are not obliged to make use of them since there are other service providers. Health care is an example where both public and non-public providers exist. Provision of public service can be agencies of government, the private sector, and Non-Government Organisations.

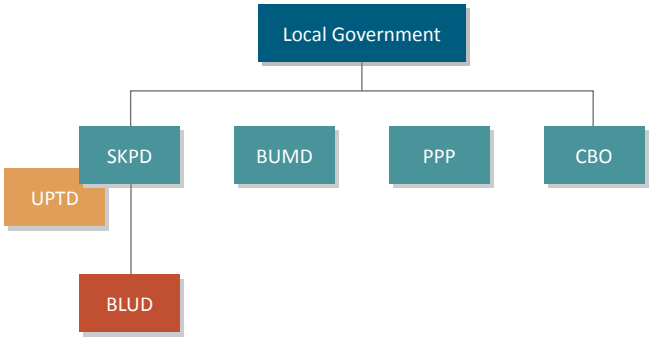
Public Service at the Regional Level

Government entities provide public services through several modalities depending on the size or character of the service, as shown in Figure 1.

Government-owned Service Companies or LG-owned Service Companies (Badan Layanan Umum or Badan Layanan Umum Daerah – BLU/BLUD) often seem to be the preferred form for service providers but there are requirements that must be met (for an introduction to how BLUD can work in the sanitation sector, see "A Vision for Flexible and Accountable Wastewater Services"

on page 14 of the July 2011 edition of ***Prakarsa***). As specified in Government Regulation no. 23/2005, a BLU/BLUD is a Technical Implementation Unit in central or local government established to supply goods/services to community without seeking profit and basing its activities on principles of efficiency and productivity. In essence, a BLU/BLUD is a non-profit corporation. See the box in this article for the main issues surrounding the establishment of a BLUD.

Figure 1: Arrangements for Providing Public Services



Key:
SKPD = Satuan Kerja Perangkat Daerah, or local task force operated under a Project Implementation Unit
BUMD = Badan Usaha Milik Daerah, or Local Government-owned enterprises
PPP = Public Private Partnership
CBO = Community-Based Organisation
UPTD = Unit Pelaksana Teknis Daerah, or Regional Technical Implementation Unit
BLUD = Badan Layanan Umum Daerah, or local government-owned public service delivery body

The services provided by BLUDs to the community are generally related to health, education, regional tourism, water supply, environmental management and special fund management. Health services are mostly structured as BLUDs. This is in accordance with the mandate of Chapter 6 article 1 of Ministerial Regulation no. 61/2007 (issued by the Ministry of Home Affairs) that states that the health service is the priority for public services. Of the approximately 96,000 *puskesmas* (community health centers) in Indonesia, currently just 326 operate as BLUDs, but many more are expected to follow suit and about 101 more in the process of becoming BLUDs. Moreover, as of May 2013, 200 of Indonesia's 627 regional hospitals, or roughly a third, were set up as BLUDs. Hospitals need to be structured as BLUDs in order to be able to provide service to National Health Insurance (*Jaminan Kesehatan Nasional*) patients.

A BLUD is basically a UPTD (*Unit Pelaksana Teknis Daerah*, or Regional Technical Implementation Unit that has adopted the financial practices of a BLUD (see Figure 2). There are many UPTDs that have not applied or do not necessarily apply the financing practice of a BLUD. These are called "common UPTD" to differentiate them from BLUDs. The main differences between common UPTDs and BLUDs relate to how income is managed and reported and how human resources are managed. The most frequent problem arising in common UPTs is when the budget allocation for operations is not sufficient. However, an advantage of the common UPT model is that each UPT has well defined Standard Operating Procedures for its specific task.

Figure 2: Comparison of UPT/UPTD with BLU/BLUD

UPT/D (technical implementation unit)	BLU/D (government-owned public service delivery body)	
Regulated by Permenpan no. 18/2008*	Regulated by Permendagri no. 61/2007**	Status
Requirements a. Conduct technical operational activities and/or supporting technical activities of the Ministry/non-Ministry or Project Implementation Unit b. Produce goods and/or service needed by the community c. Provide governance and contribution and benefit to the community d. Possess a strategic scope of works on a regional and/or national scale e. Support successful achievement of Ministry/Non-Ministry/Dinas***/Non-DInas mission and vision f. Ensure availability of required human resources, funding, facilities and infrastructure g. Ensure availability of the technical and functional positions in accordance with the tasks and functions of the related UPT h. Ensure availability of Standard Operating Procedures for implementing technical operational tasks and/or supporting technical tasks i. Take into consideration a harmonious relationship between Central and Regional Governments	Requirements Substantive 1. Provide service or goods 2. Manage a certain region to improve economic or public service 3. Manage special fund to improve economic or public service	Staging BLU
	Technical 1. The performance proves to be viably managed 2. The financial performance can be supported by Regional Budget	Staging BLU
	Administrative 1. Commitment to improve the service, usefulness to the community, and financial performance 2. Organisation and job descriptions developed 3. Business Strategy Plan in place 4. Financial statements produced 5. Minimum Service Standards established 6. Latest audited report available or willing to be audited independently	Full BLU
Financial management: a. Revenue goes to Regional Cash, mixed with revenues from other UPTDs b. Budget for Operations and Maintenance is under the expenditure budget for the Dinas and relies fully on the APBD (National Budget) c. Financial reports: Balance Sheet and LRA (*Laporan Realisasi Anggaran*, or Reports on Actual Budget Implementation)	Financial management: a. Revenue is managed internally and may be used to finance Operations and Maintenance b. Operates under its own income and LG subsidy c. Financial Reports: Balance Sheet, Income Statements and Cash Flow	Full BLU
Human resources: civil servants	Human resources: civil servants and professionals outside the civil service system	Full BLU

*Permenpan = *Peraturan Menteri Pendayagunaan Aparatur Negara*, or regulation of the State Ministry for Administrative Reform.
**Permendagri = *Peraturan Menteri Dalam Negeri*, or Interior Ministry regulation.
***A Dinas is an LG work unit.

A common UPTD may switch over to a BLUD, and vice versa, depending on its performance or a change in the nature of the service it provides.

While there are many UPTDs and BLUDs in other sectors, there are very few in the water sector, let alone sanitation. Service providers for water in urban areas are usually PDAMs (*Perusahaan Daerah Air Minum*, or local water companies), while those that are not PDAMs take several forms such as UPTDs, BLUDs, Public Private Partnerships, or regional companies. In areas beyond PDAM services, water supply may be operated by Community Based Organisations (CBOs). (For an overview of how CBOs can manage water services, see "Harnessing the Power of Community-Based Organisations" in the October 2010 edition of ***Prakarsa***, page 8.)

There are about 350 PDAMs throughout Indonesia, of which only about half have financial ratings of "healthy". Data from the Coordinating Agency for the Development of Water Supply (Badan Pendukung Pengembangan Sistem Penyediaan Air Minum, or BPPSPAM) shows that 11 of these are UPTDs, 9 are BLUDs, 24 are PPPs, and one is a regional company. The number of CBOs managing water supply is unknown as solid data is not available, but can be estimated at around 6,000.

IndII's programming in general, and particularly in the water and sanitation sector, focuses on improving governance as a fundamental aspect of assisting LGs to provide good services to their communities. For example, IndII's Water Hibah program requires LGs to show their commitment by investing in their PDAMs prior to receiving grant funds, while sAIIG (Australia Indonesia Infrastructure Grants for Sanitation) requires the establishment of an institution (UPT; BLU; or Badan Usaha Milik Daerah [LG-owned enterprise]) to conduct operations and ensure sustainability.

Last but not least, IndII's activity with CBOs also focused on governance, by assisting CBOs to make the leap from informal organisations to professionally managed undertakings that have the capacity to access commercial credit and oversee the expansion of infrastructure and services. At the start, many CBOs were poorly managed due to the absence of the LG attention. IndII's work with CBOs proved the value of focusing LGs on CBOs – and affirming for CBOs the responsibility that LGs have for service delivery. It showed that, whoever the "mother" of services might be, the "father" is always the LG. ■

NOTES

1. As one observer noted: "Provided they are somewhat more carefully specified, several of these items are typically thought of as public services (education, health care, *public* housing, social security and *public* transport). But others (again, more carefully specified: telecommunications and media, electricity and fuel, banking services and tourism) are simply services or commodities provided by the market at prices that cover production costs and provide a margin of profit, in the absence of any citizen entitlement. The environment and natural resources are areas of government policy concern, but do not appear to involve the delivery of services to users. The meaning of 'work and enterprise' in this context – and therefore the reason for its inclusion – is unclear." (Buehler, Michael, "Indonesia's Law on Public Services: changing state-society relations or continuing politics as usual?" *Bulletin of Indonesian Economic Studies*, 47: 1, 65–86.)

About the author:

Poppy Lestari is a Senior Program Officer/Municipal Finance Specialist for Water and Sanitation with IndII. Before joining IndII in 2010, she spent five years as a Senior Municipal Finance Specialist with the USAID-funded Environmental Service Project (ESP). At ESP she coordinated a team of five Financial Specialists and worked to identify opportunities to leverage funding for hardware investments for clean water and sanitation services, as well as payment for upper-watershed environmental services. Poppy has over 20 years of experience as an employee and consultant working with firms and donors such as the Asian Development Bank, World Bank, and USAID. Most of her career has been devoted to urban development programs, especially in the water and sanitation sector, including preparation of investment analyses with several alternative financing, and municipal finance analyses and improvement. Poppy completed her studies in the Economics Faculty of Gadjah Mada University in 1987 with a major in Accountancy.

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Contributions to Poverty Alleviation Through Local Service Delivery in the Water Sector

A mechanism that encourages good governance at the local level and increased service delivery by local water companies has proven effective at improving the lives of low-income citizens. • By Sulistiani and Devi Miarni Umar

Indonesia is striving to bring clean water to about two-thirds of its citizens by 2015.
Courtesy of DFAT

Poverty is often viewed from a financial perspective, in terms of not having enough money to fulfil one's basic needs. This approach is used by the Government of Indonesia (GoI)'s statistics agency, Badan Pusat Statistik (BPS). BPS uses a "poverty line", below which citizens are considered poor. This approach makes it easy to compare poverty rates among regions.

However, a broader meaning of poverty is inability to meet needs in a variety of dimensions, which might include economic, social, political, emotional, and spiritual aspects. For instance, poverty can be defined in terms of insufficient outcomes in relation to education, health, nutrition, security, and security, as well as inability to access other public services.

