



ALTERNATIVE FINANCING FOR WATER UTILITIES IN INDONESIA

A REVIEW OF LESSONS AND CHALLENGES

AUGUST 2008

This publication was produced by Development Alternatives, Inc. for review by the United States Agency for International Development under Contract No. 497-M-00-05-00005-00

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Title:	Alternative Financing for Water Utilities in Indonesia: A Review of Lessons and Challenges
Program, activity, or project number:	Environmental Services Program, DAI Project Number: 5300201.
Strategic objective number:	SO No. 2, Higher Quality Basic Human Services Utilized (BHS).
Sponsoring USAID office and contract number:	USAID/Indonesia, Contract number: 497-M-00-05-00005-00.
Contractor name:	DAI.
Date of publication:	August 2008

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LIST OF ACRONYMS

ADB	Asian Development Bank
ASKRINDO	<i>Asuransi Kredit Indonesia</i>
DAU	<i>Dana Alokasi Umum</i>
DPRD	<i>Dewan Perwakilan Rakyat Daerah</i>
DWSRF	Drinking Water State Revolving Fund
ESP	Environmental Services Program
FN	Environmental Services Finance Component
GOI	Government of Indonesia
IDR	Indonesian Rupiah
IFI	International Finance Institution
IWF	Indonesia Water Fund
IWRP	Indonesia Water Revolving Fund
JBIC	Japanese Bank for International Reconstruction
KEPRES	<i>Keputusan Presiden Republik Indonesia</i>
MOF	Ministry of Finance of Indonesia
NGO	Non-Governmental Organization
PER	Public Expenditure Review
PMK	<i>Peraturan Menteri Keuangan</i>
PDAM	Perusahaan Daerah Air Minum
RDA	Regional Development Account
SOP	Standard Operating Procedures
SPV	Special Purpose Vehicle
USAID	United States Agency for International Development

I. INTRODUCTION

The challenge is well known but warrants repeating: public infrastructure investment—including and especially in the water sector—is presently at a virtual standstill in Indonesia. Investments in water supply at present are, for example, optimistically estimated at US\$50 million per year. In order to meet Indonesia’s Millennium Development Goal of halving the number of people without sustainable access to clean water, however, this amount must dramatically increase to US\$450 million per year, nearly a 10-fold increase. Further, sub-loans sourced from international donors and channeled through the Ministry of Finance—the “traditional” source of funding for *Perusahaan Daerah Air Minum* (District Drinking Water Companies, or PDAM) prior to the economic crisis—have essentially disappeared. What was once a steady flow of money (with an average of approximately 30 sub-loan agreements in redemption each year) has all but dried up.

In this regard, one of the targets of the Environmental Services Program (ESP) is to increase access to sustainable financing for water utilities in Indonesia. Toward this end, ESP has embarked on a number of strategies to explore alternative sources of financing and encourage new investment. For example, during Program Years 1 and 2, the Environmental Services Finance (FN) team conducted a series of pre-feasibility studies with PDAMs in the Program’s targeted locations to better understand their current financial condition as well as plans for expansion and the associated capital expenditures required to meet these goals.

In parallel to these PDAM-level analyses, ESP also conducted broader analyses of the most viable long-term financing methods. The resulting documents—“The Indonesia Water Revolving Fund” (February 2006) and “The Indonesia Water Fund” (September 2006)—essentially concluded that the most promising approach in the immediate term was the issuance of corporate bonds in the domestic capital markets. Ultimately, the concept of an underwriting and co-financing facility managed by PT. Danareksa Securitas emerged (e.g. the “Indonesian Water Fund”) as the preferred approach. A major advantage of the proposed structure was that, while the pooled financing capability of the IWF would require the changing of tax regulations, the ability to issue straight corporate bonds did not require any regulatory modifications.

Based on the collective results of these efforts, in September 2006 ESP moved forward with assistance to one specific water utility with the objective of a corporate bond issuance to finance a treatment facility. Despite the identification of a highly bankable project backed by the PDAM’s sound financial footing, however, the initiative did not come to fruition. While there were many reasons for this, the “nail in the coffin” came when the term of service of the President Director—the champion of the financing strategy—came to an end in December 2007. In the absence of the President Director’s leadership, the use of debt financing was rejected in favor of more incremental expansion using internal cash flow.

Now in its fourth year, ESP continues to work with utilities to improve credit-worthiness and expand coverage, whether through debt financing or equity contributions from government stakeholders. And while successes have certainly been achieved, the unmet financing needs of utilities remain daunting. Thus, as ESP moves towards completion and USAID considers potential strategies for a follow-on program, it is worth reviewing the multitude of lessons that emerged from ESP’s work in the water financing sector over the last three and half years. While the below list is certainly not exhaustive, it does attempt to capture the more salient challenges faced in the hopes of better informing the way forward.

2. A REVIEW OF CHALLENGES & LESSONS

Section 2 of this report enumerates twenty challenges and lessons encountered by ESP in its efforts to introduce alternative financing sources to Indonesian water utilities. This section is divided into four subsections: sector-wide challenges and lessons (2.1) and challenges and lessons associated with entering the capital market (2.2), structuring a specific transaction (2.3), and obtaining commercial bank loans (2.4).

2.1. SECTOR-WIDE CHALLENGES & LESSONS

The following “challenges and lessons” (1-6) cross all aspects of the water-supply sector, from project preparation to arranging financing to project implementation and PDAM debt.

