



Extended Annual Review Report

Project Number: 41913
Reference Number: LN2349/EI7262
September 2013

Loan West Jakarta Water Supply Development Project Indonesia

In accordance with ADB's public communication policy (PCP, 2005), this extended annual review report excludes information referred to in paragraph 126 of the PCP.

CURRENCY EQUIVALENTS

Currency unit – rupiah (Rp)

		At Appraisal	At Program Completion
		10 June 2007	31 December 2012
Rp1.00	–	\$0.00011	\$0.00010
\$1.00	–	Rp9,103	Rp9,645

ABBREVIATIONS

ADB	–	Asian Development Bank
EIRR	–	economic internal rate of return
JWSRB	–	Jakarta Water Supply Regulatory Body
km	–	kilometer
m ³	–	cubic meter
NRW	–	nonrevenue water
PALYJA	–	PAM Lyonnaise Jaya
PAM Jaya	–	Perusahaan Daerah Air Minum Jakarta Raya
PDAM	–	Perusahaan Daerah Air Minum (public water utility)
ROIC	–	return on invested capital
TA	–	technical assistance
TPJ	–	Thames Pam Jaya
WACC	–	weighted average cost of capital

NOTES

- (i) The fiscal year (FY) of the Government of Indonesia ends on 31 December. The fiscal year of PALYJA ends on 31 December. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2000 ends on 31 December 2000.
- (ii) In this report, "\$" refers to US dollars.

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BASIC DATA
West Jakarta Water Supply Development Project
(LN2349/EI7262 – Indonesia)

Key Dates	Expected	Actual
Concept Clearance Approval	03 April 2007	03 April 2007
Board Approval	31 August 2007	31 August 2007
Loan Agreement	18 March 2008	18 March 2008
Loan Effectiveness	18 March 2008	18 March 2008
First Disbursement		05 June 2008
Commercial Operations Date		
Loan Closing	18 March 2012	18 March 2012
Months (effectiveness to commercial operations date)		

Project Administration and Monitoring	No. of Missions	No. of Person-Days
Due Diligence and Loan Negotiation	9	32
Project Administration	4	17
XARR Mission	1	19

EXECUTIVE SUMMARY

On 31 August 2007, the Asian Development Bank (ADB) approved a direct local currency loan from ordinary capital resources to PAM Lyonnaise Jaya (PALYJA) of up to Rp455 billion for the West Jakarta Water Supply Development Project in Indonesia. PALYJA is jointly owned by Suez Environnement (51%) and Astratel Nusantara (49%). Suez Environnement is controlled by GDF Suez (France), which owns 35.4% of Suez Environnement's share capital and is a world leader in water, wastewater treatment, and waste management services. Astratel Nusantara is a wholly owned subsidiary of Astra International (Astra), an Indonesian conglomerate.

PALYJA entered into a 25-year concession agreement with Perusahaan Daerah Air Minum Jakarta Raya (PAM Jaya) in June 1997, under which PALYJA took responsibility for the production and distribution of clean water in West Jakarta. The agreement became effective on 1 February 1998. Under the agreement, PALYJA is responsible for the design, construction, refurbishment, and operation of the water supply system, technical and quality control, human resources and training, financing of new works, and billing and collection. The ADB loan funded a portion of PALYJA's capital expenditure program for the third 5-year period of the concession, 2008–2012. The program focused on improving service to existing customers and extending service delivery to new customers through (i) completion of the production facility upgrade program begun in 1998; (ii) reinforcement, rehabilitation, and extension of the existing distribution network; (iii) reduction of nonrevenue water; and (iv) rehabilitation of existing connections and implementation of new connections.

Using the criteria of the ADB Project Administration Instructions 6.07B for Extended Annual Review Reports for Nonsovereign Operations issued in July 2008, the West Jakarta Water Supply Development Project was evaluated for (i) development impact, (ii) ADB work quality, and (iii) ADB's additionality. The development impact was evaluated using four criteria: (i) private sector development; (ii) business success; (iii) economic development; and (iv) environmental, social, health, and safety performance.

The contribution to private sector development is rated *satisfactory*. As one of the two water concessions awarded by PAM Jaya to service Greater Jakarta's 10 million residents, PALYJA operations offered a high-profile opportunity for the Government of Indonesia to launch private sector participation and improve the regulatory framework of the water sector. ADB assistance proved critical through the exploratory process given PALYJA's constrained tariff environment, large proportion of lower-income customers, and poor raw water quality. The ADB loan enabled PALYJA to continue to implement a broad capital expenditure program..

Despite the cost-constrained environment and limited tariff increases, PALYJA has continuously strengthened its linkages to lower-income households in its concession area. During 2008–2012, customers from social welfare facilities and low-income households made up 25% of new PALYJA customers. About 79% of PALYJA customers, consuming 47% of the water sold, pay less than the cost of the service.

Notwithstanding constraints imposed by limited tariff increases, PALYJA has registered positive operating and financial performance since 2008. Furthermore, it met water production and billing targets under the 2008 Revised Cooperation Agreement despite the absence of new water sources since the start of its concession in 1998. The project is rated *excellent* for business success and *excellent* for economic success.

The project is rated *satisfactory* for environmental, social, health, and safety performance. PALYJA has maintained compliance with ADB's Environment Policy (2002). Associated capital expenditure supported an increase in the volume of water produced and sold,

improvement in the quality of water received by customers, and expansion of the number of customers with access to a clean water supply.

The project is rated *satisfactory* for ADB investment profitability. PALYJA has been making interest and principal payments on time for the debt facility, fully complying with financial covenants under its loan agreement with ADB.

