

## PPIAF Assistance in Indonesia

Since 2000 PPIAF has funded 19 activities in Indonesia worth \$4,659,845 million, two of which has been funded under the Sub-National Technical Assistance (SNTA) window.

### Technical Assistance for the Enabling Environment Reform in Indonesia

Upon being elected to office in 2004, President Susilo Bambang Yodhoyono made infrastructure development a pillar of his Five-Year Economic Development Strategy. Two summits were held in 2005 and 2006, where the government announced its commitment to attract private capital to infrastructure projects. At the 2005 summit the government expressed its unequivocal welcome to public-private partnerships (PPPs), and the President and his ministers promised to improve the environment for private investments and called for new PPPs for infrastructure development. In mid 2005 the government of Indonesia also took several steps by issuing a series of decrees to develop the basic framework for PPPs. These decrees: i) defined the organization and general guidelines for the National Committee for the Acceleration of Infrastructure Provision (KKPPI); ii) established basic principles under which PPP projects would be structured and introduced simplified procurement rules to promote competition, increase efficiency, and transparency in the selection process of investors; and iii) created a Risk Management Committee for the provision of infrastructure within the Ministry of Finance.

#### **Regulatory, institutional, and legal reforms**

In late 2005 the government of Indonesia sought PPIAF support to initiate implementation of its PPP program. Whilst the decrees had set-up a general framework for PPPs, in order to fully operationalize KKPPI, which was to take on the role of a policy-maker, coordinator, and procurement regulator for all PPP projects, the government realized that it would be necessary to define more specific functions for its different components and set up a PPP network. Against this backdrop, the government of Indonesia sought PPIAF funding to support BAPPENAS (the National Development Planning Agency) to launch a comprehensive long-term PPP framework that would: i) clarify and structure institutional arrangements between the KKPPI Secretariat and BAPPENAS (which chairs KKPPI) for housing PPP institutional capacities, interacting with stakeholders, and providing institutional support for the development of a KKPPI Secretariat; and ii) support and advice on specific PPP transactions under development, as well as develop a pipeline of bankable projects.

The activities carried out during the course of PPIAF's technical assistance included assistance to the BAPPENAS Evaluation Committee for selecting a consultancy firm for developing a PPP Central Unit and its network and proposed institutional arrangements for KKPPI. The resulting PPIAF-funded report on Indonesia's PPP framework detailed the activities executed during the course of the technical assistance; provided an analysis of regulations relating to PPP projects and procurement regulation, the decision-making processes by the cabinet, KKPPI organization, guidelines, and infrastructure sectors eligible for PPPs; outlined the organizational structure for KKPPI; drafted a decree to create the basic KKPPI organization; and discussed the implementation of the PPP Central Unit and the PPP framework.

The report's main recommendations were: i) KKPPI should take on the role of the policymaker, coordinator, and procurement regulator for PPPs; ii) the PPP network should be comprised of a PPP Central Unit located within KKPPI and PPP nodes should be created within the ministries or local governments engaged in PPP projects; iii) the main objective of the PPP unit should be to assist the line ministries and local/regional governments in the successful execution of PPP infrastructure projects; and iv) the PPP nodes created within the line ministries and local governments should be counterparts of the central PPP unit and their main function should be to effectively coordinate the sector/regional/local efforts to attract private investment in infrastructure through PPP projects.

In 2009 the government of Indonesia established a PPP Central Unit as part of the Directorate of PPP Development within BAPPENAS. The unit has a number of functions including: support to KKPPI for policy formulation and assessment of requests for contingent government support, preparation of the

government's PPP book that lists project opportunities for private investors, support to government contracting agencies for the preparation of projects, and developing capacity within government agencies for PPP implementation. KKPPI is responsible for policy coordination related to private provision of infrastructure and endorses requests for contingent government support (guarantees) as a basis for Ministry of Finance consideration and approval.

## **Financing mechanisms**

Indonesia's past experience with PPPs had left both private investors and the government with a sour flavor. Most PPPs prior to 1997 were directly negotiated rather than competitively procured, and had general but poorly specified government support. As many of these PPPs came under stress during the Asian financial crisis, the resulting calls on government support led to significant tension between the Indonesian government and private investors. Some private investors had to accept losses as a result of contract terminations or re-negotiations, while the government faced unexpected fiscal costs. The experience had created a divergence between the government and investors, with investors were seeking greater security in order to support future projects in Indonesia, while the government had become more cautious in providing guarantees. This more cautious attitude was reflected in government regulations passed in 2005 and 2006 for PPPs, which define when support may be provided for national PPPs.

In 2006 the government estimated that Indonesia needed to invest close to \$150 billion in infrastructure over the next five years to meet its growth objectives. The government viewed the private sector as playing a critical role in meeting this target and expected private investment to account for at least \$80 million of the required amount. The expectation was that competitively procured PPPs would increase efficiency of new infrastructure projects and reduce their cost. While this was in principle a sound approach, the financial market's perceptions of country and policy risk and the competing guarantee packages available in other countries meant that Indonesia would not be able to attract private capital for infrastructure development without a comprehensive range of credit and other partial guarantees. Toward that end, the government of Indonesia sought PPIAF assistance to develop an infrastructure risk management framework, which would provide a strategy for the government to support projects, including guarantees and subsidies, and for managing consequent liabilities and fiscal risks this support would create.

Several outputs were developed during the course of this activity: i) a report on guarantee funds as a tool to manage infrastructure risks; ii) a note on the rational and options for an infrastructure guarantee fund; iii) a project brief on the central Java coal power project; iv) a note on an electricity project in Central Java; v) a note on the Jakarta Outer Ring Road II request for government support; vi) a note on mobilizing Independent Power Producers (IPPs); vii) a note on government support IPPs; viii) an analysis of a monorail project; ix) draft instructions for a ministerial decree on ridership guarantees for a monorail PPP; and x) analysis of market trends for IPP guarantees. Capacity building training for the RMU was provided by a complimentary AusAID-funded activity.