Indonesia's National Agency for Planning and Development, Bappenas, also viewed poverty as a multidimensional problem in its 2004 Strategic Plan for Poverty Reduction in Indonesia (*Strategi Nasional Penanggulangan Kemiskinan di Indonesia*). Poverty is not only measured by income, but also by the susceptibility and vulnerability of a person or a group of persons, both men and women, to becoming poor. Based on this definition, Bappenas established 11 indicators related to poverty alleviation, one of which is the degree of access to clean water. It is understood that the main reasons people have difficulty obtaining clean water are limited ability of localities to provide water connections and declining quality of water sources.

Key Points:

Poverty is often viewed from the perspective of income levels, but it can be defined more broadly in terms of insufficient outcomes in relation to education, health, nutrition, security, and security, as well as inability to access other public services.

International bodies and GoI recognise that clean water availability is crucial to improving social welfare and hence reduce poverty. This is reflected in Millennium Development Goals and the 2010–2014 National Medium-Term Development Plan. But Indonesia is falling short of its targets, and nearly 107 million people are still without clean water.

One constraint is the large amount of investment necessary to build the needed infrastructure. The funding needed substantially exceeds what is available through the State Budget. The Water Hibah program addresses this shortfall by using output-based aid to upgrade infrastructure while strengthening governance to ensure lasting improvements in services.

While all people regardless of income level suffer from lack of access to clean water, the poor are most vulnerable. A baseline survey for Water Hibah found that low-income families without water had high spending on water, water quality and access problems, and reduced health (especially for young children).

An evaluation of Water Hibah in two localities, one on Java and one in East Nusa Tenggara, found that the Hibah's benefits included increased household income (as women had more time and opportunity for cultivating land and starting home businesses); fewer skin irritations; more time to work and rest; and lowered risk of miscarriage.

Initially, the Water Hibah was not intended as a specifically pro-poor program. But the results of the study illustrate the potential of the Hibah to have a positive impact on low income communities. Providing access to clean water can stimulate low-income communities to live more productive, clean and healthy lives.

In keeping with the Bappenas approach and in order to improve its measurements of poverty, in 2008 BPS defined eight additional indicators for determining whether a household is poor, one of which looks at sources of drinking water and the availability of clean water.

An Unmet Need

International bodies and GoI recognise that clean water availability is crucial to improving social welfare. As noted by Howard and Obika[1], clean water, health, and poverty are closely linked. This is reflected in Millennium Development Goals (MDGs) and the 2010–2014 National Medium-Term Development Plan (*Rencana Pembangunan Jangka Menengah Nasional*, or RPJMN). The target in the RPJMN is for more than 67 percent of Indonesia's population to have access to clean water by 2015. However, reality is falling short what was hoped for. According to 2012 figures from Bappenas, by 2011 only 52.1 percent of households in urban areas and 57.8 percent in rural areas (around 55 percent of the total population) had access to clean water, meaning that nearly 107 million people are still without clean water.

One of the constraints is the large amount of investment that is necessary to build the infrastructure needed for clean water services. Studies by WHO and UNICEF in 2010 show that in order to fulfil MDG targets for clean water access, Indonesia needs USD 4.5 billion of funds per year, or an assumed investment of USD 20 per capita. This translates to Rp 65.27 trillion for 2010–2015, whereas the funds available in the State Budget (*Anggaran Pendapatan Belanja Negara*, or APBN) and Special Allocation Funds (*Dana Alokasi Khusus*, or DAK) for 2010–2014 total Rp 13.71 trillion, or only about 20–25 percent of the funding needed.

The Hibah Innovation

The Water Hibah program is one of several forms of financing from the Government of Australia to help GoI achieve its MDGs for water access. An innovative program launched in 2010, Water Hibah has been implemented by the Ministry of Finance, Ministry of Public Works, and Bappenas in partnership with the Indonesia Infrastructure Initiative. The Water Hibah uses output-based aid to upgrade infrastructure while strengthening governance to ensure lasting improvements in services. Grants are given to Local Governments after they invest in their local water companies (PDAMs). The PDAMs use the investment along with their own funds to expand the water network and make new connections to low-income households. Grants are based on the number of verified new connections.

What IndII Is Doing to Help

IndII Phase 1:
- During 2010–11, 331,100 inhabitants received PDAM piped water access in 34 regencies/cities spread over 12 provinces.

IndII Phase 2:
- Nearly 409,000 inhabitants received PDAM piped water access in 104 regencies/cities in 26 provinces as of April 2014 using Government of Australia funding.
- Over 159,000 inhabitants received PDAM piped water access using US Agency for International Development (USAID) funding.

Target:
- 330,000 household connections will be made to reach 1,419,000 inhabitants before the end of 2015.

A failure to provide clean water will impact people at all income levels. However, the poor are most susceptible. The consequences for poor people of not having access to drinking water, particularly in urban areas, are: (1) increased costs, because they have to seek more expensive alternatives such as bottled water; (2) decreased water consumption, falling below minimum needs, because of the high cost, time, and effort needed to obtain water; (3) increased health costs and lower income related to productivity loss due to waterborne diseases.[2] These consequences are reflected in the description below (from an IndII baseline survey[3]) of the conditions of members of the low-income community (*Masyarakat Berpenghasilan Rendah* or MBR) before they obtained a piped water connection through Water Hibah.

High spending for clean water by households. Based on the survey data, it is known that MBR households spend an average of Rp 93,800 per month for 4,154 litres of clean water, or Rp 21,800 per capita for 966 litres of water. About 54 percent of MBR households have a monthly income of Rp 1.5 million or less. On average, the household spending for clean water needs is around 10 percent of

total income. This amount is considered too high: based on *Permendagri* (Regulation of the Interior Minister) 23/2006[4], ideally households should not spend more than 4 percent of their average income for water needs. Figure 1 describes in detail the average spending for water by households and the amount of water purchased based on household income bracket.

By comparison, in developed countries, water spending ranges from 0.5 to 2 percent of the average income (1.3 percent in Germany and the Netherlands; 1.2 percent in France). Drinking water is considered expensive if the spending exceeds 3 percent of the average population income.[5]

Figure 1: Average Household Spending for Water and Amount of Water Purchased Based on Income Bracket

Income bracket (Rp 000/month)	Average spending for water (Rp)	Amount of water purchased (litre)
<500	61,500	3,700
500 – 1,500	83,200	4,077
>1,500 – 2,500	104,400	4,205
>2,500 – 3,500	149,300	4,710
>3,500 – 4,500	133,200	5,166
>4,500	180,700	5,078
All	**93,800**	**4,154**

The baseline survey results also showed that the majority of household spending for water is to fulfil drinking water needs. Thirty-seven percent of MBR households purchase water for drinking. And almost half (48 percent) of MBR households say that they purchase drinking water from water refilling kiosks. Of the rest, 23 percent purchase bottled water, 18 percent purchase water from neighbours with PDAM connections, 6 percent purchase water from roving vendors, 3 percent from public pumps/hydrants, and 2 percent obtain water from springs.

Quality and access problems. In addition to the problem of high-cost water, households also face water quality problems. Based on physical observation, the main water sources used by households appear to be producing turbid water. Ten percent of households said they used turbid water for drinking, 14 percent for cooking, and 24 percent for bathing/washing.

The average distance between an MBR house and a water source is approximately 139 metres, with a round trip travel time of around 13 minutes. Ten percent of MBR households who obtain water from a source outside their house reported that they have to travel between 500 metres and 3 kilometres to obtain drinking water, involving travel times between 30 and 60 minutes. An example is Marongge Village, Tomo Sub-district, Sumedang Regency, West Java. A sample household there, with an income of Rp 500,000 to Rp 1.5 million per month, reported that members have to travel three kilometres and spend two hours to obtain drinking/cooking water sold in a water refilling kiosk. The household must spend Rp 22,000 per month for 390 litres of water. For bathing and washing, they prefer seeking a free water source which involves approximately the same distance and travel time.

Vulnerability to diarrhoea and itchiness among children under five. The limited access to clean water and use of poor quality water result in reduced health and the spread of diseases like

diarrhoea. Incidents of diarrhoea and itchiness were found in a number of children under age five in MBR households. In the two months preceding the survey, 12.6 percent and 14.6 percent of children under five had suffered diarrhoea and itchiness.

Impact of Water Hibah

The IndII Gender Team conducted evaluations in two locations where the Water Hibah was implemented: Malang, East Java, and Manggarai, East Nusa Tenggara. The evaluation was conducted between three and four months after the MBR households received piped water connections from the PDAMs. It showed that the Water Hibah has had a positive impact on MBR households, for men, women, and children. The following are among the benefits reported by the public:

Increased household income. One of the greatest benefits felt by women is that they now have the time and energy to do more productive work and can add to the household income. In Manggarai, they can cultivate their yards into productive agricultural lands because water is now available any time, even in dry season. In addition to being able to meet the food needs of household members, the garden produce can indirectly help with the household budget, as they no longer need to buy vegetables that are only available in the market on certain days. In addition, some of the housewives can open home businesses, such as iced comestibles, using clean water from the PDAM. Indirectly, the increased productivity of housewives is able to add to household income.

No more skin irritations. Health-wise in both Malang and Manggarai, the availability of clean water at home has made a number of heads of household willing to build toilets or personal bathrooms. In addition, a number of people in Wae Ri'i and Satarmese, Manggarai, also say that the availability of clean water at home enables them to bathe twice a day, compared to once a day previously. The PDAM water is perceived beneficial because household members, in particular children, no longer suffer skin irritations.

More time to work and rest. Household members, particularly adult males, admit to feeling "relieved" as they no longer have to stand in line and walk long distances to get clean water. The time, day or night, that was previously used to collect water can now be used to work in the fields or to rest. However, women, who have primary responsibility for ensuring that there is water for the household's needs, also benefit physically and psychologically. Growing children also benefit from not having to carry heavy water containers.

Lowered risk of miscarriage. For women, particularly expectant mothers, the availability of clean water at home also eases the burden of the domestic chores that often fall to women. This can minimise the risks of miscarriage or premature birth.[6]

As illustrated in the baseline survey conducted by IndII, the low income community has problems that are directly or indirectly caused by limited access to clean water. The problems encountered are diverse, but people of low income and those in remote areas will feel a greater impact than those who have higher incomes and live in more central locations.