Overall, the project is rated *successful*. It is a strong example of ADB private sector operations strategy support for corporate entities that promote sound business practices while reaching beyond their traditional customer base and improving the quality of life for lower-income households. The project has remained commercially and technically sound, benefiting from the first ADB local currency loan in Indonesia. It continues to demonstrate the potential for innovation and increased room for efficiency improvement in the water sector despite ongoing regulatory reform and associated constraints.

Actual performance varied from the assumptions in the report and recommendation of the President: (i) expected tariff increases were never ratified and the concession operated with a water charge capped at Rp7,248 per cubic meter from 2009 to 2012; and (ii) a new law forced permanent customer disconnections after just a 30-day delay in bill payment, removing access to the recovered revenue from concessionaires and further complicating their capacity to meet their service coverage targets. PALYJA has responded by aggressively expanding payment options and adding more than 70,000 new customers.

In future engagements with water concessionaires, ADB must (i) continue to actively support the capacity development of independent regulatory bodies to manage the public-private interface, and (ii) ensure the transparency of concession terms and enforceability of tariff structures to better retain the full support of all participants.

I. THE PROJECT

A. Project Background

1. **Early concession history.** Perusahaan Daerah Air Minum Jakarta Raya (PAM Jaya), a state-owned enterprise, was established in 1977 to manage water supply and sewerage services in Jakarta. Unfortunately, despite levying relatively high tariffs, PAM Jaya could not sustain an efficient management or investment program to meet the needs of residents given the immense needs of an aging water supply network dating from the early 20th century Dutch occupation. In 1997, PAM Jaya granted the right to operate the city's water supply system to two private operators under two separate 25-year concessions. Thames Pam Jaya (TPJ) was granted the concession for East Jakarta¹ and PAM Lyonnaise Jaya (PALYJA) the concession for West Jakarta, pursuant to the terms of their respective cooperation agreements. Following the Asian financial crisis in the late 1990s and associated political turmoil,² PAM Jaya was unable to implement the required increase in average water tariff as agreed in the cooperation agreements. In 2001, PAM Jaya signed a restated cooperation agreement with the concessionaires to reaffirm the legitimacy of concession rights and introduce an independent regulator, the Jakarta Water Supply Regulatory Body (JWSRB). JWSRB was created to supervise the concessions and review tariff increase requests for the governor of Jakarta.

2. The 2001 restated cooperation agreement negotiations gave rise to two clear conditions for sector development: (i) long-term local currency financing was necessary for the concessions to meet their investment obligations and mitigate foreign exchange risk, and (ii) government support and enforcement of water tariffs was essential to ensure the financial sustainability of the concessions and the economic sustainability of the water sector. After the tariff regime amendments in 2005 confirmed the necessary government support, PALYJA approached the Asian Development Bank (ADB) and expressed keen interest in obtaining a long-term local currency loan facility from ADB private sector operations to help meet its capital expenditure requirements for the next planning cycle (2008–2012).³ ADB capacity for broad-based involvement with JWSRB and commitment to sector wide progress made engagement with PALYJA a natural next step for ADB support for sustainable development in the water sector.

3. ADB assistance was provided to support PALYJA's investments to enhance and expand water supply infrastructure in West Jakarta in 2007. Appendix 1 provides project-related data.

B. Key Project Features

4. **First water investment and local currency loan in Indonesia.** The project, the first private sector water investment in Indonesia, successfully targeted two key components of ADB's water sector strategy: (i) improvement and expansion of water delivery services, and (ii) conservation of water and improvement of system efficiencies.⁴ Through the project, ADB expanded services to lower-income households and significantly reduced nonrevenue water (NRW) issues plaguing the aging Jakarta network. The long tenor of the ADB local currency

¹ In 2007, TPJ's majority owner, Thames Water Overseas, divested 95% of its ownership in TPJ to Acuatico (incorporated in Singapore) through a competitive bid process and TPJ changed its name to Aetra Air Jakarta.

² Following the overthrow of the Suharto regime in 1998, the Indonesian government under President Habibie temporarily reclaimed the concessions under public authority. Control of the West Jakarta concession was returned to PALYJA, but with renegotiated terms and conditions. The interim withholding of revenue initiated a buildup of PAM Jaya accounts payable and limited concessionaire ability to invest in infrastructure improvements.

³ ADB. 2007. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the West Jakarta Water Supply Development Project in the Republic of Indonesia*, Manila.

⁴ ADB. 2001. *Water for All: The Water Policy of the Asian Development Bank*. Manila.

loan, which was not available in the market at the time, promoted lower-cost pass-through to consumers, which in turn promoted greater accessibility and affordability of water for all.

5. **ADB-wide engagement.** The project is an excellent example of the complementary value offered by ADB's private and public sector operations. While the private sector investment supported PALYJA's efforts to achieve its annual technical and financial targets without regular water tariff increases, ADB as a whole brought value by (i) increasing the quality, quantity, and reliability of Jakarta's raw water supply through a \$920 million investment in the Integrated Citarum Water Resources Management Investment Program;⁵ and (ii) enhancing the efficiency of the independent regulatory body by twinning JWSRB with other regulators in Southeast Asia and outside the region to facilitate the exchange of knowledge and experience.⁶ Through its holistic engagement in Jakarta, ADB has remained a relevant stakeholder, influencing national dialogue on challenges and solutions for the evolving water sector.

6. **Automatic tariff adjustment.** After 2004, the Jakarta City Council agreed to an automatic water tariff adjustment every 6 months to account for fluctuations in exchange and interest rates, and a regular rate rebasing exercise at 5-year intervals to ensure greater stability of the tariff regime. The regular review was intended to establish the appropriate water charges for the following 5 years and trigger changes in the average tariff. According to the automatic water tariff adjustment, the average water tariff should have increased at a rate that accounted for (i) the projected increase in the water charge, (ii) changes in PAM Jaya and JWSRB's own allotted payment, and (iii) payment of accumulated water charge arrears.⁹ However, JWSRB had to endorse average tariff increases before approval by the Jakarta governor.