The PPIAF-funded report for an infrastructure guarantee fund for Indonesia examined the practical options for the government to operationalize the support for PPP projects within the framework of the regulations, and create a support package which would attract substantial private capital at reasonable cost. The report also developed proposals for operationalizing the framework and recommended the establishment of a separate guarantee fund institution for delivering support to PPP projects. The report concluded with a proposed design of the fund, including its functions, products, capitalization, governance, management and operating policies. The key elements of the proposed design included: i) the fund should be governed by a board of high-level government officials as well as one or two independent members; ii) the board should be responsible for procuring a private management contractor through a competitive process; and iii) the fund should be capitalized by the government, with implementing agencies directly contributing part of the capital.

A workshop was held in Bogor on May 24–29, 2007 to discuss the recommendations of the report. Based on these discussions, the government developed three guarantee fund options and adopted one that is consistent with the recommendations made by the PPIAF report.

The government of Indonesia requested additional PPIAF assistance to implement the key recommendations of the guarantee fund report. The objective of this activity was to support the Risk Management Unit (RMU) to establish the Infrastructure Guarantee Fund to provide appropriate public support to infrastructure PPP projects in Indonesia.

Reports on the fund's design, governance, and operation were produced as part of the activity. A workshop was held on April 28, 2009 to discuss the findings of the report and was attended by RMU staff and other stakeholders.

The [design report](#) laid down the conditions within which the fund should operate and summarized the key strategic aims for the fund: i) provide the sole path for PPP guarantee provision; and ii) enhance the creditworthiness of projects. One of the main recommendations of the design report was to limit the guarantee fund to initially offering "first spade" cover in light of the limited Indonesian experience at that time in implementing PPP transactions. In this form, the fund would provide a guarantee up to the point physical construction commences, as the private party has sufficient confidence to start spending the funds raised for developing the infrastructure at that point. Additional recommendations of the design report included: i) the fund should have the primary responsibility for evaluating government risks in all PPP transactions; ii) the fund should apply a "first come, first served" approach in selecting the initial portfolio of projects; iii) coverage should only be offered to demand guarantees given by other government agencies if it can independently verify the commercial rationale for such guarantee; and iv) the fund should make arrangements with the government to incorporate guarantee as one of the business lines.

The governance and operations strategy report detailed the fund's governance arrangements and the key tasks to be performed by the fund. The operational objectives of the guarantee fund were summarized by the report to include: i) improving the management of government's contingent liability that could arise from infrastructure projects; ii) enhancing the creditworthiness of infrastructure PPP projects; and iii) educating the market and respective contracting agencies regarding PPPs and guarantees.

Recognizing the new and unique nature of the infrastructure guarantee fund, the proposed governance strategy was aimed to convince investors that fund would be managed with the highest possible level of corporate governance. The report detailed a high-level governance and management structure; proposed selection criteria and requirements for the Board of Commissioners, which performs the oversight function and Board of Directors, the main decision-making body; and underlined the need for a clear and effective working relationship between the two boards, to be supported by several special committees such as the audit and risk management committees. Furthermore, to ensure that the fund could carry out its business activities efficiently in the early years of establishment, the report proposed that an outsourcing strategy be applied for all functions in collaboration with a secondment strategy to fill the key contract management roles, in order to be ready for the transition stage.

In May 2010 the government announced the establishment of an independent infrastructure guarantee fund, PT Penjaminan Infrastuktur Indonesia (Persero), including appointment of a CEO.

### **Capacity Building**

In 2009 PPIAF provided a second phase of support to the RMU to fully operationalize the infrastructure guarantee fund. Several outputs were developed as part of this activity: i) draft regulations on implementation guidelines on guarantees for infrastructure PPPs; ii) draft regulations on infrastructure guarantees in cooperation projects between the government and private sector; iii) an operations manual for the guarantee fund; iv) TOR for a consultant firm to appraise PPP projects; and v) economic analysis of a sub-project, the Bandar Lampung Water Treatment and Distribution Project.

The guarantee framework, the fund's institutional functions, as well as the corporate governance strategy are reflected in the operations manual, which was adopted in April 2011. The fund, which is 100% government owned, will have paid up capital of about \$500 million by the end of 2012. The intention is

that the fund will provide a single window mechanism for the provision of guarantees for well-structured PPPs, thereby improving projects' creditworthiness, and ensuring appropriate governance, transparency and consistent environment, while ring-fencing the government's contingent liabilities and the risk of sudden and unexpected shocks to the government's budget. The fund's website lists several projects under study or preparation, in the port development, railway, geothermal, water supply, toll roads, and power sectors.

### **Results of PPIAF's Multi-Sector Activities in Indonesia**

Category	Outputs
<b>Enabling environment reform</b>	
<i>Analyses/assessments prepared</i>	<ul style="list-style-type: none"> <li>• Report on Public-Private Partnership Network Framework, 2005</li> <li>• Note on Estimated Timeline for Central Java Energy Project, 2006</li> <li>• Discussion Note on the Jakarta Outer Ring Road II, 2006</li> <li>• Note on Mobilizing Private Capital for IPPs, 2006</li> <li>• Note on Government Support to PLN IPPs: Legal Considerations, 2006</li> <li>• Public Sector Support Brief on Monorail Project, 2006</li> <li>• Drafting Instructions for the Ministerial Decree on the Ridership Guarantees for Jakarta Monorail, 2006</li> <li>• Guarantee Fund: A Tool for Managing Risks in Indonesia's Infrastructure PPPs, 2007</li> <li>• <a href="#">Note on Rational and Options for an Infrastructure Guarantee Fund in Indonesia</a>, 2007</li> <li>• Project Brief-Central Java Coal Power Project, 2007</li> <li>• <a href="#">Indonesia Infrastructure Guarantee Fund Design Report</a>, 2009</li> <li>• TOR for project appraisal and monitoring consultant, 2001</li> <li>• Financial and Risk Models-Monte Carlo Simulation, December 2011</li> </ul>
<i>Policy prepared or legal or regulatory changes recommended</i>	<ul style="list-style-type: none"> <li>• Draft Decree on Organizational Structure for the Secretariat of the Inter-Ministerial Coordination Committee on Policy for Accelerating Infrastructure Provision (KKPPI), 2005</li> <li>• MOF regulation No. 260 (2010): Implementation Guideline on Infrastructure Guarantee in Cooperation projects between the Government and Business Entities, 2010</li> <li>• Regulation No. 78 (2010): Infrastructure Guarantee in Cooperation Projects between the Government and Business Entities provided through the IGF, 2010</li> </ul>
<i>Plans/strategies prepared</i>	<ul style="list-style-type: none"> <li>• <a href="#">Indonesia Infrastructure Guarantee Fund Governance and Operation Report</a>, 2009</li> <li>• <a href="#">Infrastructure Guarantee Fund Design Report</a>, 2011</li> </ul>
<b>Project cycle-related assistance</b>	
<i>Transactions supported</i>	<ul style="list-style-type: none"> <li>• Technical advisors prepared the Lampung water supply PPP, which will be supported by the guarantee fund. A series of memos was produced by the firm on the technical aspects of project preparation, 2011</li> </ul>