Initially, the Water Hibah was not intended as a specifically pro-poor program. But results of the study illustrate the po-ten-tial of the Hibah to have a positive impact on low income com-munities. Providing

access to clean water can stimulate the MBR community to live a more productive, clean and healthy life. However, it should be remembered that the evaluation was a small-scale study in select locations. The next step is a broader impact evaluation study to prove the real impact of Water Hibah. ■

NOTES

1. Howard, Guy and Amaka Obika. "Water and Poverty: The Themes." A Collection of Thematic Papers. Asian Development Bank. 2004.
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4. Regulation of the Interior Minister no. 23/2006 on Technical Guidelines and Procedures for Setting Water Tariffs in Regional Water Companies. This regulation was made to guide PDAMs in developing water supply systems.
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Business-to-Business Financing: A Model for Small Scale PPP Project Financing in the Water Sector

While "showcase" PPPs are running into delays, private participation in the water sector is flourishing under what is known as the B2B model. • By Eko Bagus Delianto

A project in Bandar Lampung is among the few of those listed in the Governments' updated PPP list that have reached the pre-qualification stage. *Courtesy of 22Kartika on flikr*

In order to fulfill Indonesia's unmet needs for water services, local water companies (PDAMs) require funding beyond what governments can provide. But accessing financing from banks and private lenders can be difficult. Public Private Partnerships (PPPs) appear to offer a promising funding modality, but several "showcase" PPPs have stalled. However, private participation in the water sector is flourishing under the "B2B" model. This article gives an overview of the B2B model and explain some of the reasons it is taking hold, as well as the challenges that must be addressed.

Over the past five years, the Government of Indonesia (GoI) has devoted State budget funds to water treatment systems in order to achieve Millennium Development Goals. The focus has been on upstream development (water intake, treatment plants, reservoirs, and primary pipe networks). Local Governments are viewed as responsible for developing downstream infrastructure (distribution pipes, reticulations and household connections) for operation by PDAMs, but they have not kept pace with upstream development. There is a "utilisation gap" – the difference between water treatment plant production capacity and the amount of water used by consumers – of approximately 10,000 litres per second, which is equivalent to connections for about 800,000 households or about 4 million inhabitants.

Further, many local water companies (PDAMs) are not financially sound. A 2012 report by the Coordinating Agency for the Development of Water Supply (Badan Pendukung Pengembangan Sistem Penyediaan Air Minum, or BPPSPAM) gave ratings of "unhealthy" or "sick" to nearly half of Indonesia's PDAMs. Many of these water companies have high rates of non-revenue water (NRW) production, inadequate technology and maintenance, and limited institutional capacity.

Key Points:

Government funding alone cannot fulfill Indonesia's unmet needs for water services. Some private funding can be accessed as a result of Presidential Decree no. 29/2009, but even so, PDAMs are finding it difficult to access the finance they need. Local Governments and PDAMs often have trouble formulating "bankable" projects, and lenders are wary of infrastructure financing. It is especially difficult for small projects to engage with banks and institutional investors, as the ratio of costs to the returns that can be earned is not attractive to lenders.

Public-Private Partnerships (PPP) seem like a promising solution, but many large-scale projects have been canceled and none are progressing rapidly.

Yet while those "showcase" PPPs stall, private participation in the sector is flourishing under what is known as the B2B (business-to-business) model. These projects fall outside standard international PPP procurement rules, and do not need to go through a public tender or through a beauty contest scheme. Currently there are around 60 around ongoing water supply projects in which the private sector plays a role in financing and management and many more are under discussion.

B2B contracts can cover a number of activities, such as providing services, expanding water supply systems, reducing non-revenue water, improving energy efficiency, and improving PDAM management. B2Bs are growing rapidly due to an improved business environment, shorter preparation times than standard PPPs, the low capital investment required, and PDAM investment needs.

B2B contracts face some challenges. These can include limited PDAM institutional capacity, lack of interest, trust, or knowledge among Local Governments; and financial sector impediments. But these obstacles are not insurmountable and can be addressed by strategies such as identifying and bundling viable projects; matching potential investors with project owners; and securing experts to prepare the necessary market, engineering and financial analyses to formulate bankable projects. Another way to facilitate bankable project preparation and to reduce costs is to create "project development facilities."

Capacity building for all relevant stakeholders (new DPRD, BPKP, Pemda, PDAM, Banking sector) including the private sector (investors, consultants, contractors) will help them to prepare bankable feasible projects.

Barriers to Funding Access

Government funding cannot provide a complete solution to these problems. Central government funding for water and sanitation is not a high priority, and must compete with pressing needs in sectors such as health and education. Exact levels of funding at the local level are difficult to determine with precision as they are spread among a number of departments, but overall allocations are believed to be as low as 1 to 2 percent of total local budgets.

Some private funding can be accessed as a result of Presidential Decree no. 29/2009, which brings together commercial banks and cost-recovering PDAMs through a guarantee mechanism that reduces risk to the lending bank and provides an interest rate subsidy of up to 5 percent (see IndII Briefing Note on page 37 of the January 2014 edition of ***Prakarsa***). But even so, PDAMs are finding it difficult to access the finance they need. Local Governments and PDAMs usually have difficulty in formulating "bankable" projects, in part due to their inexperience and part due to the lack of precedence

upon which to base their projections of costs and revenues. Lenders are wary of infrastructure financing because there is little historical evidence available concerning the credit risks that local infrastructure projects will entail.

When infrastructure projects are small (with a capex below USD 10 million), it is especially difficult to engage with banks and institutional investors. The costs of evaluating, executing and monitoring infrastructure projects are always high. For small projects, the ratio of costs to the returns that can be earned is not attractive to lenders.

PPPs would seem to offer a promising alternative for accessing funds. Indeed, more than 50 water projects were listed in the Governments' updated PPP list in 2012. But 33 of them have been canceled due to lack of progress. Of the 24 water projects remaining on the list, only four (Umbulan Springs in East Java, Bandar Lampung, Maros in South Sulawesi, and Pondok Gede in Bekasi) have reached the pre-qualification stage. None have been tendered so far.

There are a variety of reasons for the lack of progress. Negotiations between GoI and Local Governments over the level of subsidies are proving very tough, and donors are finding themselves torn between their stated aim of building capacity at PDAMs and ensuring the financial viability of projects.

The B2B Model

But the news is not all bad. While those "showcase" PPPs stall, private participation in the sector is flourishing under what is known as the B2B (business-to-business) model. The Ministry of Public Works has tried to ease the entry of the private sector into water projects through a regulation, Permen no. 12/2010, by creating a space for contracts that are signed directly between PDAMs and a private sector party. These projects fall outside standard international PPP procurement rules, and do not need to go through a public tender or through a beauty contest scheme. The contracts take advantage of a grey area in Presidential Decree no. 67/2005 concerning PPPs in infrastructure development, and at least for now GoI is supporting them. Through B2Bs, private operators can seize opportunities for ensuring that assets are properly rehabilitated and managed, following initial investments by GoI.

The B2B contracts apply to projects covering the rehabilitation and extension of assets in a given PDAM's existing service area (for example, contracts between PT Moya Indonesia and the Kabupaten Bekasi PDAM; PT Bangun Tirta Lebak and the PDAM in Maja, Lebak; and PT Sarana Catur Tirta Kelola and the Kabupaten Serang PDAM). In some cases the contracts cover the creation of new treatment plants (for example, contracts between PT Dewata Bangun Tirta and the Legundi, Gresik PDAM; and between PT Drupadi Agung Lestari and the Banjarbaru PDAM).

A Variety of Services

B2B contracts can cover a number of activities, such as: *providing services* (meter readings, preparation of invoices, and/or maintaining pumps and other equipment); *expanding water*

supply systems (extension of distribution and reticulation pipes); *reducing NRW* (performance-based contracts that specify reductions in NRW to be achieved[1]); *Improving energy efficiency*: (performance-based contracts that specify reductions in energy consumption); and *improving PDAM management* (partnerships between PDAMs and private partners that are designed to improve the PDAM's performance in operations and maintenance activities).

Reasons for Rapid Growth

Delays in the showcase PPPs do not seem to be holding back the development of B2B contracts in Indonesia. A successful public tender might, however, encourage local governments to take more of an interest in competitive bidding and lead to a retreat from the B2B model.

Some of the reasons identified for the rapid growth of B2B in water supply are:

- *An improved business environment.* The overall business environment is improving, economic growth is strong, and Indonesia has been upgraded to investment grade status by ratings agencies.
- *Shorter preparation times than standard PPPs.* A lengthy PPP process and competitive tendering are not required for B2B contracts. Competitive tenders are costly and time-consuming for both bidders and governments, and thus rarely occur in practice. They are hampered by the private sector's tendency to restrict access to information, which raises the question of how to maintain high levels of transparency and accountability.
- *Low capital investment.* Capital investments for B2Bs are relatively small compare to standard PPP projects.
- *Need for greater PDAM investments.* About two-thirds of PDAMs are not investing enough to keep pace up with population growth and asset depreciation, increasing the appeal of B2B contracts.

Promising Opportunities

There are around 60 ongoing water supply projects in which the private sector plays a role in financing and management (see Figure 1), and many more are under discussion (see Figure 2). For these opportunities to come to fruition, private investors must collaborate with both Regents and PDAM Directors.

Challenges and Obstacles

As is the case with any financing modality, B2B contracts face some challenges. These can include:

- *Limited PDAM institutional capacity.* PDAMs have limited technical and managerial capacity.
- PDAM and Local Government officials do not communicate effectively.
- *Lack of trust.* Local Governments do not trust PDAMs to spend funds efficiently and do not know to make them accountable.

- *Lack of interest.* Local Governments are not very concerned about the water sector.
- *Unresponsiveness to consumer demands.* Both PDAMs and Local Governments are unresponsive to customers. While consumers demand better water services, their demands do not reach their LGs because of insufficient channels to make their demands known and insufficient information with which to measure the performance of their PDAM.
- *High transaction costs.* High up-front costs for small-scale infrastructure projects discourage investor interest.
- *Financial sector impediments.* Although the assets held by banks and institutional investors are growing rapidly, domestic banks and capital markets are usually ill-prepared to channel domestic savings into financing for funding small-scale B2B water infrastructure projects.
- *Lack of credit history.* Lenders are wary of infrastructure financing because credit risks are unknown. Lenders are normally cautious and focus on risks related the construction and operation of the large PPP water infrastructure project. They are likely to require collateral that can be taken in the event of default.
- *Lack of project development capacity.* Local governments and PDAMs usually have difficulty in formulating bankable projects, in part due to their inexperience and part due to the lack of precedents upon which to base their projections of costs and revenues.
- *Cost recovery challenges.* Politically and socially, it may be difficult to set tariffs at a cost recovery level. Revenues generated by PPP small-scale water infrastructure finance projects may be relatively modest.
- *Lack of PPP knowledge.* Local Governments may not understand the drivers that attract the private sector to enter into partnerships. They have yet to develop the knowledge and skills necessary to deal with unknown and unforeseen circumstances during the partnership.