C. Progress Highlights

7. Tension between PALYJA, PAM Jaya and JWSRB repeatedly stalled tariff increase negotiations throughout the project life. Nonetheless, with ADB assistance, PALYJA was able to continue a broad capital expenditure program.

8. As with other water networks, early NRW reduction was achieved using traditional network rehabilitation, pipe decommissioning, leak detection and repair, pressure management, meter anomaly replacement, meter replacement due to meter aging, and connection rehabilitation. By 2012, PALYJA expanded its network by 1,040 kilometers (km) of piping and replaced more than 900 km of defective pipes. Moreover, PALYJA advanced from repairing 30,924 leaks in 2008 to 63,608 in 2012. PALYJA's focus on operating efficiency is further illustrated by major energy savings projects for Pejompongan I and II, which accounted for 68% of PALYJA's energy consumption in 2012. The investments anticipate a tangible reduction in energy cost and carbon dioxide emissions within 2 years. In addition, PALYJA has continuously managed initiatives to strengthen its linkage to lower-income households in its concession area. During 2008–2012, PALYJA experienced 25% growth in number of customers from social welfare facilities and low-income households.

9. **Regulatory developments.** While the automatic tariff adjustment mechanism and rebasing exercises were projected to be strong tariff risk-mitigating tools, they were only

⁵ ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranchise Financing Facility and Administration of Grant and Technical Assistance Grant for the Integrated Citarum Water Resources Management Investment Program in Indonesia*. Manila.

⁶ ADB. 2012. *Technical Assistance for Knowledge and Innovation Support for ADB's Water Financing Program*. Manila (TA 6498-REG).

⁹ The Jakarta City Council's early inability to implement tariff increases led to water charges rising above existing tariffs and an accumulated water charge arrears due to the concessionaires. In 2004, after tariff increases in 2001 and 2003, the average water tariff (charged to consumers) of Rp5,000 per cubic meter was finally higher than the water charge (paid to concessionaires) of Rp4,000 per cubic meter.

successfully implemented from 2004 to 2007. Political tensions and protracted negotiations between PALYJA, PAM Jaya and JWSRB have left the tariff at 2007 rates for most of the project life.¹¹ Additionally, in 2011 and 2012, PALYJA managed a mandatory reduction in connections due to newly enforced compliance with PERDA 11, a regulation issued in 1993. It mandated temporary disconnection to piped water services after a 5-day delay in the payment of water bills and permanent disconnection after 30 days of nonpayment.

II. EVALUATION

A. Project Rationale and Objectives

10. Target project outputs involved improving service delivery and expanding service coverage by decreasing NRW, increasing customer water usage, increasing the number of new connections, and expanding the network. Despite the political tension and difficult relationships with the water utility and regulator, PALYJA successfully advanced project objectives through network upgrades that cut NRW, increased annual sales and helped achieve nearly full contractual compliance with the new drinking water quality standards (PERMENKES 492/2010) throughout the network 1 year early.. West Jakarta benefitted from increased access to safe and clean water provided by a financially viable water utility.

B. Development Impact

1. Private Sector Development

11 Private sector development indicators and ratings are in Appendix 2. The contribution to private sector development is rated *satisfactory*. As one of the two water concessions awarded by PAM Jaya to service Greater Jakarta's 10 million residents, PALYJA operations offered a high-profile opportunity for the central government to launch private sector participation and improve the regulatory framework for the water sector. PALYJA's continued capacity to meet technical targets ensured healthy competition with the East Jakarta concessionaire, Aetra Air Jakarta, and helped establish a city-wide service standard that far surpasses the previous record of the public water utility.

2. Business Success

12. The project is rated *excellent* for business success. Total revenues continuously increased from 2008 to 2012 and PALYJA continuously registered positive operating and financial performance, maintaining an average 20% net profit margin since 2008. The capital expenditure program helped reduce NRW, while increasing customer usage. The company fully complied with its financial covenants under its loan agreement with ADB, with a significant margin above the minimum requirements.

3. Economic Sustainability

13. The project is rated *excellent* for economic development. It has contributed to the social and economic well-being and quality of life of the people in the area that it serves.

4. Environmental, Social, Health, and Safety Performance

14. The project is classified as environment category FI under ADB's Environment Policy (2002) and required PALYJA to adopt an environmental management system comprising policy, procedures, and capacity to comply with all relevant government environmental laws and

¹¹ Expected tariff increases after 2007 were never ratified and the concession operated with a water charge capped at Rp7,248 per cubic meter from 2009 to 2012. Current (2013) indexed water charge, as per the 2008 Revised Cooperation agreement should be 8,855 rupiah per cubic meter.

regulations and ADB policy requirements in its operations. It also included a review of PALYJA's existing facilities and a development of an action plan. PALYJA's environmental management plan is compliant with ADB's Environment Policy (2002), and with the Indonesian environmental impact assessment (AMDAL) regulations, which involve the preparation and submission of AMDAL studies to relevant authorities. It has also prepared environmental management and monitoring plans that outline mitigation, monitoring, and compliance strategies for its operations. PALYJA provides semiannual reports on progress with the plans to the Indonesian regulatory body and ADB.

15. PALYJA has sought to minimize the environmental impact of its operations and is engaged in discussions with relevant agencies to amend the wastewater quality standards applicable to water treatment plant discharge. It has acquired ISO 9001, OSHAS 18001, and 5S certifications; and its laboratories are ISO 17025 certified. Together these represent PALYJA's integrated management system. PALYJA's environmental, health, and safety policy serves as a guide for the company's commitment to prevent pollution, accidents and fatalities, occupational illness, and work-related diseases; as well as to comply with applicable regulations including GDF Suez requirements and Astra Green Company standards.