<b>Capacity and awareness building</b>	
<i>Workshops/seminars</i>	<ul style="list-style-type: none"> <li>• Stakeholder Workshop to discuss recommendations of the Final Report, May 24-May 29, 2007, Bogor</li> <li>• Stakeholder workshop to discuss establishment of an infrastructure guarantee fund, April 28, 2009</li> </ul>

<b>Category</b>	<b>Outcomes</b>
<b>Enabling environment reform</b>	
<i>Institutions created or strengthened</i>	<ul style="list-style-type: none"> <li>• KKPPI strengthened, 2006</li> <li>• PPP Central Unit established within BAPPENAS, 2009</li> <li>• Indonesia Infrastructure Guarantee Fund, PT. Penjaminan Infrastruktur Indonesia (Persero) established, 2010</li> <li>• Infrastructure Guarantee Fund strengthened, 2011</li> </ul>
<i>Plans/strategies adopted</i>	<ul style="list-style-type: none"> <li>• Operations Manual adopted, 2011</li> </ul>
<b>Capacity and awareness building</b>	
<i>Consensus achieved</i>	<ul style="list-style-type: none"> <li>• Consensus achieved on the need for and structure of an infrastructure guarantee fund, 2007</li> </ul>
<i>Technical capacity enhanced</i>	<ul style="list-style-type: none"> <li>• Risk Management Unit, Ministry of Finance technical capacity enhanced, 2009–2011</li> </ul>

## **Technical Assistance for Indonesia's Water Supply Sector**

In 2001 water utilities in Indonesia were exploring options for private sector participation in the water supply sector. The City of Pekanbaru, Sumatra had granted a water supply concession by a competitively bid and transparent process. The city had a population of over 600,000, with an investment plan in the concession of \$90 million over 30 years. The Asian Development Bank had offered to co-finance the project provided certain conditions precedent were fulfilled, including the appointment of a regulator to oversee the implementation of the contract, in particular with respect to tariff issues and in case of conflict contract performance.

The government of Indonesia sought funding from PPIAF in 2001 to provide assistance to the Pekanbaru City government to develop a regulatory framework and draft legislation for establishing an independent regulatory body, including implementing rules and regulations. The main objective of the activity was to advise the municipality on the implementation of the concession and to develop a framework for the appointment of the regulator. The PPIAF-funded activities were carried out in two phases.

The phase one report reviewed the existing regulatory framework for the water sector and various options for appointment of the regulator, proposed specific modifications to the existing laws, and developed the outline for legislation to establish and commence operation of the regulator. The report proposed that a Ministerial Decree appoint the regulator, with the appointment of the chairman at the first instance and the other two members within six months. The advantage of such an appointment was that it would provide confidence in the independence and transparency of the regulator, as it would remove the appointment from regional influence.

The second phase of this activity supported the finalization the appointment of the regulator and assisting in meeting the requirements of the conditions precedent of the concession agreement. The phase two

report detailed the activities and steps undertaken for implementation of the concession agreement, including discussions on the financial model for tariff adjustments and appointment of the regulator.

The Pekanbaru water supply concession did not reach financial closure and the winning consortium withdrew from the concession.

In 2001 the government of Indonesia had also initiated the development of a benchmarking system for water utilities (PDAMs) to be implemented by PERPAMSI, the National Water Supply Association. Benchmarking is the process of comparing the performance of one unit with past performance or with peer units and is primarily a self-improvement tool for organizations. In 2002 PPIAF provided assistance for the establishment of the PDAM benchmarking system. The activity aimed to refocus the current system, assist it to present accurate information in a self-sustaining manner, and provide a sound basis for assessing the financial, technical, and organizational performance of PDAMs in Indonesia.

Several outputs were prepared during the course of the technical assistance including: i) upgraded indicator system; ii) final performance reports for all participating PDAMs; iii) a financial sustainability report; and vi) a final report evaluating the performance of the benchmarking system in 2002.

A national stakeholder workshop was held on December 19, 2002 and attended by 27 participants. The purpose of the workshop was to share and agree on a common understanding of benchmarking system for water utilities in Indonesia. The main presentations made at the workshop included: i) the background, history, and benefit of benchmarking system; ii) the objective of the benchmarking system; and iii) the strategic benchmarking framework, balance scorecard concept, and replication of the system. Discussions concluded there was a need for different key performance indicators by stakeholder groups and that the intent of the system was to improve performance, not rating the PDAMs. Consensus was achieved on the need to promote sustainability of the benchmarking system.

Training sessions were held on February 18–19, 2003 in Tangerang, and April 14–16, 2003, Semarang and were each attended by approximately 42 participants. Four other workshops were held in Jambi, Makassar, and Jakarta. The aim of the workshops was to disseminate information on the benchmarking system, rollout the upgraded system of indicators and gather three years of data. The training sessions were also used to introduce the system to the decentralized offices of PERPAMSI so they could continue to assist PDAMs benchmark in the future.

The PPIAF-funded final report briefly reviewed the technical and institutional background to the recommended system of indicators, the system design and development, data gathering activities, and the indicator results. The main themes of the report included the use of benchmarking system as a management tool for water utilities, particularly for planning and monitoring the water supply sector. However, since the report was about presenting results, the focus was on the results of the indicators and the comparison between PDAMs. The results in terms of indicator values were then presented. The presentation was made for a variety of peer groups and done in the spirit of benchmarking, which is to compare similar utilities in search for understanding how performance maybe improved.