1. **Risk Aversion.** In a June 2007 article (“Why risk minimization mindset is hindering progress”) published in the Jakarta Post, then president of PT. Danareksa Lin Che Wei, the nation’s largest securities firm, told the following story:

Let’s say that one day you are standing at a rail-way junction where a runaway train is about to pass and go all the way to a tunnel where there are 40 men working. At that point, it is within your power to pull the lever to divert the train to another tunnel where ‘only’ five men are working. You need to make a swift decision between doing nothing and letting forty people die—but you will not be faulted for it—or pulling the level and killing five men instead. So, will you kill or let die?

Wei goes on to conclude that, “Most people in Indonesia would choose to do nothing—even though this is suboptimal—for fear of being blamed or worse, penalized.” His reasoning is that, at least at present, Indonesian society adheres to “asymmetric profiles of risk and reward” where losses suffered due to risks taken are harshly punished while gains achieved through risk-taking are not rewarded sufficiently. Such severe risk aversion deters decision-makers “from considering projects outside their risk zone,” and, ultimately, “leads to suboptimal economic development.”

Wei’s conclusions regarding the damaging consequences of severe risk aversion could not be more true than in the water sector. Industry leaders are incredibly reluctant to break from the status quo of incremental, one-pipe-at-a-time development, even if this means stagnate growth and a massively underserved population. In order to utilize a new approach to financing, then, one must overcome a deep skepticism of change, especially when an element of risk is involved (no matter how minimal that risk may be). And, as Wei notes, with a perverse incentive structure of severe punishments contrasted with underwhelming rewards, leaders have little motivation to venture outside their risk zone.

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One of the last meetings with the PDAM assisted by ESP to pursue a bond issuance provides a perfect example of this consequence. In explaining his resistance to the proposed project (a medium-sized water treatment plant) and financing source (a corporate bond) a member of the utility's Supervisory Board stated that he was afraid that, should he make the wrong decision, he would "go to jail." When asked what would happen if he made a good decision and the project was a great success, however, his reply was simple: "nothing."

- 2. Neither Public Nor Private.** PDAMs are classified as publicly-owned corporations. This means that, while the local government has a substantial role in overseeing its operations, the utility remains a separate legal entity whose assets are *not* deemed as municipal assets. While there are certainly advantages of "corporatized" public service providers, ESP found that this greatly complicates the acquisition of financing for two reasons. First, one of the most fundamental determinants of a PDAM's financial strength—its tariff—remains the decision of the local government as the owner of the utility. The political risk that this introduces is, of course, not looked on favorably by potential lenders or investors. Second, despite the intimate involvement of the local government in the PDAM's success (or lack thereof), the PDAM cannot, at the same time, legally benefit from the financial backing of its owner in the form of a guarantee of any type. Based on a legal due diligence study conducted by Hadiputranto, Hadianto & Partners, a local government cannot make a financial obligation to maintain or "top-up" a liquidity standby reserve, as this would amount to a guarantee of municipal assets, which the local government is legally prohibited from doing.

Further, a "Letter of Comfort" issued by the local government promising lenders or bondholders that it will maintain cost recovery tariffs is also somewhat questionable, given that it cannot be considered a guarantee to actually repay debt—the bottom-line for investors. Instead, failure to maintain the needed tariffs would at best constitute a breach of contract, which must then be addressed in court. As the due diligence study notes, resolving such a dispute "may take years."

- 3. Building Stakeholder Support.** While the need for stakeholder support is obvious, it bears mentioning nonetheless. In particular, when explaining unfamiliar financing mechanisms, buy-in at all levels is critical. In other words, the support of the President Director in and of itself is not sufficient. Indeed, mid-level staff within the water utility play an important role in moving things forward on a day-to-day basis. The procurement team, for example, must be involved from the start in order to ensure that the procurement process progresses as smoothly as possible. While staff may signal their agreement while the Director is in the room, their demeanor can change quite rapidly when the Director is no longer there. Further, the utility's Supervisory Board (Badan Pengawas) provides a critical link to the local government and the *walikota* or *bupati*. Notably, ESP underestimated the importance of solidifying this support early on in the project preparation process, a problem which later contributed to the failure of the aforementioned bond transaction. Indeed, resistance from the Badan Pengawas slowed progress at every step, despite a seemingly incontrovertible letter from the Bupati approving the project.

In a consensus-driven and risk-averse working environment, building the stakeholder support required is a painstaking process. There is simply no way to "fast track" this process, and any attempts to do so risk engendering resentment and suspicion. Importantly, in the new era of decentralized governments in Indonesia, *national level*

support must be used judiciously as a means of building local level support. While central government officials remain influential at the local level, this dynamic has changed considerably in recent years. Moreover, there is the risk that the support of central government officials can be misconstrued as “strong-arming,” thereby eliciting a negative reaction. Furthermore, in the end, the obligation to pay the debt—be it a bond or bank loan—will fall to the utility.

Finally, the process of building real support must be carefully documented *in writing*. While verbal assurances are certainly encouraging, it is unwise to move to the next phase of the project without obtaining written commitment. This is again a time-consuming process but, in the long run, can also save time by acting as a starting point for each meeting (thereby preventing prolonged discussion of issues already decided upon). Written commitment is particularly important prior to agreeing to spend further resources, providing a “check” that all are on the same page regarding expectations and that such resources are going to good use. One cannot wait until the “end” of the project for written commitment. If a utility can not provide a written request to undertake a feasibility study, for example, what will happen when the Trust Indenture is put before them?