16. The project was classified as B/C for involuntary resettlement and C for indigenous peoples as per ADB's Involuntary Resettlement Policy (1995), Policy on Indigenous Peoples (1998), and the relevant Operations Manual F2 and F3 (2006). During project processing, PALYJA's operations were considered to possibly require limited land or right-of-way acquisition that would entail temporary involuntary resettlement impacts. A land acquisition and resettlement framework was prepared to ensure that any land acquisition and resettlement activities would comply with ADB policy. PALYJA operations during 2008–2012 did not involve any land or right-of-way acquisition, or physical or economic displacement during pipeline rehabilitation and expansion. Installation of new booster pumps occurred on existing facilities and the project only required existing right-of-way on public roads, confirming the final classification C for involuntary resettlement. The project did not have any impact on indigenous peoples as project activities were confined to urban areas.

17. Corporate social responsibility is managed through PALYJA Friendly Company, which organizes the following activities: tree planting, free medical treatments and checkups, and implementation of the Water for All program. The project's environmental, social, health, and safety performance is rated *satisfactory* (Appendix 3 and Appendix 4).

C. ADB Investment Profitability

18. PALYJA has complied with its financial covenants and the ADB loan is not exposed to major credit risks. The project is rated *satisfactory* for ADB investment profitability.

D. ADB Work Quality

19. PALYJA first approached ADB for assistance to fund the required capital investments in December 2006. After concept clearance on March 2007, ADB conducted due diligence, efficiently examining technical, legal, environmental, social, and financial aspects. In August 2007, the ADB Board of Directors approved the financing and the facility agreement was signed in March 2008. ADB's performance in relation to screening, appraisal, and structuring is rated *excellent*.

20. Despite the complexities associated with executing the first Indonesian local currency loan, the three disbursements on 5 June 2008, 12 March 2010, and 16 March 2012 were managed efficiently. ADB closely monitored project implementation through regular site visits, reports, financial statements, operation and capital expenditure reports, environmental and

social monitoring and reporting, and annual reviews comprising both field and desk reviews. PALYJA has complied with all reporting requirements in a timely manner, while ADB has been prompt in giving its consent to waivers and requests for amendments to existing agreements, subject to thorough review. ADB has kept itself updated on the project and PALYJA's performance in all material areas. ADB has used this knowledge proactively to improve the project development outcome through regular discussions with PAM Jaya and JWSRB, as well as through implementation of complementary technical assistance programs. ADB's performance in relation to monitoring and supervision is rated *excellent*.

E. ADB's Additionality

21. ADB's additionality is rated *excellent*. The ADB loan was important for supporting PALYJA's capital expenditure program to enhance and expand water supply infrastructure in West Jakarta. Meeting the impact targets required improvements in the overall regulatory environment for the country's water sector, as well as additional support to provide "last-mile connectivity" for low-income households that currently rely on relatively expensive water supplied by vendors.¹² ADB nonsovereign and sovereign operations¹³ have collaborated with the governor of Jakarta and the Ministry of Public Works to build JWSRB capacity and address critical bulk water supply issues facing the Greater Jakarta area (para. 5). ADB assistance was critical to the timely realization of the necessary capital expenditure and ADB provided a crucial channel of communication for PALYJA amidst the ongoing tariff negotiation with the regulators.

F. Overall Evaluation

22. Overall, the project is rated *successful*. It is a strong example of ADB private sector operations strategy to support corporate entities that promote sound business practices while reaching beyond their traditional customer base and improving the quality of life for lower-income households. The project also successfully models the first multitranche disbursement of an ADB local currency loan in Indonesia. Despite the challenging environment of ongoing regulatory reform in the Indonesian water sector, PALYJA has demonstrated the capacity of an experienced water operator to remain commercially and technically sound while rigorously pursuing innovation and improved operating efficiencies.

Table 2: Evaluation of the West Jakarta Water Supply Development Project

Indicator/Rating	Unsatisfactory	Partly Satisfactory	Satisfactory	Excellent
Development Impact				
Private sector development			X	
Business success				X
Economic sustainability				X
Environment, social, health, and safety performance			X	
ADB Investment Profitability			X	
ADB Work Quality				X
ADB's Additionality				X
	Unsuccessful	Partly successful	Successful	Highly Successful
Overall Rating			X	

ADB = Asian Development Bank.

¹² As of 2012, 1 m³ of water from a vendor was priced at Rp35,000–Rp72,000, compared with the projected average tariff of piped water of Rp7,600.

¹³ Southeast Asia Department, Urban Development and Water Division.

III. ISSUES, LESSONS, AND RECOMMENDED FOLLOW-UP ACTIONS

A. Project Issues

23. **Evolving regulatory environment.** Variations between actual performance and the assumptions in the report and recommendation of the President were largely precipitated by regulatory challenges. First, JWSRB did not provide its endorsement to the governor of Jakarta for the approval of water tariff increases in line with the automatic tariff adjustment mechanism. PALYJA operated with a water charge capped at Rp7,248 per m³ from 2009 to 2012, curtailing its capacity to fully implement the planned capital expenditure program.¹⁴ In June 2013, PAM Jaya did not approve a proposed share purchase agreement between Manila Water Company and Suez Environnement for the PALYJA shares.¹⁵ While the share purchase offered a fresh start to negotiations and the chance to build a more collaborative relationship between PAM Jaya and a new operator, the public authorities were reluctant to introduce new participants without resolving key outstanding issues under negotiation.¹⁶

B. Lessons, Recommendations and Follow-Up Actions

24. **Critical issues for future due diligence.** Despite the clear advantages of having a world-class and experienced sponsor like Suez Environnement, PALYJA's progress was regularly stymied by unproductive negotiations with JWRSB and PAM Jaya. The 2008–2012 capital expenditure program improved the service and availability of water in the concession area, but the project could have had a broader national impact if the concession had not been hampered by regulatory challenges and tensions between key stakeholders. In future engagements with water concessionaires, ADB must (i) continue to actively support the capacity development of independent regulatory bodies to manage the public–private interface, and (ii) ensure the transparency of concession terms and enforceability of tariff structures to better retain the full support of all participants.