Strategies for Success

These obstacles are not insurmountable. Other initiatives that build capacity and responsiveness in the water sector will pave the way for more effective B2B arrangements. As one example, see “A Promising Tool to Improve Water Governance” on page 24 of this issue, regarding the development of an index that will assist citizens to knowledgeably advocate for improves local water services.

High transaction costs can be addressed by identifying and bundling viable projects; matching potential investors with project owners; and securing experts to prepare the necessary market, engineering and financial analyses to formulate bankable projects. Pooling projects can also make it more economical for investors to evaluate, execute and monitor the projects.

Figure 1: PPP Success Stories in Indonesia's Water Sector

No	Region/Area	PPP Modalities	Capacity (litres per second)	Private Partner/Operator	Time Period	B2B type
1	Jakarta (Western part)	Full Concession	6,200	PT PALYJA & Astratel	1998 - 2023	Private 100%
2	Jakarta (Eastern part)	Full Concession	6,500	PT AETRA AIR JAKARTA	1998 - 2023	Private 100%
3	Kota Medan	BOT for WTP	500	PT Tirta Lyonnaise Medan (TLM)	1999 - 2024	JV Lyonnaise 85% : PDAM 15%
4	Kab Deli Serdang - Patumbak	BOT for WTP	1,000	PT Drupadi Agung Lestari	2012 - 2032	Private 100%
5	Kab Deli Serdang - Mariendal	BOT for WTP	1,000	PT Drupadi Agung Lestari	2012 - 2032	Private 100%
6	Lubuk Pakam - Sumut	ROT for WTP	100	PT Tirta Sumut	n/a	JV WFI 55% : PDAM 45%
7	Batam	Full Concessionaires	3,000	PT Adhya Tirta Batam (ATB)	1995 - 2020	Private 100%
8	Kota Jambi	BOT for WTP	200	PT Noviantama Corporation (Novco)	1998 - 2013	Private 100%
9	Pekanbaru	Joint Operation	600	PT KTDP & PT WFI (Netherlands)	failed in 2008	Joint cooperation
10	Palembang	Full Concession	200	PT Adhya Tirta Sriwijaya (ATS)	2000 - 2025	Private 100%
11	Bintaro Jaya	BOO for WTP and pipe networks	100	PT Pembangunan Jaya	n/a	Private 100%
12	BSD City	BOT for WTP and pipe networks	150	PT Bumi Serpong Damai	n/a	Private 100%
13	Kabupaten Serang (Timur)	BOT for WTP and pipe networks	600	PT Sarana Tirta Cahaya Kencana (STCK)	2009 - 2028	Private 100%
14	Kabupaten Serang	BOO for WTP and pipe networks	100	PT Sarana Catur Tirta Kencana (SCTK)	2008 - 2027	Private 100%
15	Kabupaten Serang (Utara)	BOO for WTP and pipe networks	150	PT Sauh Bahtera Samudera (SBS)	1996 - 2016	Private 100%
16	Kota Serang	BOT for WTP and pipe networks	600	PT Tirta Serang Madani (TSM)	2010 - 2024	JV EPMB 90% : PDAM 10%
17	Kota Cilegon	BOO for WTP and pipe networks	600	PT Krakatau Tirta Industri (KTI)	n/a	Private 100 %
18	Kota Maja - Kab Lebak	ROT for WTP and pipe networks	100	PT Bangun Tirta Lebak (PT CRM as sponsor)	2012 - 2031	JV CRM 90% : PDAM 10%
19	Kota Tangerang	Full Concession	50	PT Bintang Hetien Jaya	2009 - 2028	Private 100%
20	Kota Tangerang	BOO for WTP	100	PT Multi Agung Transco	n/a	Private 100%
21	Kota Tangerang	BOO for WTP	30	PT Cilamaya Subur	n/a	Private 100%
22	Kota Tangerang	ROT for WTP	420	MOYA Asia Ltd.- PT Moya Indonesia	2012 - 2031	Private 100%
23	Kota Tangerang	BOT for WTP and pipe networks	1,500	MOYA Asia Ltd.- PT Moya Indonesia	2012 - 2031	Private 100%
24	Kota Tangerang	BOO for WTP and pipe networks	500	MOYA Asia Ltd.- PT Moya Indonesia	2012 - 2031	Private 100 %
24	Kabupaten Tangerang	O&M for WTP	3,000	PT Tirta Cisadane	1998 - 2013	Private 100%
26	Kabupaten Tangerang	RUOT for WTP	1,500	PT Tirta Kencana Cahaya Mandiri (TKCM)	n/a	Private 100%
27	Kabupaten Tangerang	Full Concessionaires (Solicited PPP)	900	PT AETRA Air Tangerang	2008 - 2033	Private 100%
28	Lippo Karawaci	BOO for WTP and pipe networks	250	PT Lippo Karawaci	n/a	Private 100%
29	Kabupaten Bekasi	BOO for WTP and pipe networks	50	PT Kemang Pratama	n/a	Private 100%
30	Kabupaten Bekasi	BOT for WTP and pipe networks	200	MOYA Asia Ltd.- PT Moya Indonesia	2012 - 2031	Private 100 %
31	Kota Legenda - Bekasi	BOO for WTP and pipe networks	25	PT Cikarang Permai	n/a	Private 100%
32	Kab Bekasi (Tambun Selatan)	Full Concession	20	PT Putra Alvita Pratama	n/a	Private 100 %
33	Kawasan Industri MM2100 Cibitung	BOO for WTP and pipe networks	100	MM2100 Industrial Town	n/a	Private 100 %
34	Bukit Indah Cikarang Industrial Estate	BOO for WTP and pipe networks	150	PT Bukit Indah	n/a	Private 100%
35	Kabupaten Bekasi (Cikarang Barat)	Full Concession	30	PT Watertech Estate Cikarang	n/a	Private 100 %
36	Kabupaten Bekasi (Cikarang Utara)	Full Concession	20	PT Sri Pertiwi Sejati	n/a	Private 100 %
37	Kawasan Industri Hyundai Cikarang	BOO for WTP and pipe networks	50	PT Hyundai Inti Development	n/a	Private 100%
38	Kawasan Industri Jababeka Cikarang	Full Concession	300	PT Jababeka Infrastruktur	n/a	Private 100 %
39	Kawasan Industri Lippo Cikarang	BOO for WTP and pipe networks	250	PT Lippo Cikarang, Tbk	2001	Private 100 %
40	Kabupaten Bekasi (Kota Deltamas)	Full Concession	25	PT Pembangunan Deltamas	n/a	Private 100 %
41	Kabupaten Karawang (Cikampek)	Full Concession	200	PT WATS	n/a	Private 100%
42	Kabupaten Subang	O&M for WTP	40	PT Mitra Lingkungan Dutaconsult (MLD)	2002 - 2012	Private 100%
43	Kota Semarang	RUOT for WTP	600	PT Tirta Gajah Mungkur	2005 - 2020	Private 100%
44	Kabupaten Semarang (Bawen)	BOT for WTP and pipe networks	250	PT Sarana Tirta Ungaran	2005 - 2024	Private 100%
45	Kabupaten Sidoarjo (Kec Taman)	RUOT for WTP and pipe networks	600	PT Hanarida Tirta Birawa (Gadang Bhd)	2004 - 2024	Private 100%
46	Kabupaten Sidoarjo (Kec Taman)	BOT for WTP	250	PT Taman Tirta Sidoarjo (Gadang Bhd)	1999 - 2029	Private 100%
47	Kabupaten Gresik - Kec Legundi	BOT for WTP and pipe networks	200	PT Dewata Bangun Tirta	2012 - 2036	Private 100%
48	Kabupaten Gresik - Kec Krikilan	ROT for WTP and pipe networks	100	PT Drupadi Agung Lestari	2012 - 2036	Private 100%
49	Kab Gresik and Kota Surabaya (part)	Full Concessionaires	400	PT Citraland	n/a	Private 100 %
50	Kota Surabaya (part)	Full Concessionaires	300	PT Pakuwon	n/a	Private 100 %
51	Kab Gresik and Kab Lamongan (part)	BOO for WTP and pipe networks	600	PT Semen Gresik	n/a	Private 100 %
52	Kabupaten Bandung - Bali	BOT for WTP	300	PT Tirta Arha Buana Mulia	1993 - 2013	JV Private 65% : PDAM 35%
53	Kabupaten Gianyar - Bali	RUOT for WTP	200	PT Bali Bangun Tirta (Berjaya Sdn Bhd)	2007 - 2027	Private 100%
54	Banjarmasin	Built, Lease and Transfer	500	PT Adhi Karya	n/a	n/a
55	Banjar Baru	BOT for WTP and pipe networks	500	PT Drupadi Agung Lestari	2013 - 2034	Private 100%
56	Samarinda	BOT for WTP	400	PT WATS	n/a	Private 100%
57	Makassar (Panaikang)	ROT for WTP	1,000	PT Traya Tirta Makassar	2007 - 2021	Private 100%
58	Makassar (Macinni Sombala)	ROT for WTP	400	PT Multi Enka Makassar	2011 - 2030	Private 100%
59	Makassar (Somba Opu)	ROT/BOT for WTP and pipes	3,000	PT Bahana Cipta	2011 - 2030	Private 100%
60	Manado	ROT/O&M for WTP and pipes	250	PT Water Laboratory Nusantara (WLN)	2008 - 2023	JV WMD 51% : PDAM 49%
61	Ambon	ROT/O&M for WTP and pipes	100	PT Water Laboratory Nusantara (WLN)	2009 - 2024	JV WMD 51% : PDAM 49%

Source: Website BPPSPAM, Survey CRM (2012) and internet research. Project status as of June 2013.