A closing seminar was held in Jakarta on January 12, 2004 to disseminate the findings of the benchmarking system installed under PERPAMSI. The 39 participants included officials from the Ministry of Settlement and Regional Infrastructure, National Planning Agency, Ministry of Home Affairs, DKI Jakarta Regulatory Body, Coordinating Ministry of Economy, and Ministry of Finance. Consensus was achieved on the need for sustainability of the benchmarking system. Following on from the activity, 39 utilities submitted benchmarking data in 2007 and 33 participated in 2008.

In 2003 the provincial government of East Java and the local government of the cities of Greater Surabaya took a decision to create a dedicated public share corporation, the Umbulan Pipeline Corporation, to develop the Umbulan Springs. Subsequently the National Planning Agency, BAPPENAS, requested assistance from PPIAF to fund feasibility study for a PPP to tap, treat, and convey the waters from the Umbulan Spring to increase water supply to Surabaya, the capital of the Province of East Java, and its surrounding cities.

The PPIAF-funded study analyzed the economic, technical, institutional, and legal viability of the project and concluded that whilst the Umbulan project was the least-cost solution to meet the water supply needs of the region, the project would only be technically feasible provided that operational and distribution improvements precede and parallel the investments to increase water production. Recommendations of the study included: a PPP option where the government would finance the entire investment but with the private sector would design, build, and operate the scheme; the Umbulan Pipeline Corporation should define the speed and shape of preparation and implementation of the project; and further analyzing key risks, including supply, technical, operational, environmental, and legal risks. To advance these risk studies, the report recommended designating the provincial water company as the technical secretariat entrusted with the responsibility of advance project preparation, including contracting and supervision of consultants needed to implement the Umbulan project.

In May 2005 the feasibility study was updated to provide the following details: i) a brief analysis of previous attempts to develop Umbulan water supply project and the lessons learned from these attempts; ii) an analysis of the necessary decisions to anchor the project with the regional political structure; iii) an analysis of and recommendations on the sequence of investments and technical assistance needed; iv) identification of complimentary studies to address solid and liquid waste management in the metropolitan areas; v) a list of next steps and timetable to seek political decisions; and vi) an indication of missing areas of project preparation.

The feasibility study has been used actively by relevant agencies in developing a potential PPP. In May 2011 the IFC was appointed the transaction advisor to develop the project. The project was bid out and five consortiums were shortlisted in March 2012.

A fundamental objective of water sector reform in Indonesia is to improve access to safe, reliable, and affordable water, particularly for the urban poor. An important component of this objective has been how the government could capitalize on alternative forms of water supply, including independent small-scale water providers that often serve the poor. Small-scale providers work either with water produced by the local utility (PDAM), or water they have extracted themselves, distributed by handcarts, carts, trucks, or small networks. In 2004 the government of Indonesia request PPIAF assistance to build upon the benchmarking study conducted under a previous activity and develop a framework for small-scale water providers. The objective of this activity was to obtain: i) a better understanding of small-scale providers and their services in the urban context; and ii) an understanding of the potential interfaces with PDAMs and local government, with the aim of presenting policy recommendations to the government for an enabling framework for small providers.

The study of small-scale providers provided a general overview of the patterns of access to and use of water in urban areas, with a focus on drinking water. The study focused on identification of policy responses to enhance the potential of small-scale providers in improving access to the poor in the short- and medium-term.

The study found that less than one-third of urban households were connected to the network and the poor living in urban slums and squatter settlements suffered from a lack of direct access to piped water. The urban poor also had a lower quality of 'free' surface and ground water due to saline intrusion and high levels of biological and chemical pollution, often making the water unfit for human consumption. The providers surveyed also indicated that although many of these poor had access to PDAM water, it was not via private connection but rather indirectly through the mediation of hydrant terminals and cart operators. While recognizing that the ideal situation would be for the poor to be directly connected to piped water systems, the study found that the poor would most likely have to continue to rely on these small-scale providers.

Based on these findings, the study proposed a series of configurations to create and expand access to clean water for the poor. The main recommendations included: i) maintaining and expanding the existing system of household water distribution by public and/or private providers within a stratified system; ii) continuing indirect access through mediation of private providers, particularly the combination of hydrant

terminals with carters; iii) increasing the number of hydrant terminals in areas where poor have no or limited direct access to PDAM water and groundwater is not fit for human consumption; and iv) expanding access to PDAM service to the poor in areas where groundwater is not fit for human consumption. It concluded that a program involving a combination of hydrant terminals with carters would enhance the role of small-scale providers. The findings of the PPIAF-funded study contributed to the design of the second phase of a World Bank project, the Indonesia Water Supply and Sanitation Policy Formulation and Action Planning Project. This project was to assist the government of Indonesia's efforts to reform its water and sanitation policies, but it was cancelled.

Management of non-revenue water (NRW) losses is also central in the performance of water utilities. A study funded by PPIAF in 2006 that these losses can cost up to some \$14 billion per year worldwide. In order to reduce its NRW losses, expand service coverage, and increase its water supply capacity, PDAM Kota Pontianak had been exploring options to access private capital through non-government guaranteed financing. As a result, in 2006 the municipality of Pontianak requested PPIAF support to enhance its creditworthiness to access private finance for these projects. More specifically PPIAF funding was sought to enhance PDAM Pontianak's access to a market-based funding pool of institutional savings and investment by designing a financing plan and issuing a local currency credit rating for the utility. The activity was to be carried out into two phases. The first phase focused on assessing the past performance of PDAM Pontianak, identifying service improvement requirements, and the resultant investment needs and financing feasibility. A market-based financing needs assessment and a review of the financial instruments available to PDAM Pontianak, including a legal assessment of its ability to issue these instruments, were also completed under this phase. The second phase was intended assist the utility to undertake an actual credit rating process and support its interactions with the chosen credit rating agency.