- 4. Centralized Water Funds.** Establishing a “water fund” is a difficult and time consuming process, especially when the main impetus comes from a donor as opposed to the government itself. Indeed, such a program generally requires major policy decisions which are difficult to “facilitate” from the outside. To date ESP has considered two types of water funds: the Indonesia Water Revolving Fund (IWRF) and the Indonesia Water Fund (IWF). While both concepts were met with initial enthusiasm, this enthusiasm was eventually overtaken by institutional and policy constraints as the realities of implementation set in. For example, one of the principal requirements to establish a revolving fund is initial capital. To address this need, the IWRF (and its “successor” the IWF) proposed to use on-lent funds from the Japanese Bank for International Reconstruction (JBIC). There is presently significant resistance from the Ministry of Finance, however, to use a mechanism other than the Regional Development Account (RDA) to channel foreign funds to a local government. More broadly, it is also fair to say the MOF is reluctant to utilize on-lent funds for water utilities, period, given their abysmal repayment history with such loans prior to the economic crisis. For concrete evidence of this disinclination, one need look no further than the fact that not a single sub-loan to a water utility has been processed since the onset of decentralization.¹ For the time being, then, it is clear that the MOF will only on-lend to local governments directly, meaning that utilities desiring a soft loan must work with/through their local government owner.

A second example of a legal constraint to establishing a water fund came in the form of tax regulations. More specifically, revenues from issuance by the fund would be subject to a withholding tax both on interest earned and on interest paid. In essence, the IWF was proposed as a “pass-through” vehicle, and this taxing “on both ends” ultimately drove the cost of funds to an unattractive level. What was needed, then, was the removal of one or both taxes. Despite initial indications that this was feasible, to date no action has been taken. The bottom line is that, for the

¹ PP 54 / 2005 prohibits water utilities from borrowing directly from a foreign country or donor (but they may directly borrow from commercial banks). Instead, foreign funds must be routed through the Ministry of Finance to the local governmental and finally on to the water utility. Local governments are incredibly reluctant to borrow funds on behalf of their utilities given that, should there be a default in payment, the MOF is empowered to intercept the local government’s general revenue transfer.

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establishment of a water fund to move forward, substantive backing from a strong central government champion is required to resolve such legal constraints. Donor technical assistance can surely provide significant added value to the development of a centralized water fund, but tangible central government leadership is a prerequisite for success.

In the financing of water infrastructure today, many point to the US model of the Drinking Water State Revolving Funds (DWSRF) as an example of a successful approach, and rightly so. The DWSRF approach has facilitated low cost financing for hundreds of utilities across the US, and has leveraged billions of dollars from the capital market. It is important, however, to remember two important facts regarding this program when seeking to apply similar strategies in other countries. First, the program was established by the US Government under the Safe Drinking Water Act. In other words, the program has a solid legal foundation in the form of a landmark piece of legislation years in the making. Second, while the leveraging of investment from the capital market is considerable, this leveraging is driven by nearly \$1 billion in grant financing from the federal and state governments every year.

- 5. The Problem of Procurement.** The development of water utilities is currently paralyzed by difficulties in procuring goods and services. The source of this paralysis is a mix of confusion and fear: confusion over a maze of procurement regulations and fear that the slightest misstep would result in serious sanctions. The earlier quote from the member of a utility's supervisory board who expressed concern that procurement irregularities beyond his control would result in a jail sentence demonstrates the extent to which this fear influences day to day decision making.

While no one regulation is wholly to blame for the ambiguity surrounding the procurement of goods and services, Presidential Decree No 80/2003 (or KEPRES 80) is commonly cited by utility officials as a source of confusion. Despite its lengthiness, the Decree sets forth processes that are, at the same time, both unclear and time intensive to follow. The result is that a utility may spend months attempting to work through a procurement only to discover that one aspect of the regulations may have been misconstrued or not fulfilled and, as such, the procurement process must begin anew. Further, many utilities are unclear as to whether KEPRES 80 even applies to water utilities in the first place given that it is intended for procurements using municipal funds. While water utilities are wholly owned by local municipalities, the majority of procurements utilize internally generated funds as opposed to municipal transfers of equity. As such, many utilities have (rightly) established their own procurement guidelines. Nonetheless, if such guidelines do not exist or are questioned, the utility will often revert to KEPRES 80.

- 6. The Continued Struggle with Bad Debt & Financial Solvency.** One cannot discuss the challenges associated with attracting new financing to the water sector without addressing the ongoing struggle to reconcile outstanding debts to the Ministry of Finance. Of the more than 350 water utilities across the country, more than 200 are indebted to the central government, and 175 possess arrears. Importantly, if a utility (or its local government owner) possesses any outstanding loans, they are not eligible for any type of further debt financing. According to the World Bank's 2007 Public Expenditure Review, "Around 60 percent of the urban population lives in jurisdictions where the local government or PDAM has debt arrears and these people are for the moment effectively barred from any improvement in PDAM services."

Closely related to the inability to service these debts is, of course, the weak financial status of PDAMs in general. While it is beyond the scope of this paper to delve fully into this complicated issue, the bottom line is that many PDAMs continue to charge tariffs below cost recovery and thereby operate at a loss. Obviously a weak balance sheet is a strong deterrent to any prospective lender.