KEY :
BOT = Build Operate Transfer
WTP = Water Treatment Plant
ROT = Rehabilitate Operate Transfer
BOO = Build Operate Own
O&M = Operations and Maintenance
RUOT = Rehabilitation Upgrading Operate Transfer

Figure 2: Current Opportunities for B2B in Indonesia's Water Sector (2014)

PDAM	SPAM (location)	Private Sector/ Project Sponsor	Capacity In litres per second	B2B Scope
Kabupaten Bekasi	SPAM Pondok Gede	PT Perum Jasa Tirta 2	100	Upstream
Kabupaten Bogor	Central Bogor Regency	PT Acuatico Air Indonesia	600	Upstream
Kabupaten Bogor	Bogor City area (SPAM Katulampa)	*Beauty contest to be organised by PDAM*	300	Upstream
Kabupaten Bogor	SPAM Sentul City –Jonggol Asri	To be promoted by PDAM	200	Upstream
Kota Depok	SPAM Citayam (green field area)	*To be promoted by PDAM*	300	Upstream & downstream
Kabupaten Karawang	SPAM Teluk Jambe (Zone 3)	*Beauty contest to be organised by PDAM*	300 lps	Upstream
Kabupaten Kendal	Town of Kendal and surroundings	PT GTI Indonesia	300 lps	Upstream
Kota Makassar	SPAM Tamalanrea	PT Moya Indonesia	600 lps	Upstream
Kota Pontianak	SPAM Pontianak Utara	*To be promoted by PDAM*	300 lps	Upstream
Kota Semarang	SPAM Pramuka	*To be promoted by PDAM*	200 lps	Upstream
Kabupaten Serang	SPAM Cipasauran	*To be promoted by PDAM*	400 lps	Upstream & downstream
Kabupaten Serang	SPAM Cibaja	PT CRM	200 lps	Upstream & downstream
Kabupaten Sidoarjo	SPAM Taman	*To be promoted by PDAM*	200 lps	Upstream
Kabupaten Subang	SPAM Pamanukan	*To be promoted by PDAM*	100 lps	Upstream & downstream
Kota Tebing Tinggi	SPAM Tebing and Serdang Bedagai	*To be promoted by PDAM*	200 lps	Upstream

KEY :
LPS = litres per second
SPAM = Sistem Penyediaan Air Minum (Water Supply System)

Source: Research by the author (2014)

Another way to facilitate bankable project preparation and to reduce costs is to create "project development facilities." Such facilities can take a variety of forms and perform different roles depending on the need.

For political and social sustainability, subsidies may be necessary to finance the spread between lending interest rates and feasible borrowing interest rates.

Further efforts will be needed to determine the effectiveness of these strategies. Overall, what's clear is that there is a need to improve the legal framework, establish a new and innovative financing scheme, and create project development facilities along with a clearinghouse. Capacity building for all relevant stakeholders (the local House of Representatives, BPKP [the national

audit agency], Local Governments, PDAMs, banking sector) including the private sector (investors, consultants, contractors) will help them to prepare bankable feasible projects. These stakeholders appear eager to be trained and are motivated to better understand the

issues surrounding basic infrastructure development. They are ready for the message that B2B projects have a place in the development of Indonesia's water sector. ■

NOTES

1. The USAID project IUWASH is promoting this idea through Memoranda of Understanding MoU with MIYA (a global provider of comprehensive urban water efficiency solutions, including NRW reduction) and five PDAMs (in Bogor, Semarang, Solo, Surabaya, and Malang). The resulting NRW Reduction program will be fully financed by MIYA using a B2B scheme. Recently, the Danish firm EnviDan, in collaboration with PT Ciriajasa Rancangbangun Mandiri (an Indonesian consultancy and engineering firm that provides specialised expertise in management and production of high quality drinking water through PPPs), has introduced a NRW Reduction program for 15 PDAMs through a B2B scheme that grew out of a workshop on NRW organised by BPPSPAM.

About the author:
Eko Bagus Delianto has a track record of accomplishment in the engineering and consultancy industry and the promotion of B2B for small water supply schemes in Indonesia. Under his leadership, more than 20 drinking water and wastewater projects has been developed, designed and implemented. Eko has a 1986 degree in Civil Engineering from Universitas Sebelas Maret. He obtained a MBA in the UK from the University of Manchester in 2010. In addition, Eko and his company PT Ciriajasa Rancangbangun Mandiri (CRM) are currently busy in preparing PPP water supply projects in Pekanbaru and Pamarayan. CRM is working as a PPP consultant for two different Korean investors.

A Promising Tool to Improve Water Governance

Good governance in the water sector is essential to improve service delivery. A new tool piloted by IndII is supporting efforts to enhance this governance.

Is it safe to drink? The Water and Sanitation Services Index looks both at hard data on water quality and at consumer perceptions.
Courtesy of Christopher Cotrell

Editor's Note: *The article below describes the "Water and Sanitation Services Index", a tool designed to support lasting improvements in water sector governance by promoting transparency, accountability, equity, responsiveness, and participation. The article's content is drawn in large part from "Local Government Water Supply & Sanitation Index: Operations Manual," a report prepared in April 2013 by DAI, which was engaged under the Australian Government-funded Indonesia Infrastructure Initiative. The article also draws on subsequent documentation by IndII about WSSI implementation.*

Indonesia places a high priority on providing its citizens with basic water and sanitation services. The nation's long-term development plan (Rencana Pembangunan Jangka Panjang National) sets a goal of full access to basic services by 2019. This is a daunting challenge, as over 100 million people in Indonesia lack access to safe water and more than 70 percent of the country's 220 million population relies on water obtained from potentially contaminated sources.[1]

Laws no. 32 and 33/2004 concerning decentralisation clearly place responsibility for clean water and sanitation services with Local Governments (LGs), but this responsibility is not easy for them to meet. Municipal water utilities (Perusahaan Daerah Air Minum, or PDAMs) were already struggling to keep up with demand and maintain fiscal solvency prior to decentralisation. The situation was, in many ways, exacerbated by the monetary and regulatory shift to LGs. Prior to the economic crisis and the subsequent reforms, for example, sub-loans sourced from international donors and channeled through the Ministry of Finance represented the mainstay of water supply infrastructure financing. What was once a steady flow of money (with an average of

approximately 30 sub-loan agreements in redemption each year), however, slowed to a trickle over the last decade.

What's more, with relatively low governance capacity at the district level, many LGs have struggled to efficiently program the rapidly growing level of intergovernmental transfers. As a result, infrastructure investment across the board – and particularly in water supply and sanitation – has plummeted.

Key Points:

Excellence in the delivery of public services is fostered by good governance practices. Service delivery performance in the water sector is not solely the product of local water companies (PDAMs), but also requires the active involvement of Local Governments (LGs) and civil society.

Water governance is characterised by transparency, accountability, participation, equity, responsiveness, and coherency. The Indonesia Infrastructure Initiative (IndII) has implemented strategies that promote good governance, such as output-based aid programs that foster improved relationships among LGs, PDAMs and citizens. Complementing those efforts is another tool now being implemented: the Water and Sanitation Services Index (WSSI). This index combines eight sub-indices related to governance and performance to come up with a simple, high-impact measure of how well LGs are doing in the water and sanitation sector.

The WSSI is designed to support lasting improvements in transparency, accountability, equity, responsiveness, and participation. It directly incorporates the views and satisfaction of the people that matter most – the end users of water supply and sanitation services. The WSSI approach differs from existing water supply and sanitation benchmarking systems, which tend to emphasise quantitative (technical, financial, and operational) indicators.

The WSSI is structured into two components: a set of five governance sub-indices and three "citizen-based" sub-indices. It combines hard data obtained from official documents, interviews and physical water tests with soft data based on consumer perceptions. In its first full iteration, which is now being implemented, the WSSI will cover between 100 and 150 LGs, including surveys with 300 households per district, for a total of up to 45,000 households included.

The WSSI was piloted in North Sumatera, Central Java, and South Sulawesi, reaching 3,600 households and testing 960 water taps. Findings showed insufficient water pressure, poor water quality, and citizen dissatisfaction/lack of knowledge. Anecdotally, it was clear that simply implementing the Index itself prompted citizens and public officials to think more about the quality of water and sanitation services.

A set of indices from the first full implementation of the WSSI should be available by mid-2015. The data itself should prove immediately useful to planners, policy makers and citizens as they strive to achieve better governance and better services. Ideally, the pay-off from the effort will encourage local ownership so that new iterations of the WSSI are carried out in future years, enabling LGs to continuously improve their services.

Despite these challenges, however, the promise of decentralisation is gradually taking hold in municipalities across the country. Buoyed by growing revenues, clearer regulatory mandates, and central government capacity-building efforts, LGs are making tangible gains in the improvement of public services.

Importantly, success stories in the water and sanitation sector from around Indonesia feature LGs that have proactively undertaken reforms and invested in their service providers. Municipalities such as Kota Bogor, Kota Malang, and Kota Palembang are evidence that, when the LG takes an active interest in the quality of public services such as piped water supply, real progress is possible. Indeed, while good PDAM managers can make significant internal changes to achieve short-term performance improvements, sustainable change is only possible with the full support and commitment of their supervisory boards, LGs, and parliaments.

The tangible gains made by the more progressive LGs in Bogor, Malang, and Palembang should, in many ways, come as no surprise. It is no secret, in other words, that excellence in the delivery of public services is fostered by good governance practices. As shown in Figure 1, service delivery performance is not solely the product of operators (such as PDAMs), but also requires the active involvement of LG entities and civil society. LGs perform critical oversight and regulatory functions, providing an effective enabling environment in which operators can deliver key public services in an efficient, transparent, and equitable manner. As elected representatives of their community, however, LGs must also facilitate the participation of civil society and citizens, thereby ensuring that the economic and social needs of citizens are adequately met.

Figure 1: Good Governance in Service Delivery

While much attention has been paid to the achievement of "good governance" more broadly – not to mention the development of ways to measure it – there has been less focus on the specific notion of "water governance".

Generally speaking, water governance can be defined as the range of political, social, economic and administrative systems that are in place to develop and manage water resources and the delivery of water services at different levels of society[2]. Much like the broader idea of good governance, good water governance is characterised by transparency, accountability, participation, equity, responsiveness, and coherency. The first World Water Development Report by the World Water Assessment Program defines these attributes in the following manner:[3]

- **Transparency**: Information should flow freely within a society. The various processes and decisions should be transparent and open for scrutiny by the public.
- **Accountability**: Governments, the private sector and civil society organisations should be accountable to the public or the interests they are representing.
- **Participation**: All citizens, both men and women, should have a voice – directly or through intermediate organisations representing their interests – throughout processes of policy and decision-making. Broad participation hinges upon national and local governments following an inclusive approach.
- **Equity**: All groups in society, both men and women, should have opportunities to improve their well-being.
- **Coherence**: The increasing complexity of water resource issues, appropriate policies and actions must be taken into account so that they become coherent, consistent and easily understood.
- **Responsiveness**: Institutions and processes should serve all stakeholders and respond properly to changes in demand and preferences, or other new circumstances.