The main findings of the PPIAF-financed report included: i) the existing water systems were bottlenecked and carry the risk of salinity; ii) the consumer profile of Pontianak is dominated by subsidized category of consumers; iii) the data systems and reporting practices were adequate, but decision support systems were weak; iv) service levels were comparable or higher than national averages; v) Pontianak has stable operating ratio, but thin profit margins; vi) the utility had managed cost escalation by non-tariff revenue improvement measures; and vii) key service improvements require significant capital investments by 2010.

The report concluded that while PDAM Pontianak had the capacity to access commercial financing to fund its priority projects, such an option could practically be exercised only if the outstanding dues of the PDAM towards a World Bank project were formally restructured by the Ministry of Finance. The report recommended that as immediate preparatory steps, the utility should begin a dialogue with the following: i) Mayor and the Supervisory Board of PDAM Pontianak for expediting tariff revision; ii) Ministry of Finance for securing clarity in terms of restructuring as well as credit enhancement; iii) Municipal Fund and the Non-Sovereign Product to explore support to credit enhance the bond issue; and iv) a credit rating agency to seek credit opinion for proposed borrowing.

Many local water utilities in Indonesia have long standing loan arrears with the Ministry of Finance that need to be restructured before they can proceed to access market-based financing. Pontianak was one of the six pilot PDAMs chosen by the national government for debt restructuring, but the Ministry of Finance has yet to resolve the debt issue.

In 2009 PDAM Surabaya, the water utility for the second largest city in Indonesia, was exploring options to improve the overall performance of the company, including reducing water losses. The utility was facing a major shortfall in water supplies, mainly associated with NRW losses. As a result, PDAM Surabaya requested PPIAF to fund a study that would investigate the situation and projections for the coming decade and assess the technical, financial, and institutional options available to the city in order to achieve the target of reducing losses to a level of 30% (or less) by introducing a water management strategy, using system monitoring facilities and management support tools. The water management strategy was to be utilized by PDAM Surabaya as a template for future investments and development. The objectives of the study were to propose an implementation strategy to deliver the proposed network

management, a holistic NRW management program, and prepare feasible NRW management options and recommendations to further reduce Surabaya's NRW losses.

The [PPIAF-funded report](#) formulated a network management and holistic NRW management program for the utility to undertake. Of the strategies that were formulated as part of the management program, the report recommended that the utility prioritize the implementation of production metering and inter-zone metering. Undertaking these steps would allow the PDAM to determine the NRW levels of the high level water supply system of the city, which would eventually lead to the calculation of over-all water balance of the entire supply system. The report estimated the cost of implementing the strategies to reduce NRW from the existing 36.32% level down to 30% within five years would be approximately \$50 million.

The report also identified four options for PDAM Surabaya to implement the strategies: i) in-house implementation funded by the utility; ii) out-sourced implementation funded by the utility; iii) out-sourced performance-based NRW reduction through a project funded by a government or lending institution based on savings made; and iv) out-sourced performance based NRW reduction funded through government/lending institution performance-based NRW reduction with a penalty bonus. The report further suggested that the fourth option would be most advantageous compared to the others because the risks of failure and success would be shared between PDAM Surabaya and the appointed NRW specialist contractor.

### **Results of PPIAF's Activities in Indonesia's Water Sector**

Category	Outputs
<b>Enabling environment reform</b>	
<i>Analyses/assessments prepared</i>	<ul style="list-style-type: none"> <li>• Final Report, Municipality of Pekanbaru, Water Supply Concession Phase 1, 2001</li> <li>• Municipality of Pekanbaru, Water Supply Concession Phase 2, 2002</li> <li>• Upgraded system of indicators, 2003</li> <li>• Final performance reports for all participating PDAMs, 2003</li> <li>• Financial sustainability report, 2003</li> <li>• Water Enterprise Performance Year 2002 Benchmarking System Results, 2003</li> <li>• Indonesia-Study of Small-Scale Water Providers, 2007</li> <li>• PDAM Pontianak: Design of a Capital Investment Strategy and Financing Plan, 2007</li> <li>• <a href="#">Non-Revenue Water Management Strategy for Surabaya Water Company</a>, 2011</li> </ul>
<i>Transaction support</i>	<ul style="list-style-type: none"> <li>• Greater Surabaya Water Supply—Umbulan Pipeline Project, 2003</li> <li>• Greater Surabaya Water Supply—Umbulan Pipeline Project Update, 2005</li> </ul>
<b>Capacity and awareness building</b>	
<i>Workshops/seminars</i>	<ul style="list-style-type: none"> <li>• National stakeholder workshop, December 19, 2002</li> <li>• Training workshops on benchmarking systems, February 18–19, 2003 in Tangerang; April 14–16, 2003, in Semarang; and additional workshops in Jambi, Makassar, and Jakarta, 2003</li> <li>• Closing workshop on establishment of benchmarking system, January 12, 2004</li> </ul>

Category	Outcomes
<b>Enabling environment reform</b>	
<i>Institutions created or strengthened</i>	<ul style="list-style-type: none"> <li>• PDAM Pontianak strengthened, 2007</li> <li>• PDAM Surabaya strengthened, 2011</li> </ul>
<b>Capacity and awareness building</b>	
<i>Technical capacity enhanced</i>	<ul style="list-style-type: none"> <li>• PERPAMSI technical capacity strengthened, 2003</li> <li>• 79 participating PDAMs technical capacity strengthened, 2003</li> </ul>
<i>Consensus achieved</i>	<ul style="list-style-type: none"> <li>• Consensus was achieved on the need to establish a sustainable benchmarking system, 2004</li> </ul>

### Technical Assistance for Indonesia's Transport Sector

Recognizing the vital role of basic infrastructure for economic development, the government of Indonesia accorded high priority transport infrastructure under its national development plan (Propenas 2000–2004). Cognizant of fiscal constraints, it became vital for the government to promote private participation in the roads sector. However to ensure such participation from the private sector, the legal, regulatory, and institutional framework needed to be conducive to private investors. Thus, in accordance with its wider policy to develop private participation in infrastructure, the government decided to address issues in the regulation and institutional framework. As a result, in 2002 the government sought assistance from PPIAF to fund a study to identify alternative institutional arrangements for toll road regulation, retain a preferred framework for toll road development and regulation, and address issues with the current organization state-owned government enterprise charged with developing toll roads, Jasa Marga.