25. **ADB-wide engagement improves development impact.** Throughout negotiations on policy and regulatory challenges, ADB has communicated the benefits of private sector participation in the water sector through multiple channels. ADB public and private sector operations, together with the Indonesia Resident Mission, have continuously engaged with the concessionaires, the Jakarta city government, JWRSB, PAM Jaya, and the Ministry of Public Works reinforcing project success through the improvement of bulk water supply and regulatory capacity. Given the political hurdles often encountered in the Indonesian water sector, specifically with public–private collaborations, future investments will likely also benefit from ADB engagement on multiple fronts.

¹⁴ Current (2013) indexed water charge, as per the 2008 Revised Cooperation Agreement should be Rp8,855 per m³.

¹⁵ Suez Environnement had been struggling with its relationship with JWSRB and PAM Jaya for some time. Given the lack of progress, Suez Environnement sought to exit the water sector in Indonesia, as it did a few years ago in the Philippines and Viet Nam. On 18 October 2012, Suez Environnement entered into a share purchase agreement with Manila Water Company where it agreed to transfer its 51% participation in PALYJA.

¹⁶ PAM Jaya and PALYJA executed a memorandum of understanding in January 2013, which pertains to the rebalancing and rebasing exercises for 2013–2022. Based on the memorandum, the rebalancing should have been concluded by February 2013. However, several issues remain outstanding, including the tariff adjustments and the contractual rate of return.

PROJECT-RELATED DATA

A. Investment Identification

- | | | |
|----|-----------------|---|
| 1. | Country | Republic of Indonesia |
| 2. | Industry/Sector | Water supply |
| 3. | Project Title | West Jakarta Water Supply Development Project |
| 4. | Borrower | Pam Lyonnaise Jaya |

B. Investment Data

- | | | |
|----|---------------------------------|---|
| 1. | Concept clearance approval | 3 April 2007 |
| 2. | Date of ADB Board approval | 21 August 2007 |
| 3. | Signing date of legal documents | 18 March 2008 |
| 4. | End of availability period | 18 March 2012 |
| 5. | Number of extensions | None |
| 6. | Disbursements | First disbursement: 5 June 2008
Last disbursement: 16 March 2012 |

C. Data on ADB Missions

Project Administration and Monitoring	No. of Missions	No. of Person-Days
Due diligence and loan negotiation	9	32
Project administration	4	17
XARR	1	19

^a SBI = certificate of Bank Indonesia (Sertifikat Bank Indonesia).

PRIVATE SECTOR DEVELOPMENT INDICATORS AND RATINGS: INFRASTRUCTURE

Impact of the Project	Ratings				Justification/ Annotations
	Impact to Date	Potential Impact (Sustainability) and Risk to its Realization		Combined Rate ^a	
1. Beyond Company Impact	Rating ^b	Rating	Risk ^c		
1.1. Private sector expansion. Contributes as a pioneering or high-profile project to facilitating or preparing for more private participation in the sector and economy at large	Satisfactory	Satisfactory	Modest	Satisfactory	As one of the two water concessions awarded by PAM Jaya to service Greater Jakarta's 10 million residents, PALYJA operations offered a high-profile opportunity for the Government of Indonesia to initiate private sector participation and improve the regulatory framework of the Indonesian water sector.
1.2. Competition. Contributes new competition pressure on public and/or other sector participants to increase efficiency and improve access and service in the industry	Satisfactory	Satisfactory	Low	Satisfactory	Entry barriers to the water sector in Jakarta are high due to the limited source of water supply and high capital expenditure requirements. Nonetheless, PALYJA's continued capacity to meet technical targets ensured healthy competition with the East Jakarta concessionaire, Aetra Air Jakarta, and helped establish a citywide service standard that far surpasses the previous record of the public utility.
1.3. Innovation. Demonstrates efficient new products and services, including areas such as marketing, distribution, tariffs, production, and technology; and ways to cover or contain cost, and manage demand	Excellent	Excellent	Low	Excellent	The greater the NRW reduction, the greater the concession's need for technological and network management innovation to achieve further reduction goals. PALYJA's application of helium technology across 5,720 km of pipeline to locate visible and invisible leaks throughout the network saved 0.152 m ³ /second of water, a savings comparable to the production capacity of the Taman Kota water treatment plant. Altogether, PALYJA advanced from repairing 30,924 leaks in 2008 to 63,608 leaks in 2012. The concessionaire will continue to advance its NRW program in 2013 by adopting JD7 technology, which uses cameras and noise recording to identify leaks and illegal connections in primary pipes.
1.4. Linkages. Relative to investments, contributes notable upstream or downstream linkage effects to business clients, consumers, suppliers, key industries, and others in support of growth	Excellent	Excellent	Low	Excellent	Despite the tariff freeze, PALYJA has continuously undertaken several initiatives to widen its customer base and improve the quality of water to consumers. More than 25% of its new connections were from the K1 and K2 lower-income or public service customers. Sustainable