What can policy makers do to promote this good water governance and thus help to ensure that Indonesia will sustainably meet its goals for service provision? This question has a number of answers. The Australian Government-funded Indonesia Infrastructure Initiative (IndII) has implemented strategies that promote good governance, such as output-based aid programs that reward not only tangible outputs such as increased numbers of water connections for the urban poor but also improved relationships among LGs, PDAMs and citizens.

Complementing those efforts is another tool piloted by IndII and now being fully implemented: the Water and Sanitation Services Index (WSSI). This index combines eight sub-indices related to governance and performance to come up with a simple, high-impact measure of how well LGs are doing in the water and sanitation sector. It is modeled on successful governance indices already implemented in other parts of Southeast Asia and the world.

Figure 2: Components of the Water Supply and Sanitation Index

Sub-Index	Dimensions	Indicators
1. Planning and Budgeting	a) Planning Processes	1.1 Public availability of Local Government (LG) water supply and sanitation objectives within the current year work plan.
		1.2 PDAM's Corporate Plan is compiled by the utility in a transparent and consultative manner, with formal endorsement obtained from the supervisory board and district executive.
		1.3 LG utilises a sanitation working group to facilitate integrated sanitation planning and budgeting
	b) Budget Allocation	1.4 Public availability of LG's annual budget allocation for water supply and sanitation services for the current fiscal year.
		1.5 LG directly invests in its water utility.
		1.6 The total value of the PDAM's assets as a function of the population served.
		1.7 LG allocates funding for wastewater infrastructure development and operations.
2. Regulation and Oversight		2.1 PDAM supervisory board has a clearly defined role and set of responsibilities, and meets regularly to fulfill these duties.
		2.2 Annual Management Progress Report is provided to the district executive by the PDAM directors and supervisory board.
		2.3 LG appoints the PDAM directors in accordance with the established regulations for the "fit and proper test."
		2.4 LG has in place a performance-based management agreement with the PDAM directors.
		2.5 LG approves regular, incremental tariff adjustments for the PDAM.
		2.6 LG regulates the disposal of household septic system waste.
3. Public Outreach and Engagement	a) Citizen Awareness	3.1 LG has implemented a public outreach campaign on the importance of improved sanitation and hygiene.
		3.2 Percentage of households that have seen or heard an awareness campaign on clean water, sanitation, and hygiene issues.
		3.3 Percentage of households that know the LG is responsible for water supply in their neighbourhood.
		3.4 Percentage of households that know the LG is responsible for protecting rivers and groundwater from sewerage pollution.
	b) Customer Engagement	3.5 PDAM regularly conducts independent customer satisfaction survey.
		3.6 PDAM regularly engages its customers through planned meetings, customer forums, open houses, or similar means.
4. Customer Services	a) Information Timeliness and Accuracy	4.1 PDAM provides important, up-to-date information regarding its services to customers via its website and other means.
		4.2 Percentage of customers stating that their bill reflects actual water usage.
	b) Complaints Mechanisms	4.3 A dedicated customer hotline exists and is responsive.
		4.4 PDAM has a system for recording and tracking customer complaints.
	c) Pro-Poor Services	4.5 Availability of an amortisation program for connection fees.
		4.6 Utilisation of alternative water facilities to serve low-income communities.
5. PDAM Internal Administration		5.1 PDAM utilises current technology to manage/track its finances, assets, and customer base.
		5.2 PDAM has established clear procurement policies.
		5.3 PDAM has established Standard Operating Procedures governing key technical, financial, and human resource functions.
		5.4 PDAM has a formal code of conduct in place that is acknowledged by all staff.
		5.5 PDAM has a training/professional development plan for its staff.
6. PDAM Performance	a) Service Quality	6.1 Percentage of customers reporting few to no problems with piped water quality.
		6.2 Percentage of customers reporting that piped water has sufficient pressure.
		6.3 Percentage of customers reporting that piped water is continuously available.
		6.4 Percentage of customers reporting that piped water supply is scheduled.
		6.5 Turbidity of water flowing from the household tap.
		6.6 Level of residual chlorine of water flowing from the household tap.
		6.7 Pressure of water flowing from the household tap.
	b) Technical and Financial	6.8 Provincial Audit Agency's annual PDAM technical and financial performance score.
7. Service Access and Usage		7.1 Percentage of households with access to improved drinking water sources.
		7.2 Percentage of low income households that pay less than 5 percent of their monthly earnings on access to clean water.
		7.3 Percentage of households with access to improved sanitation facilities.
		7.4 Percentage of households with septic systems that can recall having it desludged.
		8.1 Percentage of households that are satisfied with access to clean water.
		8.2 Percentage of households that are satisfied with the water quality of their local water resources.

The WSSI is designed to support lasting improvements in transparency, accountability, equity, responsiveness, and participation. It directly incorporates the views and satisfaction of the people that matter most – the end users of water supply and sanitation services.

Importantly, the WSSI approach differs from existing water supply and sanitation benchmarking systems, which tend to emphasise quantitative (technical, financial, and operational) indicators derived from external audits of PDAMs themselves. The WSSI is designed to complement and add value to current monitoring approaches.

Four core design aspects of the WSSI (competition among LGs, citizen empowerment, best practices identification, and monitoring) address the overall objective to motivate LGs to be more accountable to their citizens and undertake sustainable reforms and improvements in the provision of water and sanitation services:

Competition Among LGs: The WSSI can be used as a tool for LGs to compare and monitor their own performance in relation to their neighbours. The ranking of districts is designed to inspire positive competition between districts to improve their performance, measuring each other not against some unobtainable external best practice but against the best and worst performing districts within the country itself. This facilitates local and culturally specific best practices and policies that can be learned and adapted to districts within Indonesia.

Citizen Empowerment: Indonesian citizens can utilise the results of the WSSI to compare the performance of their district to other districts and use their vote and advocacy tools (such as local civil society groups) to pressure the LG to improve the quality of their service to a more equitable level. Citizens in Indonesia are often unaware of the quality of water delivery that they should expect. With regular engagement of the media and civil society groups, the WSSI is anticipated to be a valuable tool for citizens to become better informed about the service quality for which their LG is responsible as well as how it compares to neighbouring districts. Furthermore, those households that are included in the sample will also receive direct feedback on service quality through water quality testing of their individual household tap.

Identification of Best Practices: The WSSI can identify and provide examples of best practice of LGs that are excelling within Indonesia. These practices can be adapted and passed on to similar district governments to improve their own performance.

Monitoring Interventions and Progress: Being an iterative process, the WSSI allows us to benchmark initial conditions in the first year and measure year on year improvements. This also aids citizens, the media, civil society, and the LGs themselves to directly identify the improvements made over time. Further, given the plan to publish the results in the mass media, the Index could potentially bring a new level of transparency to the tracking of progress, including the extent to which targeted coverage rates are actually realised.

The WSSI is structured into two components: a set of five governance sub-indices and three “citizen-based” sub-indices. It combines hard data obtained from official documents, interviews and physical

water tests with soft data based on consumer perceptions. See Figure 2 for a breakdown of each of the components of the index. Through out the collection and analysis of the data, sophisticated statistical tools are applied to ensure that the data is sound and any errors are corrected or removed.

In its first full iteration, which is now being implemented, the WSSI will cover between 100 and 150 LGs, including surveys with 300 households per district, for a total of up to 45,000 households included.

Piloting and Results

Such an ambitious project requires testing before implementation. The WSSI was conceived as a series of four steps: starting with initial concept development, preliminary field testing, and multi-municipality field testing, leading to the full roll-out that is now underway.

For the multi-municipality field testing, the WSSI Pilot team consulted with government stakeholders to select three regional clusters of LGs in which to implement the pilot activity. These regional clusters – which were located in North Sumatera, Central Java, and South Sulawesi – consisted of the capital city in each province accompanied by three nearby districts. To conduct the household surveys and gather the required documentation, the Pilot Team partnered with a local university in each of the three clusters: the University of North Sumatra (Department of Environmental Engineering) in Medan, the University of Diponegoro (Faculty of Public Health) in Semarang, and the University of Hasanuddin (Faculty of Public Health) in Makassar.

Approximately 300 households in each of the 12 districts were randomly selected and surveyed by the university partners to assess perceptions, and a combination of anonymous and key informant interviews were utilised to obtain the hard data. Additionally, on-site water quantity and quality testing was carried out with a subset of 80 households in each district. Following data cleaning and an initial analysis, the raw data was then converted into indicators and sub-indices and, ultimately, a complete index with a highest possible score of 40 points.

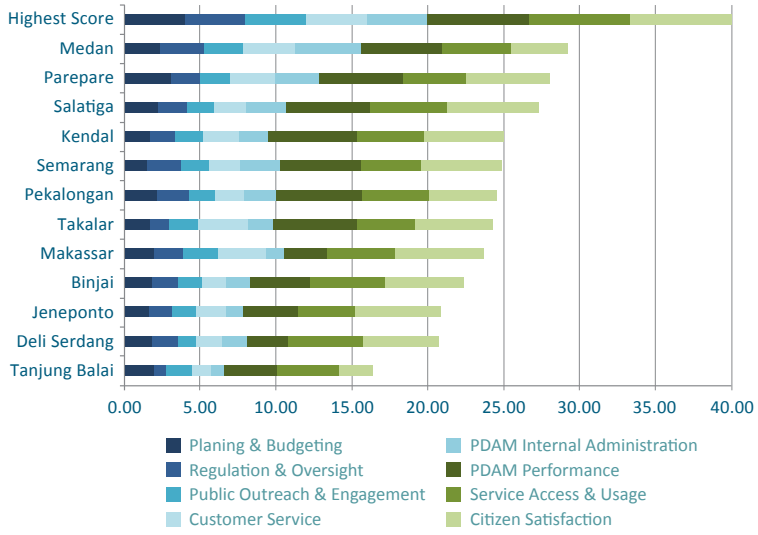
Following the survey of 3,600 households, water testing of 960 water taps, and the collection of numerous water and sanitation planning and budgeting documents, notable highlights include the following:

- 86 percent of the household taps tested had insufficient water pressure according to Government of Indonesia (GoI) standards.
- 51 percent of household water samples were below the safe level of chlorine recommended by the World Health Organization.
- Only 17 percent of households were aware that the LG was responsible for protecting water resources from sewage, while only 39 percent were aware that the LG was responsible for ensuring access to clean water.
- Only 23 percent of households that possessed a septic tank could recall emptying it at any time.