And yet there are signs of positive change. In August 2008 the Ministry of Finance issued Peraturan Menteri Keuangan Nomor 120/PMK.05/2008 on PDAM Debt Restructuring. In comparison to the previous regulations for the restructuring of PDAM arrears, PMK 120 sets out more a more simplified procedure and more inclusive participation requirements. Further, it allows for the complete write-off on non-principal arrears (interest and penalties) for financially unhealthy PDAMs or a debt-equity swap of non-principal arrears for healthy PDAMs. Importantly, the PMK also puts forth three pre-conditions for obtaining MOF approval. First, the PDAM must put in place cost recovery tariffs. Second, the leadership of the PDAM must be appointed through a transparent *fit-and-proper* test. Third, the PDAM must compile a *Business Plan* which sets forth the proposed restructuring of the overdue debts. This PMK offers a good opportunity for PDAMs to deal with overhanging loans once and for all, and, in doing so, open the doors for new investment.

2.2. ENTERING THE CAPITAL MARKET

Since its inception in early 2005, ESP has endeavored to build awareness among utilities and their stakeholders concerning the potential of the domestic capital market as a source of financing for new projects. The following section (No. 7 - 9) briefly describes the general challenges and lessons associated with PDAM entrance to the capital market.

- 7. The Size and Schedule of New Investments.** One of the greatest limiting factors to the participation of water utilities in the capital market is the size and schedule of new investments. While the need for long-term finance of 10 years or more for new projects is significant, more often than not these projects come in relatively small packages of under \$5 million USD equivalent per year. Indeed, most projects that ESP has encountered range from \$1 to \$3 million USD, sizes that are too small to interest investors as well as not cost efficient given the high fixed costs associated with the capital market.

In addition, given the slow pace of procurement and the time intensive nature of installing networks, the implementation schedule of water projects can extend over a period of years as opposed to months. Generally speaking, the funds obtained from a bond issuance should be fully utilized within a period of 12-18 months given the cost of holding on to borrowed funds (known as the “cost of carry”). Unlike commercial loans, the funds cannot be separated into distinct disbursements whereby interest charges are only incurred once a drawdown takes place and the funds are put to use. Stated differently, a IDR 50 billion bond issuance means that IDR 50 billion will hit the utility’s books in a single disbursement. Ideally, this money is then directly channeled into the project itself. Given market rates of 13-14% for corporate bonds and 6-8% for bank deposits, the utility will pay a negative spread of at least 5-6% in interest to “carry” any unutilized funds.

- 8. The High Fixed Costs of Entering the Capital Market.** When considering the benefits of tapping the capital market, water utilities must be wary of the considerable transaction costs associated with the issuance of a bond, especially for

first time issuers. While interest rates are typically 1.5% to 2.0% lower than commercial bank rates, the interest savings can quickly be consumed by the fixed costs required to enter the market. The “upfront” issuance costs typically include: underwriting fees, notary fees, legal fees (bond counsel), printing and media costs, rating fees for the debt instrument, and listing fees charged by the stock exchange itself. Recurrent costs include annual rating review, fees for trustee services, and stock exchange maintenance fees. In addition, depending on the utility’s initial company rating, a partial credit guarantee may be required to “notch up” the rating of the debt instrument itself to a level that interests investors (generally A-). While calculation of the credit guarantee fee varies from one financial institution to another, there is generally an upfront origination fee as well as a yearly maintenance fee that is based upon the amount of the outstanding balance.

The high amount of fixed costs enumerated above means that smaller issuances are simply not cost effective. Although there is some debate about the definition of “small,” bonds below IDR 75 billion quickly become overly expensive to issue. Even at IDR 100 billion, however, a rough calculation of the issuances costs comes to approximately 6% of the face value of the bond, with yearly fees of about 0.25% of the face value. It is critical that potential issuers understand and plan for these costs from the beginning in order to avoid sticker shock when the bills come in. Utilities must avoid the temptation to simply compare the respective interest rates offered by the market and by local banks, as this does not tell the whole story.

Over the long term, the pooling of issuances to achieve economies of scale will help to decrease the financing costs to the individual issuer. In developed markets, financial intermediaries (such as bond banks) often subsidize the issuance costs as well. In the short term, however, donors can play the critical role of facilitating the transition to capital market financing by helping to defray the costs of issuance.

- 9. The Difficulty of Utilizing Special Purpose Vehicles (SPVs).** The establishment of a Special Purpose Vehicle (SPV) is one approach used in a number of developed and developing economies to finance public infrastructure. Designed as an independent financing structure, an SPV can be used to pool various investment needs across local jurisdictions so as to achieve a volume of funds that is attractive to investors as well as economies of scale that decrease borrowing costs for local government entities. Also, SPVs commonly utilize various credit enhancements (such as reserve funds and revenue intercept mechanisms) to further lower the cost of funds to individual borrowers. Presently, there are several significant constraints to the use of SPVs in Indonesia, which are legally known as “Collective Investment Contract/Operations Vehicles.”