					servicing of the low-income customer is made possible through the three-part Water for All program implemented in 2008 to improve access to treated water in low-income areas through alternative funding and collaboration for network expansion.
1.5. Catalytic element. Contributes by including pioneering and/or catalytic finance, and mobilizing or inducing more local or foreign market financing and/or foreign direct investment in the sector	Excellent	Excellent	Low	Excellent	The project is ADB's first local currency denominated loan and first private sector water investment in Indonesia.
1.6. Affected laws, frameworks, regulation. Contributes to improved laws and sector regulation for public-private partnerships, concessions, joint ventures, and build-operate-transfer projects; and to liberalizing markets as applicable for improved sector efficiency	Satisfactory	Satisfactory	Modest	Satisfactory	ADB, through its public and private sector operations, has continuously been able to observe and raise issues with the government on key policy and regulatory challenges. ADB's relationship with the Jakarta concessionaires provides ADB with a unique opportunity to maintain its support for private sector participation in the market.
2. Company Impact with Wider Potential					
2.1. Skills contribution. Contributes to new strategic, managerial, and operating skills with actual or potential wider replication in the sector and industry	Satisfactory	Satisfactory	Low	Satisfactory	Under the Suez Environnement technical assistance arrangement, Suez Environnement shares (i) managerial expertise; (ii) expertise in network diagnosis, hydraulic modeling, network management, and NRW reduction; (iii) access to Suez global knowledge and information network; (iv) emergency technical support; (v) employee training and development services; and (vi) license for PALYJA to use Suez Environnement's technology in its operations. Specifically, PALYJA offers internal and external training to its staff to improve their technical competency. This training is aimed at functional skills, technical skills, soft skills like effective business communication, leadership, safety, and other organizational needs. In 2012, 1,252 staff attended such training.
2.2. Demonstration of new standards. Demonstrates new ways to operate the business and compete, and measure investee performance against relevant best industry benchmarks and standards	Excellent	Excellent	Low	Excellent	Despite the initial resistance of a number of nongovernment organizations in the privatization of water services in Jakarta, PALYJA was successful in achieving greater public acceptance by significantly improving the water services in its area of concession. Its technical performance is

					at par with the performance of the East concession, Aetra Air Jakarta.
2.3. Improved governance. As evident in set standards in corporate governance; stakeholder relations; environmental, social, health, and safety fields; and/or in good energy conservation standards	Satisfactory	Satisfactory	Low	Satisfactory	PALYJA strives for excellence and takes pride in the certifications it has achieved such as (i) ISO 17025: 2000 Certification on Laboratory Management System Application for its Central Laboratory and supporting processes; (ii) ISO 9001: 2008 Certification on Quality Management System Application for its various water treatment plants; (iii) OHSAS Certificate for Occupational Health and Safety; and (iv) ISO 9001-2008 Certificate on Complaint Handling at Customer Care. PALYJA has also established PALYJA Friendly Company to coordinate its corporate social responsibility activities, which focus on water-for-all, health and education, environment, and humanitarian efforts.
3. Overall Private Sector Development Rating. Unsatisfactory, partly satisfactory, satisfactory, and excellent. The rating is not an arithmetic mean of the individual indicator ratings, and does not have fixed weights. Actual positive or negative impacts, future impacts, and risks to its realization need to be considered.	Satisfactory	Satisfactory	Low	Satisfactory	Despite the challenging regulatory environment, PALYJA successfully achieved all project objectives by improving service delivery to existing customers through network upgrades that resulted in reducing NRW, increasing annual volume sold and helping achieve nearly full contractual compliance with the new drinking water quality standards (PERMENKES 492/2010) throughout the network 1 year early. Furthermore, PALYJA successfully extended service delivery to over 70,000 new customers, many of which were low-income households, through a 223 km network expansion. The residents of Western Jakarta now have increased access to safe and clean water, provided by a financially viable water utility.

ADB = Asian Development Bank, km = kilometer, m³ = cubic meter, NRW = non-revenue water, PALYJA = PAM Lyonnaise Jaya.

^a The combined rating should weigh future impact and risk to its sustainable realization.

^b Unsatisfactory, partly satisfactory, satisfactory, and excellent. The rating is not an arithmetic mean of the individual indicator ratings, and these have no fixed weights. Consider already manifest actual impact (positive or negative) and the potential for impact as well as risk to its realization.

^c Rating scale: Risk: high, medium, modest, and low.

Source: Asian Development Bank and PAM Lyonnaise Jaya.

ENVIRONMENTAL IMPACT

A. Overview

1. The project is classified as Asian Development Bank (ADB) environment category FI under ADB's Environment Policy (2002). This requires Pam Lyonnaise Jaya (PALYJA) to adopt an environmental management system comprising policy, procedures, and capacity to comply with all relevant government environmental laws and regulations and ADB policy requirements in its operations. It also includes a review of PALYJA's existing facilities and development of an action plan. PALYJA has complied with Indonesian environmental impact assessment (AMDAL) regulations, which include the preparation and submission of AMDAL studies to relevant authorities. It has prepared environmental management and monitoring plans that outline the mitigation, monitoring, and compliance strategies for its operations. PALYJA reports progress with these plans to the Indonesian environmental regulatory agency (BPLHD DKI Jakarta) and to ADB semiannually.

B. Review Findings

2. **Environmental management system.** PALYJA's corporate environment charter sets out four areas (commitment, understanding, know-how, and sharing), which cover the essential elements of an environmental management system: policy statement, work processes and procedures, organization, budgeting, monitoring, and reporting. The environmental management system is consistent with requirements under the national law.

3. PALYJA has acquired certifications for ISO 9001 and OSHAS 18001, and 5S certification. Its laboratories are ISO 17025-certified. These are integrated to serve as PALYJA's integrated management system. PALYJA has kept in close contact with other companies of its parent companies to improve its know-how and the innovation of its operations including environmental management. It has applied GDF Suez requirements and the Astra Green Company philosophy and standards in its operations comprising four pillars: green strategy, green process, green product, and green employees.