The PPIAF-funded report recommended that the government refine the concession contract model to govern private sector participation in toll roads. Under this model, private operators would compete for a monopoly asset through the procurement process and their activities would be regulated by the terms set out in a long-term concession contract. In order to manage this process, it recommended that a new regulatory authority, the Indonesian Toll Roads Authority, be created. The report recommended that the new regulator's main functions include contract management; regulation within the concession contract, in regard to tariff adjustment and other requirements; technical advice and assistance for all levels of government on toll road matters; and dispute resolution and arbitration.

In addition to specific details regarding the creation and support of the roads authority, the report proposed specific improvements to the toll road planning process and regulatory framework and discussed possible legal reforms to support the recommendations. It also discussed the types of financing schemes that may be used to support private sector participation, and described several private and public financing arrangements. The report further specified mechanisms to build on the new decentralized powers of regional and local governments both to advance toll road projects identified by regional and local governments and to increase the efficiency with which regional governments implement all road projects. Finally, it presented recommendations on transition and interim arrangements to move from the present structures to those that encourage a greater role for the private sector.

A stakeholder workshop was held in Jakarta, Indonesia on September 9, 2003. Consensus was achieved on a set of agreement points presented in the report. The Minister of Settlements and Regional Infrastructure also presented the core recommendations at another seminar in Jakarta, which was well attended by central and provincial government officials.

Some of the main recommendations of the report, such as restructuring Jasa Marga and the creation of the toll regulatory agency, changes to tariff adjustment mechanisms, and revisions to the route acquisition

process, have been implemented by the government. Under Law No.38/2004 the government transferred the responsibility for regulating toll roads from Jasa Marga to the newly-created Toll Road Authority Board. The government has also undertaken initiatives to improve the PPP process such as the development of a PPP unit and a risk management framework. During the Infrastructure Summit held on November 2006, the PPP framework was highlighted and a pipeline of 10 model projects for potential private sector participation including several toll roads was presented.

In 2005 PPIAF approved a second activity in the roads sector. The government of Indonesia was considering implementing performance-based contracts for road maintenance. Insufficient funds for road maintenance had resulted in the deterioration of existing infrastructure. Performance-based contracts would involve the private sector take over the responsibility for maintaining roads over a period of time and ensuring that they meet specific performance standards. These contracts can improve the efficiency of maintenance expenditure and encourage the private contractor to reduce costs through innovation. Although this approach had been found to be effective overseas, it had not previously been tested in Indonesia. The objective of this activity was to establish the viability of performance-based maintenance contracts in Indonesia and provide the foundation for moving towards using the contracts to maintain large portions of the road network.

Several tasks were completed during the course of the activity, including confirming the capacity of the local industry to implement performance-based contracts, confirming the suitability of the proposed pilot trial site between Semarang and Pekalongan, and identifying local practices and issues relevant to the contracts. The PPIAF-funded report detailed the following issues: i) a timeframe for future expansion; ii) the policies to be developed or reviewed in terms of utility services, limited access regulations, and bond requirements; iii) the required legislative changes in relation to financial arrangements for multi-year maintenance contracts and control of overloaded vehicles; iv) contractual issues, with reference to benchmark data collection, proposed contract organizational structure, selection of the consultant, and tendering processes; v) key performance measures; and vii) industry training and knowledge transfer needs.

The report recommended collecting maintenance cost and quantity data, as well as improving maintenance practices and funding to enable the key performance measurements of the contracts to be expanded to contracts beyond the pilot project. It also recommended increasing the policing of overloaded vehicles, with an aim to reduce the incidence of overweight practices, and constructing roads for the actual loads experienced. Finally, the report recommended transferring the ownership of the Ministry of Communications' road assets (signs, signals, lights etc) to the Directorate General of Highways for maintenance and examining the options to outsource routine maintenance contracts on an "input" or "output" basis to provide the local private sector with more maintenance contracting experience.

Workshops were held in Jakarta on August 15 and August 29, 2005. The first introduced the activity and performance-based contract concepts, while the second presented the findings on capacity, inclusion of assets in the contracts and suitability of proposed pilot site. An informal workshop was held in Semarang on August 19, 2005 with a specific focus on the proposed pilot trial site on the North Java Corridor. 17 representatives from the local Directorate General of Highways, Ministry of Communications, and BAPPENAS attended the workshop. A final workshop was held on September 1, 2005 to discuss the findings of the report.

The pilot developed under the PPIAF activity was included as a component of the World Bank Strategic Roads Infrastructure Project in 2006. However, project implementation was delayed and the project was restructured in 2011. The performance-based management contract pilot was dropped from the project as a result of this restructuring.

### Results of PPIAF's Activities in Indonesia's Transport Sector

Category	Outputs
<b>Enabling environment reform</b>	
<i>Analyses/assessments prepared</i>	<ul style="list-style-type: none"> <li>• Institutional Arrangements in the Toll Roads Sector, 2003</li> <li>• Toll Road Arrangements in Indonesia: Applying International Experience to Attract Private Sector Participation, 2003</li> <li>• Introducing Performance Based Maintenance Contracts to Indonesia: Framework Document, 2006</li> </ul>
<b>Capacity and awareness building</b>	
<i>Workshops/seminars</i>	<ul style="list-style-type: none"> <li>• Stakeholder workshop with the National Committee for the Acceleration of Infrastructure held in Jakarta on September 9, 2003</li> <li>• Stakeholder workshops held on August 15 and August 29, 2005 in Jakarta and August 19 in Semarang to discuss the concept to performance-based maintenance contracts and the pilot project</li> <li>• Stakeholder workshop held on September 1, 2005 to discuss the findings of the report</li> </ul>

Category	Outcomes
<b>Enabling environment reform</b>	
<i>Institutions created or strengthened</i>	<ul style="list-style-type: none"> <li>• Jasa Marga strengthened, 2004</li> <li>• Toll Road Authority Board created, 2004</li> </ul>
<b>Capacity and awareness building</b>	
<i>Technical capacity enhanced</i>	<ul style="list-style-type: none"> <li>• Technical capacity of the National Committee for the Acceleration of Infrastructure Provision strengthened, 2003</li> <li>• Technical capacity of the Ministry of Public Works strengthened, 2006</li> </ul>
<i>Consensus achieved</i>	<ul style="list-style-type: none"> <li>• Consensus achieved on the need to securing the cooperation and involvement of local and provincial governments for toll road development. Consensus was also achieved on the changes needed to the legal and regulatory framework to create competition.</li> </ul>