First, it is difficult for a newly established SPV to issue debt in the market due to the requirement that audited financial statements must be submitted to the Capital Markets Supervisory Board for the last three years as part of the registration process. One potential approach to satisfy this “financial history” requirement is to set up the SPV within the context of an existing financial institution, although this lessens the independence of the SPV. ESP considered this approach in the design of the “Indonesia Water Fund” in that the proposed SPV was to be housed within the state-owned securities firm PT. Danareksa. One constraint that was encountered, however, was that, while Danareksa provided an institutional home for the Fund that would allow it to issue debt immediately, utilizing a securities firm imposed limitations of its own for the proposed SPV. Specifically, the SPV would not be allowed to on-lend funds as loans to sub-sovereign borrowers, as this function can

only be carried out by licensed banking institutions. Instead, credit could only be extended via a series of Medium Term Notes executed by the borrower.

Second, revenues on SPVs are currently subject to a withholding tax on interest earned and interest paid. This “double taxation” on an essentially pass-through financing vehicle pushes the cost of capital beyond the fiscal capacity of water utilities and greatly reduces the attractiveness of pooled debt to investors. While the removal of the double taxation was rumored to be included in revisions to the income tax law in 2007, to date the modification has not occurred.

Third, a common approach to improving the attractiveness of debt issued by SPVs is to empower the SPV to intercept intergovernmental revenue transfers to the sub-sovereign borrower. Thus, if the funds generated by the project are insufficient to meet a payment (perhaps due to delays in procurement or construction), the investors are assured that the flow of funds to the local government will be channeled to the SPV and payments of all debt service requirements will be adequately covered. Unfortunately, there is considerable resistance at this time by local governments to relinquish any authority related to the *Dana Alokasi Umum* (DAU), which is the primary intergovernmental transfer mechanism between the central and local governments. This is, in part, due to the fact that local governments possess little in the way of taxing authority, and are therefore heavily dependent upon this transfer to meet the day to day spending needs of the local government. The complete lack of the execution of soft loans in recent years—which also require local governments to consent to the DAU intercept—is indicative of the resistance of local governments to authorizing the intercept.

In addition, it is questionable as to whether local governments could lawfully authorize an intercept mechanism even if they desired to do so. Government Regulation No. 54/2005, dated 9 December 2005, on Municipal Borrowings states that a municipality is prohibited from providing collateral (*jaminan*) for the debt of other entities (Article 4-1). Article 4-2 also states that municipal revenue or assets may not be used as collateral for municipal debts. Thus, it appears that a municipality cannot pledge its revenue stream as a guarantee to investors. While the revenue stream from a the project itself can be pledged to an SPV, this would not, of course, carry the same level of assurance as the much larger revenue base of the municipality.

2.3. STRUCTURING THE TRANSACTION

For approximately 12 months ESP worked intensively with one water utility to structure a corporate bond issuance. Ultimately the transaction was not realized due to the departure of the President Director at the end of the position’s term as well as an underlying aversion to risk. As the chief proponent of both the project (approximate \$5.5 million in value) and the use of a bond to finance it, the President’s Director’s departure created a leadership vacuum that could not be overcome. Nonetheless, a number of important lessons came out of this effort:

- 10. Obtain a Rating Sooner Rather than Later.** The PDAM (and ESP) waited until both the pre-feasibility study and full feasibility study were completed to undertake a company credit rating. This meant that significant resources were devoted to the effort before consulting with the rating agencies to obtain their perspective of the risk associated with the company, and, by extension, the viability of utilizing a bond

issuance to finance the project. Further, progress was slowed and momentum lost during the rating process given that all other activities associated with the project were put on hold until the question of the rating was answered. Looking forward, it would be more effective to obtain a rating prior to implementing a detailed feasibility study that assumes capital market financing. In other words, once stakeholders agree that bond financing should be considered, the water utility should first undergo the rating process before delving into more detailed studies and discussions with potential financing partners (underwriters, bond counsel, etc.).

On a related note, obtaining a credit rating represents a logical first step when a water utility is considering any type of debt financing. The rating will not only help the utility to better understand how potential lenders/investors view the utility, but it can also be used as a marketing tool. Additionally, a credit rating—if conducted annually—can be used as a monitoring and evaluation tool to track the PDAM's performance over time.

11. **Construction Financing.** Arranging the construction or “bridge” financing is one of the most challenging aspects of new capital projects. The difficulty that arises is that “project risk” generally peaks at this time given the volume of funds flowing into the project while no new revenue stream is yet to come online. One approach to mitigate this risk to lenders/investors is to arrange a “turn-key” project whereby the construction firm contracted to undertake the works is required to undertake the project on a fixed-price, fixed-schedule basis *as well as* arrange its own financing during this period. Then, once the project is completed to the satisfaction of the utility, the “take-out” financing is arranged by the utility and the proceeds are used to pay the contractor in full. ESP envisioned using this approach under the Indonesia Water Fund, with 10 year bond financing as the presumed source of funds for the “take-out.” There are, however, several constraints associated with this strategy.

First and foremost, informal discussions with construction firms—as well as the general experience of water utilities to date—shows that construction firms strongly prefer progress payments as opposed to lump-sum payments upon commissioning. Indeed, such turn-key projects are largely unheard of in the water sector in Indonesia today. Construction firms simply have no incentive to take on virtually all of the project risk, especially when business is booming and other new projects are not hard to come by.

Second, even if a firm agreed to conduct a project on a turn-key basis, the promise of a bond issuance would not provide the level of assurance needed to convince the contractor that the money will be there when the project is done. This is understandable given that a corporate bond issuance by a public water utility has not yet been used to finance a new project in Indonesia. Moreover, a market flush with funds today provides little assurance that those same funds will be available one and half years down the line. As such, it is likely that a bank guarantee would be required to convince a contractor and its financiers, a prospect which involves a whole new level of complexity.