- One-third of water utility customers were not satisfied with the level of service they received from their local water utility.
- Only three out of 12 utilities completed and submitted an annual performance report to the district executive with the signatures of director and supervisory board.
- None of the LGs surveyed had enacted a law to regulate the disposal of septage.

Figure 3 summarises the overall results of the index by district, with the governance sub-indices represented in blue and the performance sub-indices represented in green. The District of Medan received the highest ranking while the District of Parepare was placed second. The Districts of Tanjung Balai, Deli Serdang, and Jeneponto received the lowest scores.

Figure 3: WSSI Pilot: District Rankings (Weighted)



As interesting and potentially useful as these results are, they are only a foretaste of what the full WSSI implementation can hope to achieve. Given that the WSSI was only implemented on a pilot basis, it is premature to say that it has directly contributed to improved governance arrangements in the cities included in the Index. Anecdotally, however, it was clear that simply implementing the Index itself prompted citizens and public officials to think more about the quality of water and sanitation services. In one city surveyed, for example, citizens were particularly willing to talk with the enumerators given that they had never had an opportunity to provide this type of feedback on local water services. In another location, a PDAM not included in the survey requested that the WSSI team also conduct the survey in their jurisdiction for advocacy purposes.

A set of indices from the first stage roll out of the WSSI should be available by mid-2015. This will cover 50 cities initially. The data itself will be most useful to the Mayors who will be able to see for the first time an independent and objective assessment of the quality of their water and sanitation service provision. More importantly, they will be able to see the assessment from the point of view of the their constituents which may be quite surprising. Conversely, the customers will be able to

compare their service quality with comparable neighboring cities and compare water tariffs as well as sanitation costs. On a broader front, the information should prove immediately useful to planners, policy makers and citizens as they strive to achieve better governance and better services.

The preparation and dissemination of the WSSI will not be a one-time activity. The remaining 43 cities will be included in the second roll-out of the WSSI which will then be followed by progressive coverage of Kabupaten governments. During this maturation stage the Government will establish institutional arrangements for the updating of the index on a periodic basis. These arrangements will aim to maintain the objectivity and independence of the assessment of services. Ideally, the pay-off from the effort will encourage local ownership so that new iterations of the WSSI are carried out in future years, enabling LGs to continuously improve their services. The involvement of local universities should help ensure this outcome, as institutional history on the WSSI process will be maintained. University researchers will also benefit from a secondary output of the WSSI research: a dataset that can be used to conduct rigorous analyses of the relationship between good governance and water supply and sanitation services, allowing for more evidence-based policies to be developed in the future. ■

NOTES

1. *http://www.fmch-indonesia.org/our-work/west-timor/water-and-sanitation/*
2. UN World Water Assessment Programme. World Water Development Report. 2003. Page 30.
3. Ibid, page 373.

Briefing Note:

The Role of Private Finance in Infrastructure Development

THE INFRASTRUCTURE GAP

Indonesia faces a large infrastructure gap at the start of the *Rencana Pembangunan Jangka Menengah Nasional* (RPJMN, or National Medium Term Development Plan) for the 2015–2019 period. For most sectors demand exceeds capacity by a good margin. This will impact on the economy's competitiveness unless a significant increase in spending can be achieved.

The private-sector-led infrastructure investment and competitive service provision envisaged in *Rencana Pembangunan Jangka Panjang Nasional* (RPJPN, or National Long Term Development Plan) 2005–2025 has yet to be achieved. Most of the legal framework is in place, but implementation has been slower than expected. Assessed on the basis of need, Indonesia requires capital investment of over Rp 6,780 trillion in 2015–2019 to overcome the infrastructure backlog and meet requirements for future growth[1].

Indonesia's demand for infrastructure substantially exceeds the capacity of the Government to finance it.

The Government already runs a net deficit, and over 70 percent of its budget is committed to routine expenditures, including subsidies. Moreover, as noted above, the government is committed to further reductions in overall debt/GDP ratio. Thus the fiscal space to accommodate a large increase in development spending is limited. As a share of total output, Indonesia's infrastructure investment amounts to only 3 percent, down from 7 percent before the Asian financial crisis. To recover, a major contribution will have to be made by the private sector[2].

BENEFITS OF PRIVATE FINANCE

Private sector finance does more than just fill the infrastructure gap, however. Most infrastructure services are delivered best by a competitive, commercially focused private sector. Private sector provision of infrastructure usually offers significant efficiency and value-for-money (VfM) advantages and a focus on the user/customer. With effective competition, the profit motive incentivises quality, efficiency and performance much more strongly than any incentives that exist in the public sector. The lessons for RPJMN 2015–2019 are to facilitate private sector competition and avoid or eliminate regulations that unnecessarily inhibit private investment and operations.

Private sector finance can fill the gap, and if properly incentivised will offer greater efficiency, quality, and performance than public sector finance.

OPPORTUNITIES FOR PRIVATE FINANCE

In the past, Government has funded infrastructure from the retained resources of state enterprises – national Government-owned enterprises (*Badan Usaha Milik Negara*) and Local Government-owned enterprises (*Badan Usaha Milik Daerah*), along with national and local government budgets and debt. Private sector provision offers two further opportunities. The first is commercial projects financed from user revenues, sometimes requiring government support in the form of guarantees or viability gap funding to be attractive to investors and lenders. The second is Performance Based Annuity Schemes (PBAS) involving government payments for an agreed level of service or asset performance[3]. Generally lenders prefer the latter, because delivery risk is more easily predicted and managed. Both deliver life-cycle cost optimisation – a further advantage of private provision – by incentivising cost control in meeting key performance indicators both at the bidding stage and through the bundling of design, construction, and operation and maintenance (O&M) tasks over the life of the project.

Involving the private sector in infrastructure finance opens up opportunities such as financing projects from user revenues and Performance Based Annuity Schemes.

Apart from having successfully deregulated the telecommunications sector, Indonesia's experience in attracting private finance to public infrastructure has been limited and has usually involved state-owned enterprises as principals or partners. Successful deals include PLN's (*Perusahaan Listrik Negara*, or State Electricity Company) Central Java Coal-Fired Power Plant (based on a guaranteed offtake arrangement) and the recent expansion of Tanjung Priok port (Kalibaru) commissioned by Pelindo II. Less successful have been several toll road projects, usually because of land acquisition, risk transfer and sovereign/payment guarantee issues. An airport rail link project in Jakarta is under preparation, as are the Umbulan and Bandar Lampung water supply projects. PBAS-like projects have not yet been attempted.

While progress has been made on improving the legal framework for land acquisition and Public Private Partnership preparation and procurement, several limitations remain which have delayed project development. These include a lack of familiarity with the PBAS model; restrictive public sector procurement systems, budgeting and accounting rules; and difficulties with long-term service contracts that span presidential terms. A new Infrastructure Law is being drafted to address these issues.

ADDRESSING LIMITATIONS

Limitations in institutional and delivery capacity also need to be addressed in order to overcome the large infrastructure backlog. Government agencies are neither structured for nor experienced in managing privately financed infrastructure programs. The scale of the development envisaged for 2015–2019 is well beyond the capacity of domestic finance and delivery industries to handle. The construction industry would need to gear up to producing at a multiple many times that of current levels.

For example, to date only 700 km of toll roads have been completed, yet the need is now for up to 1000 km to be constructed every year. Quality also needs to be substantially improved. Poor or inappropriate design specifications and substandard supervision resulting in poor asset performance and rapid asset failure are commonplace.

Business as usual will not deliver the infrastructure capacity that Indonesia urgently needs. To cope with the massive task ahead, world-best suppliers including investors, financiers and contractors can play a key role in adding their capacity and expertise. As the case with other emerging economies, strategic partnerships that combine local knowledge with international-best practice offer considerable promise for Indonesia. Foreign involvement brings new technology and skills that will benefit domestic players as well as improve delivery efficiency and quality.

Government agencies have not yet developed adequate capacity to manage privately financed infrastructure programs. Strategic partnerships combining local knowledge with international best practice offer a promising solution.

THE WAY FORWARD

To attract private investment, it is crucial to understand what motivates private investors. They will invest in Indonesia's projects if the rewards are sufficient and reliable, and if risks can be managed. Indonesia can compete for foreign funds if it offers a delivery model that is transparent, predictable, reliable and reasonable, and in line with international best practice.

Building market interest and confidence will require:

- Consulting with market players to identify needs, expectations and concerns
- Offering a limited number of viable, manageable schemes that have been largely de-risked[4]
- Ensuring that VfM analyses are carried out to demonstrate whether the life-cycle economies of private provision exceed the extra costs of private sector financing when compared with a realistic, risk-adjusted public sector comparator[5]
- Considering carefully whether demand and revenue risk should be transferred to the private sector (like all transferred risks, they will attract worst-case contingency pricing). Until a better risk model is established, an important interim measure is to consider the option of retaining revenue risk and making availability/performance payments from revenues collected independently (i.e. from user charges, taxes etc)

- Setting clear output standards against which performance is to be judged and on which abatements will be based
- Adopting a transparent, interactive procurement process designed to test bidders' risk appetite and to explore innovative design/delivery options
- Maintaining competitive tension through the bidding process, to secure best VfM.

— John Lee, IndII Technical Director for Transport

NOTES

1. Rp 5,619 trillion for roads, railways, urban transport, maritime transport, ferries and inland waterways, air transport, power, water resources, water supply and sanitation, and an additional Rp 1,161 trillion for energy and gas, public housing and communications (source: Bappenas, JICA). Institutional, funding and delivery capacity constraints, however, are likely to result in lower outcomes.
2. This contribution (and the expected return on investment) will, of course, have to be repaid from user charges or government reimbursements.
3. PBAS are also sometimes referred to as availability-based schemes. Under the PBAS model, a private firm is engaged to design, finance, build and operate the infrastructure project, such as a road, for a period of about 20 years. Once the road is open to traffic, the firm will receive regular payments in return for providing the road in accordance with agreed performance standards. Users can still be charged under PBAS delivery models, but demand/revenue risk is not usually transferred to the private sector.
4. In this context, de-risking means removing all risks that the private sector partner cannot manage itself, or cannot insure against.
5. These life-cycle economies come from bundling the design, construction/implementation and O&M tasks over the project life.