4. **Environmental management and monitoring.** Following the preparation and development of AMDAL, environmental management and monitoring plans documents, PALYJA continues to implement cleaner production, environmental management, and monitoring activities. The items in the action plan that PALYJA has implemented to minimize the impact of its operations include (i) dredging Krukut River for sediments, (ii) recycling water from filter backwash resulting in decreased volume of wastewater discharged, (iii) implementing aluminum chlorohydrate coagulant use upstream of the clarifiers, (iv) piloting wastewater sludge treatment, and (v) joining a river water conservation program. It has implemented a riverbank filtration project to improve the quality of contaminated water and enhance production capacity during the dry season; and implemented an innovative biofiltration treatment plant in its facilities designed to deal with polluted water (high ammonium and organic matter content) and increased removal efficiency (>95% of ammonium and manganese content). It has supported the conservation of the upland of Krukut River, and implemented utilization of rainwater as additional raw water for its water treatment process.

5. PALYJA constantly monitors the quality of discharge water from its water treatment plants, and the quality of Krukut River and West Tarum Canal raw water to find ways to minimize potential negative impacts arising from operations. It conducted the Toxicity Characteristic Leaching Procedure, median lethal dose (LD₅₀) (96-hour toxicity on mice *Mus musculus*), and median lethal concentration (LC₅₀) (96-hour test on Nila fish *Oreochromis niloticus* L.). The study results classified the samples from the outlet of the wastewater

treatment plants as nonhazardous and nontoxic. Aside from testing water quality parameters, monitoring activities include testing for noise from operations, stack emissions from generator sets, vehicle emissions, and ambient air quality at the water treatment plants. Resource conservation programs include reduction of electricity, water, paper, and fuel consumption.

6. **Health and safety performance.** Health and safety is incorporated in PALYJA's overall integrated management system. Management is committed to providing health and safety training to both management and operations employees, as well as to its contractors. A comprehensive employee safety handbook is issued to all employees and contractors. Periodic workplace quality measurements for noise, vibration, lighting, and air quality are conducted. The company has established an environment, health, and safety division responsible for environmental, health, and safety matters. Management conducts weekly inspections in its various plant sites to monitor health and safety issues. Hazardous materials (e.g., chlorine, caustic soda) are stored in secured and restricted areas. Regular fire drills and training in first aid are held at the corporate office and at the plant sites. Visitors are given a safety briefing during plant tours.

7. PALYJA's emergency preparedness and response document provides guidance for reducing, preventing, mitigating, and handling emergency situations in PALYJA's operations. In terms of health and safety, the number of accidents per total of hours worked by all employees (frequency rate) and the number of days away from work due to work place injury or illness per total number of hours worked by all employees (severity rate) has continuously improved over the years.

8. **Compliance with national and ADB requirements.** PALYJA has set up an environmental management system, including environmental assessment and review procedures satisfactory to ADB. It also has an environmental management plan compliant with ADB's Environment Policy (2002). PALYJA has complied with Indonesian environmental impact assessment (AMDAL) regulations and prepared environmental management and monitoring plans. It has ensured compliance with Indonesian environmental laws and regulations, and provided monitoring reports to national regulatory agencies and to ADB. It has acquired relevant permits for temporary storage of hazardous waste from their laboratories; and established arrangements for collection, treatment, and disposal services from an authorized agency.

9. PALYJA fully complies with Indonesian regulations for clean water standards (Decree No. 426/MENKES/PER/IX/90) and drinking water standards for microbiological parameters for the production of water (Decree No. 416/MENKES/PER/IX/90). Although discussions continue on PALYJA's ability to comply with the Regional Environmental Management Agency DKI Jakarta (BPLHD Daerah Khusus Ibukota Jakarta) environment policy for sludge discharge, the company has complied with the new regulations on drinking water standards (Decree No. 492/MENKES/PER/IV/2010).

C. Conclusions and Recommendation

10. Review and evaluation of the available documents, the conduct of the site visit, and interview with corporate and plant personnel demonstrate that PALYJA's current operations have fully taken into consideration the environmental, health, and safety aspects as required by national and ADB requirements. PALYJA has adequate procedures and staff in place, with commitment to enhance and continually improve the effectiveness of its environmental management, monitoring, and reporting systems. For sludge disposal concerns, PALYJA has continued discussions with regulatory entities to establish norms for acceptable sludge discharge and to further explore cleaner production as well as cost-effective treatment and disposal strategies to arrive at a comprehensive solution for the sludge disposal challenge.

SOCIAL IMPACT

A. Project Overview

1. Under the 25-year concession agreement with Perusahaan Daerah Air Minum Jakarta Raya (PAM Jaya), Pam Lyonnaise Jaya (PALYJA) is responsible for the design, construction, refurbishment, and operation of the water supply system; technical and quality control; human resources and training; financing of new works; and billing and collection. PALYJA operates (i) four water treatment plants: Pejompongan I and II, Cilandak South, and Taman Kota North; and (ii) more than 5,000 kilometers (km) of primary, secondary, and tertiary water supply networks.

2. Asian Development Bank (ADB) financial assistance funded a portion of PALYJA's capital expenditure program for the third 5-year period of the concession during 2008–2012. The program focused on improving service to existing customers and extending service delivery to new customers by (i) completing the production facility upgrade program that started in 1998; (ii) reinforcing, rehabilitating, and extending the existing distribution network; (iii) reducing unaccounted for water; and (iv) rehabilitating existing connections and expanding new connections.

3. The project was classified B for involuntary resettlement and C for indigenous peoples as per ADB's Involuntary Resettlement Policy (1995), Policy on Indigenous Peoples (1998), and Operations Manual F2 and F3 (2006). At the time of project processing, PALYJA's operations were considered to possibly require limited land or right-of-way acquisition, which could entail temporary involuntary resettlement impacts. A land acquisition and resettlement framework was prepared to ensure that any land acquisition and resettlement activities undertaken are in accordance with ADB policy. Aside from the increased service coverage area, one of the positive social impacts of the project is the employment generation during its operation. Following technical completion, a review of the project's actual social impacts was undertaken.