Finally, ESP noted resistance by water utilities themselves to using a fixed-price, turn-key contracting mechanism. While somewhat counter-intuitive given that this mechanism actually reduces risk for the PDAM, the reality is that utilities generally prefer to break up procurements into multiple packages that are awarded to a variety of contractors. Admittedly, this approach is clearly motivated by a desire to “spread the wealth” as opposed to cost and time efficiencies.

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For the above reasons, the financing strategy was eventually altered such that the bond would be issued at the start of construction, with proceeds then used for progress payments during the construction period. While this puts increased pressure on the utility's cash flow and exposes investors to greater project risk, there are few options at this time.

12. **Partial Credit Guarantee.** Given the comparative financial strength of water utilities accompanied by their relative newness to the market, most utilities looking to issue stand-alone corporate bonds will require a credit guarantee. In the absence of a guarantee, it is unlikely that the issuance will attract sufficient interest in the market to raise the funds needed. Danaraksa, Indonesia's largest securities firm, indicated that a debt rating of A- would be required to guarantee a successful issuance. All three water utility ratings that ESP has supported thus far have resulted in a rating of BBB/stable, meaning that a guarantee would likely be needed to "notch up" the rating of the debt instrument itself.

When introducing and structuring the guarantee, it is important to keep two points in mind. First, focus initially on the concept and logic of a guarantee as opposed to a specific guarantee instrument offered by a particular donor or international finance institution (IFI). To do otherwise engenders suspicion and confusion among stakeholders. ESP was asked on a number of occasions, for example, if the guarantor would "take over" the utility should a payment not be made on time. Second, different institutions take different approaches to calculating fees for guarantees, and it is important to understand how the fee is calculated and what, if any, measures can be taken to minimize these costs. For example, if an annual fee is levied based upon the outstanding balance of the bond, it may be prudent to schedule two series of bonds so that the entire principle is not outstanding until the final payment.

13. **Establishing a Reserve Fund.** A reserve fund is a commonly used security arrangement whereby the borrower sets aside a certain amount of funds to be drawn upon if the borrower is unable to meet a payment. The reserve fund is generally overseen by a designated trustee, who is responsible for the management account, payments to investors, and ensuring that the minimum account balance is maintained.

Two issues arose concerning the reserve fund for the aforementioned PDAM corporate bond. The first, more straightforward issue was that a reserve equal to 10% of the offering was considered more than adequate by the underwriter as opposed to the 20% initially envisioned in the indicative terms sheet. Second, the funding for the reserve fund was planned to come from the proceeds of the bond itself. In other words, the amount borrowed would be sufficient to cover not only the construction and issuance costs, but also the funding of the reserve. This plan was altered, however, based on input from the guarantor, which recommended that reserves not be funded through additional borrowing, but rather from the utility's (or local government's) own capital in order to incentivize repayment. Thus, going forward, it should be stated upfront that the reserve is to be funded in its entirety by the PDAM or its local government owner.

14. **Letter of Comfort.** An additional security arrangement envisioned for the bond structure was the issuance of a "letter of comfort" by the local government owner committing to maintain full cost recovery tariffs during the entire period of the bond

(including an outcome for a debt service coverage ratio of at least 1.5). While this letter represents the owners commitment and intentions to approve full cost recovery tariffs, it is important to note that, from a legal perspective, this letter cannot be treated as a guarantee by the local government to repay any outstanding debt (See #2 above). Thus, it carries little weight in terms of assuring investors that the local government will be held accountable for not approving sufficient tariffs over the period that the bonds are outstanding.

An alternative approach to ensuring revenue sufficiency would be to include the minimum debt service coverage ratio in the Trust Indenture itself. The utility can then use this legal requirement as a basis for future tariff calculations and emphasize to the local government that the failure to approve the tariff requested will lead to a breach of contract with the bondholders.

15. **Forming the Financial Team.** In preparing for the debt issuance by the PDAM, ESP worked very closely with the planned underwriter. While the role of the underwriter is critical, it is also important to identify and incorporate the input of the other key members of the “financial team” such as the trustee as early as possible. In other words, one must guard against overemphasizing the underwriter who is (rightly) focused on the sale of the bonds as opposed to the long term management of the debt. Indeed, the utility’s relationship with the trustee is just as important (if not more important) than that with the underwriter given that the trustee will act as the intermediary with the bondholders for 10 years (or whatever the term of the bonds may be).
16. **Parallel Preparation of Technical and Financial Plans.** Timing is a critical factor in the project preparation process. This is especially true when bond financing will be utilized, meaning that funds are not disbursed in tranches when needed, but are received in a lump sum. In order to maximize the efficient use of money, then, the preparation of the technical and financial plans must be done in parallel, with neither side progressing too far ahead of the other.

2.4. OBTAINING COMMERCIAL BANK FINANCING

ESP has also worked with PDAMs to evaluate the potential of loans from domestic banks. Challenges and lessons from these efforts are as follows:

17. **The Perception of PDAMs.** Nearly all banks consulted by ESP continue to view PDAMs as entities which are, unilaterally, not credit-worthy. Indeed, bank managers are often surprised when ESP provides information regarding those PDAMs that have reached full cost recovery. One way to overcome these perceptions is for healthy PDAMs to obtain a credit rating from an authorized credit rating agency prior to seeking financing from a bank, and then use this rating as a marketing tool to approach potential lenders.
18. **The Tenor of Domestic Bank Loans.** At this time, most banks are still only willing to offer tenors of a maximum of 7 years, a period which is generally too short for capital investments. That said, the Provincial Bank of Jawa Barat (Bank Jabar) recently executed a loan with PDAM Kota Bogor for a 10 year time period

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for approximate IDR 27 billion. This represents one of the longest tenors of a domestic PDAM loan to date.