### **Technical Assistance for Indonesia's Telecommunications Sector**

In 2006 the government of Indonesia identified the communications backbone network—an enabling infrastructure for multiple sectors—as one of its infrastructure development priorities for the medium term. The development of such a backbone network would address one of the principal bottlenecks by extending affordable access to communications infrastructure and services in the country of over 220 million people and 17,000 islands, particularly in the disadvantaged eastern regions. The development of a nationwide communications backbone would permit the rollout of voice communications, Internet, and broadcasting on a very large scale and have far-reaching economic and social impact in Indonesia. To accelerate the development of telecommunications infrastructure network, the government began

exploring PPP models to develop a national backbone known as the “Palapa Ring Fiber–Optical–Network.”

Toward that end, in 2007 the government of Indonesia sought assistance from PPIAF to fund a feasibility study to determine the implementations options for a national backbone network. The objective of the study was to provide a rigorous and credible technical and economic assessment to facilitate discussion between the government and potential investors on a potential PPP operation.

Several underlying studies and evaluation models were prepared during the course of the study including: i) a demand and feasibility study; ii) a technical design for the backbone; and iii) an analysis of the relevant legal and regulatory aspects.

The PPIAF-funded study outlined the general trends in the telecommunications industry driving the increasing need for a nation-wide broadband backbone and discussed alternative technical configurations for an Internet Protocol-based communications backbone network. The study also developed a realistic business case for the backbone network; assessed the technical, economic, and financial viability of the backbone network; identified financing options and institutional and governance structures for implementation, operation, and maintenance; conducted detailed market analysis; and recommended an implementation approach. A workshop to discuss the findings of the study was held in Jakarta on September 14, 2007 and was attended by 74 officials and stakeholders.

The study recommended the following options that could be implemented: i) obtaining capacity on the main existing Western Rings by introducing infrastructure competition and improving regulation to achieve efficient pricing; ii) extending the fiber optic backbone in Western Indonesia to the Kabupaten (village) level once the broadband access market takes off; iii) extending and linking fiber optic backbone to main cities in the Eastern Ring via a consortium of private operators. In addition to the recommendations for options for implementation, the study further proposed that regulatory and legal aspects should be carefully reviewed to ensure there is fair and non-discriminatory access to the capacity of the backbone.

A consortium of six telecom operators was formed in 2007 to undertake the Palapa Ring Project (Eastern Ring). However, several operators dropped out of the project, citing difficulties in raising funds required by the project. In 2009 PT Telkom, the state telecommunications operator, funded the construction of both inland and submarine cable from Mataram to Kupang as an initial phase of the project. In May 2012 PT Telkom advertised a tender for the construction of 5,600 km undersea optic fiber networks connecting Manado to Papua, the second phase of the Palapa Ring project.

### **Results of PPIAF’s Activities in Indonesia’s Telecommunications Sector**

<b>Category</b>	<b>Outputs</b>
<b>Project cycle-related assistance</b>	
<i>Transaction support</i>	<ul style="list-style-type: none"> <li>Indonesia Communications Backbone Network with Nationwide Coverage, 2008</li> </ul>
<b>Capacity and awareness building</b>	
<i>Workshops/seminars</i>	<ul style="list-style-type: none"> <li>Stakeholder workshop, Jakarta, September 14, 2007</li> </ul>

### **Technical Assistance for Indonesia’s Energy Sector**

In 2004, in the face of high international prices and a heavy reliance on highly subsidized fuel oils for power generation, the Ministry of Energy and Mineral Resources issued a “Blueprint for Geothermal Development in Indonesia”. The blueprint established progressive targets to increase geothermal power from the 2004 level of 807MW to 6000MW in 2020. To achieve this target, participation from both the

public and private sectors was required. However, many of the contracts signed with private investors during the 1990s had either been suspended or cancelled during the Asian financial crisis. The state-owned enterprises that had the rights to develop an additional 3200 MW were struggling to raise financing and attract private partners. Therefore, in 2006 the government requested PPIAF assistance to identify and address barriers that deterred private investments in geothermal power projects.

PPIAF provided funding to conduct a preliminary analysis of the investment climate in Indonesia to identify the barriers that prevented greater levels of geothermal energy development. The activity also introduced best-practice international experience and proposed recommendations to revitalize the sector with private participation. The report identified the lack of a pricing and incentive policy to be the largest hurdle to private investment, as the cost of production for many of the geothermal fields appeared to be higher than the competitive cost of generating power from coal.

The main recommendations of the report included the development of a comprehensive geothermal development plan, creation of tax incentives for geothermal projects, introduction of a variable tariff regime to address develop costs on a project-by-project basis, and the use of front-load tariffs to reflect the high upfront fuel costs of geothermal projects.

In 2007 PPIAF approved a follow-up activity for Indonesia's geothermal sector. The objective of this activity was to build on the recommendations of the first PPIAF-support report to identify the extent to which the cost of geothermal development creates a barrier to investment. Practical policies for closing the pricing gap and encouraging geothermal transactions were also developed under this activity.

The PPIAF-funded report concluded that geothermal power development in Indonesia was always more expensive than alternative sources and therefore clearly created a barrier to investment. This was compounded by the strong incentives faced by the state-owned national utility PLN to procure electricity through least cost mechanisms. The report also found that although the additional costs of geothermal generation varied significantly by project location, they were driven upwards by the existence of risk around the exploration of geothermal resources. The report acknowledged that the absence of policies to create incentives for development and existing issues with ownership of geothermal sites further hampered private investment. The main recommendations of the report included increasing role of the government in encouraging geothermal development by: i) directly accessing carbon financing through the Clean Development Mechanism; ii) providing price support to geothermal generation through a feed-in tariff mechanism; iii) working with the private insurance industry to create mechanisms for capping exploration cost risks for geothermal developers; and iv) resolving existing issues with ownership of geothermal fields.