B. Review Findings

4. **Involuntary resettlement impact.** PALYJA is presently operating four water treatment plants, all located on PAM Jaya property. Prior to ADB funding, at least 820 kilometers (km) of pipeline including booster pumps had been installed in the existing right-of-way of public roads. No issues are pending in terms of land allocation and right-of-way acquisition for these structures.

5. From 2008 to 2013, PALYJA undertook the following activities: (i) upgrading existing pipelines and extending the pipeline by 224 km; and (ii) installing booster pumps. PALYJA confirms that these activities did not require any land or right-of-way acquisition as they involved upgrading existing pipelines; pipeline expansion was usually undertaken within the existing road right-of-way and did not affect any privately owned assets. Work areas were temporary with minimal disturbance to individuals and local communities during pipe laying and installation of booster pumps. Typical cases include (i) temporary transfer of kiosks during pipe laying along the road passing through the local market, (ii) traffic jam caused by temporary blockage of portions of road where pipe laying is ongoing, (iii) damage to trees and household fences, (iv) temporary use of private parking lot during pipe laying, (v) pipeline traversing portions of toll road, (vi) temporary damage to portions of the road where pipelines were installed, and (vii) dust.

6. Two weeks prior to any construction activity, PALYJA staff and representatives of the contractor conduct a socialization activity informing the community of the scheduled activities and temporary disturbance that may be experienced. During this socialization, potentially

affected individuals or households and the contractor agree on terms in case construction leads to property damage. The contractor and parking lot owner entered into a temporary agreement allowing the contractor to undertake the required activities subject to issuance of Rp20 million as guarantee for possible repair and damage to the property. In the case of kiosk owners, the contractor gave goodwill money for the temporary disturbance, although they did not request it. For the pipeline traversing portions of a toll road, an agreement for land utilization was entered into by PALYJA and Jasa Marga (Persero) TBK with an agreed utilization fee. For trees, the necessary permit to cut was secured plus replacement. For the other 10 booster pumps, PALYJA secured the corresponding permits and agreements in relation to the use of vacant government land used as a park.

7. PALYJA is planning to construct a new water treatment plant requiring 2,000 square meters of vacant government land located within PAM JAYA premises. If available land is insufficient, PALYJA will ask PAM Jaya for additional land in the vicinity. The construction of this facility is currently under bidding. A waste disposal facility is also part of PALYJA's future activities but the site has not yet been identified.

8. **Indigenous peoples.** The project involves rehabilitation, improvement, and upgrading of the water supply network in West Jakarta. No indigenous peoples live within the project area.

C. Other Social Dimensions

9. **Employment opportunities.** PALYJA has 1,378 staff. Contracted services are for security, call centers, and meter reading. Eighty percent of the workforce is involved in project operation. PALYJA complies with national labor laws and International Labour Organization core labor standards. Seconded employees are members of PAM JAYA Labor Union; the minimum working age is 18 years; and contractors are required to comply with the company's regulations, which should be compliant with national laws. PALYJA's employment management cooperation provides a venue for representatives of management and employees to discuss employee issues and needs, such as benefits, salaries, and working conditions. Selection of staff to be trained is based on individual needs and on training needs assessments.

10. **Complaint handling system.** Customer complaints are coursed through PALYJA's customer care service. Customers can call the hotline, write a letter, send a message by SMS or yahoo messenger, or visit one of the 14 customer relations offices for queries or complaints. Complaints related to pipeline expansion and/or rehabilitation include postconstruction issues, such as a missing utility hole cover, leveling of pipeline area, or repair of portions of road damaged during pipeline rehabilitation and expansion. Appropriate actions were immediately undertaken at an average turn-around time of 1 day to 1 week depending on the case.

11. **Performance monitoring.** PALYJA submitted bi-annual reports focusing on environmental compliance. No social safeguard reporting was done to confirm that activities did not require any land acquisition and that agreements were made with individuals or households that were temporarily affected by project activities. No report was completed on the nature of complaints filed or reported by customers and affected individuals in relation to project activities or corrective actions taken.

12. **Corporate social responsibility activities.** The following corporate social responsibility activities were undertaken through the PALYJA Friendly Company: (i) tree planting activities starting in 2008 with every employee planting a tree (about 1,400 trees per year), (ii) free regular medical checkup and treatment, and (iii) implementation of the Water for All program for unserved communities. Under the Water for All scheme, communities can buy water from PALYJA at a lower tariff (Rp400 per cubic meter compared with more than Rp2,000 per cubic

meter from another source). The community handles management, distribution, and payment collection.

D. Conclusion and Next Steps

13. **Compliance with social safeguard requirements.** PALYJA's activities, including the expansion and rehabilitation of water pipelines and installation of booster pumps, did not entail any land acquisition. Disturbances caused by such activities were only temporary and minimal. PALYJA secured all the necessary permits and agreements from the respective government offices. All agreed actions with the households and the community, like road and fence repair, were undertaken.

14. PALYJA expressed its commitment to continuously apply its screening procedure in future activities to ensure that potential affected people are identified, including for land acquisition impacts and mitigation measures. PALYJA is aware that if land acquisition will lead to involuntary resettlement, a land acquisition and resettlement plan must be prepared in accordance with the agreed land acquisition and resettlement framework.

15. **Performance monitoring.** PALYJA agreed to provide in its forthcoming reports information on screening for involuntary resettlement impacts and updates on matters related to land or right-of-way impacts and other social requirements, especially in undertaking future activities.

16. **Labor and social protection.** Discussions are under way of other operators potentially taking over PALYJA's operations. While maintaining the existing PALYJA employees and seconded PAM Jaya staff is logical, restructuring or retrenchment of workers is still uncertain. PALYJA will review major agreements to ensure that employee welfare is protected. The same agreement is expected to be reviewed by PAM Jaya as the welfare of its regular employees (seconded staff) is also at stake.