The Human Side of Infrastructure: A Cleaner Environment for Today and Tomorrow

What is the impact of regional sanitation development on members of the community? Several beneficiaries spoke with ***Prakarsa*** about how their lives have changed for the better. • By Eleonora Bergita

Agus and Surtini hard at work weaving
Courtesy of Eleonora Bergita

Sanitation programs promote cleaner living with the aim of improving people's health and well-being. In the 2010–2011 period, as many as 800 low-income families in Surakarta felt the impact of sanitation grants (the Sanitation Hibah) provided by Phase 1 of the Australian Government funded Indonesia Infrastructure Initiative (IndII). The city government of Surakarta was one of five areas that received grant money when they added about 5,000 new household connections to sewerage infrastructure. In IndII Phase 2, approximately 9,000 more families in the five areas will be reached by 2015, around 2,500 of them in Surakarta.

The Sanitation Hibah works through the city's local water company (PDAM). In Surakarta, residents can be connected to sewerage infrastructure at no up-front cost, after which they pay Rp 45,000/month for six months. There are no further charges for the connection.

Recently, several residents of Surakarta recounted for IndII how their lives changed as a result of IndII's program.

Newfound Convenience

Ibu Darmanto, 51, lives on the outskirts of Surakarta in Serengan. For her, time is very valuable. The wife of a security guard, she is exceptionally busy every day. To help meet her family's needs, she sells raw and cooked vegetables in the village. Every morning she walks through Serengan with her wares, which are sold to housewives who are cooking meals for their families.

When she finishes her rounds, there are often many vegetables left. She diligently cooks these into a variety of dishes that she and her neighbour wrap into small plastic packages. She then walks through her village until 8 pm every night, selling this food for about Rp 1,000 per package. It makes for long and exhausting days. Not surprisingly, she is too tired to leave the house most evenings.

In the past, following her long day of working she still had to go out to the communal toilet and washing facilities (referred to in Indonesian as MCK, for *mandi-cuci-kakus*), about 100 meters from her home, in order to bathe or relieve herself. With only two bathrooms for the entire community, this could involve standing in queue for about half an hour – even at night or in the rain. But since 2011, Ibu Darmanto and her family can bathe and use the toilet in their own home. Smiling as she concentrates on cooking her vegetables, Ibu Darmanto says, "I'm so happy that things are better now; I don't have to leave the house anymore to go to the bathroom."

No Need to Run

Surakarta residents Agus Sumarno and his wife Surtini (ages 45 and 41), were interested in IndII's Sanitation Hibah as soon as the head of their neighbourhood described it in 2010. The couple, who have three children, do piecework, weaving sarongs made especially for export.

On hearing about the Hibah, Agus immediately began to calculate: There would be no cost for the connection, and for a monthly fee of Rp 7,500, he would no longer have to pay about Rp 5,000/day for the family to use the public toilets – about Rp 150,000/month. He also would not have to spend money to install and clean a septic tank. Obviously the Rp 7,500/month would be money well spent.

Since the sewerage connection was installed, Agus has built a complete bathroom, so that his family can easily bathe and relieve themselves at home. "The advantage of this program, aside from the fact that it is more economical, is that now my family does not have to run and stand in line at the public toilets in order to relieve themselves," said Agus as he worked at his loom. "The time we used to need for going to the bathroom can now be used to do more weaving, and fill more orders."

Agus adds that he feels his neighbourhood, Semanggi, is cleaner now that wastewater is not being dumped into the waterways. In the past these would become clogged and overflow during rainy season, spreading dirty water across the roads.

"Previously, during rainy season our kids did not want to leave the house except to go to school because of the dirty environment, and they were afraid of diseases. But now with the sewerage system, our kids are not afraid to go outside even when it's raining. There's nothing to stop their daily activities and they stay healthy," Agus added with a broad grin.

Clogged Canals and Dengue Fever

Lusiati, a 46 year old housewife from the Surakarta village of Bonorejo, is a very active member of her local PKK (*Pemberdayan Kesejateraan Keluarga*, or family empowerment program). It was her husband Triyono, who works as an electrician, who first learned of the Sanitation Hibah through a neighbourhood meeting of local fathers.

Lusiati and Triyono considered their options carefully. They still remembered how, about four years

previously, their daughter – then in Year 4 of school – suffered from dengue fever. Standing pools of water, found throughout their neighbourhood, offered easy breeding grounds for dengue's vector, the aedes aegypti mosquito.

The couple had a septic tank for their toilet, while wastewater from the kitchen flowed straight into the gutter. At a cost of Rp 90,000, cleaning out the septic tank was something they could afford only every two years or so. No wonder bad smells, a dirty-looking environment, and unclean water spilling out from the gutter during rainy season were a problem.

Thinking about this, as well as the pain their daughter suffered when ill, made Lusiati sure that the Hibah program was a good idea. Her husband had the same thought.

The couple agreed to participate. Even though they have only been customers for a few months, they already notice benefits. The water in the gutter next to their house is cleaner and it doesn't overflow. Moreover, if there is ever a problem, they can call the PDAM to have someone come out and fix it.

For the Next Generations

Well water in Semanggi used to be sweet and delicious, but for the past few years, it has been an unappetising shade of yellow.

For Suwarto, 53, the head of his neighbourhood association (*Rumah Tangga*, or RT) and a father of three, the idea of protecting the community's water supply by participating in the Hibah was an exciting one. Moreover, he recognised the importance of leaving a clean environment for future generations. Thus, he tried a number of approaches to convince citizens to take part. As a result, every family in his RT has gotten a sewerage connection. Since 2012, they have also obtained water connections from the PDAM.

Suwarto sees not only the environmental advantages but also the economic ones, since it is cheaper to pay for the sewerage than for the public toilets. Overall, he sees a big difference in his community, and is quick to express his appreciation to Surakarta's city government.

"Before, the canals would overflow and cause flooding. Many residents often became ill with diarrhea, including my son who was often sick during rainy season because of our dirty environment. As a community leader, I am really satisfied with what our city government has done for us," affirmed Suwarto.

For Ibu Darmanto, Agus Sumarno and Surtini, Lusiati and Triyono, and Suwarto, sewerage connections have made a real difference, helping them to lead healthier and more productive lives. And as Suwarto is happy to explain, they can all feel proud about leaving a cleaner environment for their children and grandchildren. ■

About the author:

Eleonora Bergita (Gite) is IndII's Senior Program Officer and Event Manager. She is an experienced writer and event organiser with more than 10 years of experience in journalism and event management. Her previous background includes work with a German NGO, an Indonesian magazine, and a PR company. Gite graduated from the University of Indonesia, majoring in German Literature.

The Expert View

Question: *What is the biggest improvement you have seen in how water and/or sanitation services are delivered in your community over the past few years? What other changes would you like to see?*

Drs. Agus Djoko Witiarso, ST, MSi

Head of Bappeda (Local Planning Agency), City of Surakarta

"For the past few years, ever since SANIMAS (the Government of Indonesia's community-based sanitation program) was introduced in Surakarta in 2005, the construction of community sanitation and infrastructure facilities in Surakarta has increased significantly. This is an attempt to respond to the capacity constraints of the IPAL (*Instalasi Pengolahan Air Limbah*, or wastewater treatment installation) managed by the local water company. Sanitation problems related to the limited availability of urban land can be addressed through community-based sanitation models. It is hoped that the community can develop community-based sanitation models themselves purely on their own, without much involvement from the government, including in the funding component. In the future we hope that there will be a decrease in surface water contamination, because a large part of the community in Surabaya still relies on using private wells to fulfill their needs for clean water."

Sayyid Muhammad

Head of the Sumber Maron Community-Based Organisation, Malang Regency

"In the clean water sector, access to drinking water has improved. In the past, our area did not have access to water services. Now in 2014, there are already 1,528 household connections. The need for clean water of about 7,640 people in four villages is being met – in the village of Karangsuko there is 87 percent coverage, in Sukosari there is 46 percent, in Gondanglegi Kulon 24 percent, and in Panggungrejo about half a percent. In the latter three villages, access to services is still low due to the limited pipe network. In addition, water service provision by Community Based Organisations (CBOs) has ended previous disputes over water. Aligned with the shift to CBO water, the provision of water for agriculture is sufficient. In the sanitation sector, the number of people practicing open defecation has fallen, ownership of toilet facilities has increased, and handwashing habits are also improved. Even so I am hoping that access to drinking water in the villages of Sukosari, Gondanglegi Kulon and Panggungrejo will reach at least 70 to 80 percent. I also hope that, in the area of sanitation, we can make it possible to pay water bills by handing in trash, as a means of reducing the negative impact of solid waste."

Outcomes:

Fact-Finding Mission Learns About Performance-Based Financing

Traditional means of financing major road projects in Indonesia, based on inputs, do not have strong quality and value-for-money incentives. Performance-based financing offers a powerful alternative approach that makes payment conditional on meeting certain outputs and performance standards. For projects where full cost recovery is not realistic, an innovative form of this type of financing is the Performance-Based Annuity Scheme (PBAS). Under the PBAS model, a private firm is engaged to design, finance, build and operate the road project for a period of about 20 years. Once the road is open to traffic, the firm will receive regular payments in return for providing the road in accordance with agreed performance standards.

State governments in Australia have successfully implemented the PBAS model, and numerous lessons are available from their experience about PBAS advantages and pitfalls. To explore how these lessons might apply to Indonesia, a Fact-Finding Mission (FFM) visited PBAS projects in Queensland and Victoria and met with the government, private sector, banking sector, and academia. The FFM, held from 5 to 9 May 2014, included senior officials from Bappenas, the Coordinating Ministry for Economic Affairs, the Ministry of Public Works, the Ministry of Finance, and Australia's Department of Foreign Affairs and Trade. FFM participants learned how Australia's approach to public-private partnerships has evolved from a short-term, asset-only focus to a long-term focus on service delivery. They discovered that PBAS is now seen as bringing procurement efficiencies, better value for money, performance-based management and a whole-of-life focus to project delivery with equitable/manageable risk transfer.

To read more about this and other IndII activities, view the Activity Updates on our website at: http://www.indii.co.id/publications.php?id_cat=57

In our Next Issue:

Transforming Indonesia's National Roads

Projected strong economic growth and rapid growth in road and intermodal traffic are making extreme demands on the capacity and spatial development of the national road network in Indonesia. It is estimated that Indonesia requires a 125 percent increase in road space or lane capacity in the national road network by 2030. To achieve that goal, a wide range of questions must be addressed: What is the best means by which to deliver an expressway program? How can governments ensure a high level of compliance with technical standards to maximise return on investment? How can performance-based annuity schemes be used to finance network development? And how does Indonesia implement its National Road Safety Plan to ensure that road transport is not only efficient but also safe? The October 2014 edition of ***Prakarsa*** will look at these questions, shedding light on some of the challenges faced by the Ministry of Public Works as it strives to create a more efficient national transport system.