PPIAF supported a third activity for the development of geothermal energy in 2008, which evaluated the resource risks associated with developing geothermal power in Indonesia. The study utilized the database of geothermal wells in Indonesia to analyze the risks associated with developing the resource. This data was compared with similar experiences in other geothermal energy-producing countries to assess whether there is excessive uncertainty to developers in Indonesia.

The results of the study indicated that a commonly held belief that there are excessive geothermal resource risks in Indonesia is not substantiated. Instead, the study concluded that geothermal risks in Indonesia are likely to be similar to those in other countries. Therefore, it recommended that Indonesia utilize its extensive database of resource assessments for a large number of geothermal prospects, update this information, and make it available to developers so that they can take advantage of this information when developing geothermal fields. The study acknowledged that there are other barriers that hamper geothermal development in Indonesia, including the fact that it costs more to develop than an alternative technology, such as coal-fired power generation. The report concluded that was also a priority for Indonesia to develop a comprehensive pricing and compensation policy in order to mobilize investments into the sector. It further suggested that there were a number of country risks that all investors regardless of the sector face in Indonesia, and efforts to address such investment climate issues would help attract investment.

The findings and recommendations of the report were presented during the World Geothermal Congress held in Bali, Indonesia in April 2010. The congress was attended by industry officials and sector experts including the Director of Geothermal Enterprise and Groundwater Management, Ministry of Energy and Mineral Resources officials, Chairman of the Indonesian Geothermal Association, representatives from geothermal developers, bi-lateral agencies, and civil society organizations. A stakeholder workshop was also held on May 4, 2010 to discuss and disseminate the findings of the report.

The government of Indonesia is making progress in developing its geothermal resources, which it mainstreamed by making geothermal a 40% share of its 10,000 MW accelerated power generation expansion program. The Ministry of Energy and Mineral Resources has issued a number of decrees on pricing and facilitated the signing of six Power Purchase Agreements at premium price, yet the approach remains piecemeal and additional work is required before a comprehensive policy can be implemented.

### **Results of PPIAF's Activities in Indonesia's Energy Sector**

Category	Outputs
<b>Enabling environment reform</b>	
<i>Analyses/assessments prepared</i>	<ul style="list-style-type: none"> <li>• Private Participation in Geothermal and Energy Development in Indonesia, 2007</li> <li>• Breaking the Deadlock in Geothermal Power Development in Indonesia, 2008</li> <li>• An Assessment of Geothermal Resource Risks In Indonesia, 2010</li> </ul>
<b>Capacity and awareness building</b>	
<i>Workshops/seminars</i>	<ul style="list-style-type: none"> <li>• Stakeholder workshop, May 4, 2010</li> </ul>

Category	Outcomes
<b>Enabling environment reform</b>	
<i>Institutions created or strengthened</i>	<ul style="list-style-type: none"> <li>• Ministry of Energy and Mineral Resources strengthened, 2010</li> </ul>

### **Technical Assistance through the Sub-National Technical Assistance (SNTA) Program**

Since 2009 PPIAF has supported two activities through the SNTA program in Indonesia, one of which is still ongoing. The Ministry of Finance and the Ministry of Planning (BAPPENAS) have recognized the need to alleviate the constraints on infrastructure investment by increasing investments in basis infrastructure by sub-national governments. This requires a range of actions, from utilization of intergovernmental financial flows, strengthening own-source revenues, improving the process of budgeting and multi-year investment planning, and the creation of fiscal management at the sub-national level.

In 2009 the Ministry of Finance and BAPPENAS requested PPIAF assistance to conduct financial and credit rating assessment for four municipalities, with a broader aim of developing a framework for sub-national borrowing. The objective of the activity was to conduct financial management assessments and credit ratings for four cities (Bandung, Surabaya, Makassar and Balikpapan); support a workshop on international experience regarding sub-national bonds and dissemination of the results and lessons from the FMA and credit rating exercise with the broader aim of developing a framework for sub-national borrowing.

Credit profiles were developed for the cities of Balikpapan and Makassar, while credit rating reports were conducted for Surabaya and Bandung. These reports provide an analysis of the major rating factors, the rationale behind the rating, an outlook, an analysis of the institutional framework, and the peer comparison for each of the four cities. Financial management assessments, which identified key strengths and constraints, as well as highlighted investment priorities, were also conducted for all four participating cities. A workshop to discuss the financial management assessments was held in Jakarta on November 21, 2011.

In 2012 the government of Indonesia requested additional support through the SNTA program. PPIAF is currently assisting the government to develop a framework for sub-national government borrowing and assist DKI Jakarta in obtaining an updated financial management assessment and credit rating. This activity is also assisting DKI Jakarta to set up and build the capacity of its newly established Debt Management Unit.

### **Results of PPIAF's Sub-National Technical Assistance Activities in Indonesia**

<b>Category</b>	<b>Outputs</b>
<b>Enabling environment reform</b>	
<i>Analyses/assessments prepared</i>	<ul style="list-style-type: none"> <li>• City of Balikpapan: Credit Profile, December 2011</li> <li>• City of Balikpapan: Extended Financial Management Assessment, December 2011</li> <li>• City of Makassar: Credit Profile, December 2011</li> <li>• City of Makassar: Extended Financial Management Assessment, December 2011</li> <li>• City of Surabaya Credit Rating Report, December 2011</li> <li>• City of Surabaya: Extended Financial Management Assessment, November 2011</li> <li>• City of Bandung Credit Rating Report, December 2011</li> <li>• City of Bandung Extended Financial Management Assessment, December 2011</li> </ul>
<b>Capacity and awareness building</b>	
<i>Workshops/seminars</i>	<ul style="list-style-type: none"> <li>• Financial management assessment workshop, Jakarta, November 21, 2011</li> </ul>
<b>Category</b>	<b>Outcomes</b>
<b>Enabling environment reform</b>	
<i>Institutions created or strengthened</i>	<ul style="list-style-type: none"> <li>• Surabaya, Bandung, Makassar, and Balikpapan were strengthened, 2011</li> </ul>