19. **Loan Profile.** The structure of the loan profile—that is, the composition of interest and principal for each payment—has a significant impact on the affordability of the financing for the PDAM. In general, most domestic loans are structured using the “declining balance” method whereby the principal is divided evenly over the payment period and the interest for each payment is calculated based on the total outstanding principal. This means that payments will gradually decrease as the principal is paid off and interest owed lessens. The challenge associated with this loan profile is that the most expensive payments occur early on in the loan period, which is the most difficult time for the utility to afford these payment given that newly added capacity generally takes several years to be “optimized” (meaning that the transmission network is complete and the capacity is fully utilized).

A more favorable structure would be a fixed rate loan with a flat profile whereby the payment amount is the same from one payment to the next, with the portion of the payment covering interest gradually decreasing and the portion covering the principal gradually increasing (similar to a typical mortgage structure in the US). Unfortunately, such financing products are not yet commonly available in Indonesia.

20. **Over-Collateralization of Loans.** One of the greatest barriers for PDAMs to obtaining loans from a domestic bank is the collateral required to execute the loan. For the Bank Jabar loan referenced above, for example, the PDAM was required to put together a collateral package equal to 125% of the value of the loan. Fixed assets such as treatment plants and networks are, of course, not acceptable collateral. Thus, to meet the requirement, the PDAM provided cash flow (in the form of its accounts receivable) as well as obtaining a credit guarantee from *Asuransi Kredit Indonesia* (Askrindo). The result is that the utility’s ability to provide collateral—as opposed to its ability to service the debt—becomes the chief limitation.

3. LOOKING AHEAD

Despite the many challenges associated with improving access to financing in the water sector, the problem deserves continued support by USAID. The reality is that, no matter how much utilities are able to improve their technical operations, the percent coverage of the population will continue to stagnate until the financing dilemma is addressed. ESP has already played an important role in advancing the dialogue surrounding alternative financing, particularly concerning the potential of the capital markets to help bridge the financing gap. Further, ESP has made considerable contributions to resolution of outstanding utility debts, a current policy focus of the Ministry of Finance. Also, as a non-financing institution, USAID and its technical assistance programs possess an advantageous flexibility and objectivity in that they are not associated with a specific financing approach.

Looking forward, then, what potential strategies exist in the near term for financing the immense needs for the water supply sector in Indonesia? While it is beyond the scope of this review to provide a detailed examination of potential approaches, three considerations that deserve greater analysis are as follows.

First, prior to seeking funds through commercial sources, water utilities should first present their financing needs in a clear and organized manner to their local government owners. In the era of decentralization, local governments are responsible to oversee the provision of clean water to their community. Moreover, unlike instances of decentralization in other countries, the increased level of responsibility of local governments in Indonesia has indeed been accompanied by increased resources. Since 2001 transfers to the regions have increased steadily, and local government spending now accounts for over 1/3 of total government expenditures. The World Bank's 2007 public expenditure review (PER) for Indonesia concluded that:

Today, Indonesia's main development challenge is not to transfer significant additional resources to poor areas, but to make sure that existing resources are spent effectively...Despite large surpluses, resources are often channeled to the wrong places. For instance, while local government funds remain unspent, many PDAMs have become insolvent and unable to provide water services.

The World Bank is presently funding a study through a Dutch Trust Fund to more closely address the question of why local governments are not putting more money into their water utilities. This is an important question, as it is unreasonable to expect at this point in time that the nation's water supply needs can be met using international and domestic commercial financing sources alone. Given the immensity of the need, significant government outlays are required. Moreover, in the insolvent condition of the vast majority of water utilities across the country means that government or donor financing represent the only options for funds.

Notably, ESP's experience over the past 3 years has actually shown an increasing willingness of local governments owners as well as the central government to commit funds to the utilities *if a clear and compelling justification is presented*. While obtaining these funds is far from easy, water utilities can pave the way by preparing professional corporate plans and project feasibility studies. The central government could encourage such equity contributions further by establishing a matching fund where by a certain percentage of local government contributions are matched by central government funds.

Second, given improving liquidity, domestic banks represent increasingly viable sources of financing for small projects which the local government is unable to support. As such, it is important for PDAMs to establish relationships with domestic lending partners and ascertain which banks can potentially offer the most favorable terms. However, PDAMs must undertake the necessary project due diligence in the form of a robust feasibility study prior to attempting to solicit financing from banks. By their very nature, banks remain cautious and conservative institutions, and thus they require strong arguments for embarking on lending programs in new sectors. ESP has met informally with several domestic banks regarding the possibility of providing financing to water utilities. While initially hesitant, the bottom line is that most banks are interested if the utility can clearly demonstrate the “bankability” of the project and, importantly, that the utility will have the cash flow to make the necessary debt service payments in a timely manner. A program such as ESP can thus provide significant added value by assisting utilities in building just such a case.

Unfortunately, even the most bankable PDAM and project must still confront the challenge of the collateral required to execute a commercial bank loan (See No. 20 above). Indeed, the steep collateral requirements generally mean that larger projects cannot be financed by domestic banks. One possible strategy to mitigate this constraint is the use of partial credit guarantees provided by local and/or international financing institutions. Such guarantees would reduce the risk to the lender without tying up the PDAM’s limited assets.

The Asian Development Bank is one institution that has expressed an interest in the provision of partial credit guarantees to back water infrastructure development. The constraint faced by the ADB, however, is that the guaranteed loan(s) must be of sufficient size to ensure that fixed costs are covered through guarantee fees over the long term. One approach to addressing the issue of volume is for a “collective guarantee” to be given to one bank for an overall ceiling amount of, say, \$30 million USD in water projects. While individual projects could be much smaller, the guarantee mechanism would be set in place between the ADB and the local lender with the intention of pooling projects to achieve the desired scale. Once banks become more comfortable with PDAMs as long-term borrowers, it is hoped that the collateral requirements could gradually be reduced.

In terms of a potential lending institution, the Provincial Development Banks—such as Bank Jabar in West Java—deserve consideration given their close ties to the local governments (the owners of the utilities). Indeed, as PDAM credit-worthiness improves over the long run, such institutions could assume a role similar to bond banks in the United States, by issuing their own securities in the capital market and on-lending to utilities (with a PCG if it is still required). This strategy would also boost the bank’s ability to offer longer term financing.

Finally, in terms of tapping the capital market, municipal bonds possess significant potential to help finance the needs of water utilities over the medium to long term. 2007 saw the achievement of a major regulatory milestone in Indonesia regarding domestic borrowing. ESP and the regional USAID program ECO-Asia provided support to the Ministry of Finance in the development of a Ministerial Regulation on municipal bonds and the accompanying Standard Operating Procedures (SOPs). In January 2007, the Ministerial Regulation on Municipal Bond (numbered 147/ PMK.07/2006) entitled “Tatacara Penerbitan Pertanggungjawaban, dan Publikasi Informasi Obligasi Daerah” was formally issued. Then, in March, ESP and the regional USAID program ECO-Asia submitted the accompanying Standard Operating Procedures (SOP’s) for the regulation on municipal bonds. The SOP’s provide step-by-step instructions to municipalities considering a bond issuance. With the Regulation and SOPs in place, sub-national governments are now

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empowered for the first time to issue municipal bonds to help meet the burgeoning needs of their communities.

While the enabling legislation is still quite new and the guidelines are as yet untested, municipal bonds represent perhaps the most promising source of funds for PDAMs over the long-term for several reasons:

- **Stronger Financial Status.** On the whole, local governments represent more solvent entities than PDAMs, with a broader financial base and increasingly healthy cash flow (as indicated by the World Bank's comments noted above). These factors mean that local governments will have easier access to the market and likely at lower interest rates. Additionally, municipalities are typically viewed by investors as lower risk entities simply due to the fact that they are governments and cannot close down. While local government bonds will be more complicated than those issued by a PDAM directly due to the larger number of stakeholders, it is an illusion to view PDAM issuances as strictly "corporate" issuances given that the DPRD must still provide its approval and the district head still controls the tariff.
- **Economies of Scale.** As noted in points 6 and 7 above, all but the largest water utilities generally have a difficult time meeting the size requirements for bond issuances. An advantage offered by the municipal bond issuance is that a water utility project can be combined with other municipal projects to achieve a bond size that is cost efficient. For example, a IDR 40 billion water treatment plant (which alone would be insufficient for a bond) could be combined with a IDR 30 billion market project and IDR 60 billion port improvement project, thereby yielding a IDR 130 billion bond.
- **Central Government Support.** At this time the Central Government is understandably keen to support the development of this new source of financing for local governments. The Ministry of Finance has already held socialization workshops in several major cities on Sumatra and Java, and plans to continue the workshops in eastern Indonesia as well. This policy emphasis therefore offers an ideal foundation from which to introduce and promote the use of municipal debt obligations as an alternative source of financing.

Perhaps the greatest obstacle to the use of municipal bonds to finance water infrastructure remains the reluctance of local governments to borrow funds on behalf of their utilities. Unlike other public service sectors such as roads, terminals, markets, ports, etc—whose management falls directly under the local government—PDAMs have a separate management structure (as a public corporation) external to the local government. As such, local government officials tend to hold the perspective that PDAMs should be able to finance their investment needs independently. International experience, however, shows that this is rarely the case.

In closing, the challenges and conclusions enumerated herein do not mean that straight "corporate" issuances by water utilities will not have a role in meeting the financing needs of the water sector. Rather, the implication is that this role will likely be limited to a small minority consisting of the largest and strongest utilities in the country. As such, there remains a strong imperative to seek financing solutions for the broader community of water providers. Over the long term—as the municipal bond market develops in Indonesia—financial intermediaries (such as "bond banks" or revolving funds) will likely emerge and bring down the cost of capital through economies of scale and credit enhancements. The central government can further support this development through the provision of grant financing to establish such financial intermediaries. Ultimately, a balance of grant financing

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and market capital will be necessary to meet the sizable financing needs that face the water sector.

ENVIRONMENTAL SERVICES PROGRAM

Ratu Plaza Building, 17th. Fl.

Jl. Jend. Sudirman No. 9

Jakarta 10270

Indonesia

Tel. +62-21-720-9594

Fax. +62-21-720-4546

www.esp.or.id