EVALUATION BRIEF

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DECEMBER
2017

Indonesia Environmental Services Program Ex-Post Evaluation

PURPOSE & OVERVIEW

USAID is supporting a series of independent ex-post evaluations of USAID water, sanitation, and hygiene (WASH) activities to inform future USAID programming. This brief summarizes the second evaluation in the series, which examines the sustainability of water utility capacity building, microcredit, and financial outcomes associated with the Indonesia Environmental Services Program (ESP) activity implemented by Development Alternatives Inc. (DAI) from December 2004 to March 2010. The results of the evaluation indicate that customer access to water utility connections and utility management improvements, gained through ESP, have largely been sustained since 2010. However, the sustainability of utility finance gains and customers' microcredit product use were more mixed, with declines during the post-project period. Both facilitators and barriers associated with sustaining utility capacity-building efforts and financing are described in more detail in this brief.

SCOPE

This evaluation studied the Indonesia municipal water utility capacity-building and financial components of ESP, and compared its findings to those measured at the end of the original USAID activity in eight former intervention areas. It focused on:

1. Household access to water supply through targeted water utilities
2. Indonesian water utility management capacity
3. Indonesian water utility financial capacity
4. Microcredit program to increase the number of low-income households with water connections

Two specific questions guided the evaluation design and analysis:

1. To what extent are the levels of water service provided by ESP–supported water utilities at the time of project closure still observed seven years later?
2. Which factors or approaches contributed to or impaired the long-term sustainability of project outcomes?

DESIGN

The evaluation followed a mixed-methods design, including quantitative data collection on utility performance, as well as targeted, qualitative interviews. Quantitative data collection consisted of applying a calibrated version of the Water Utility Performance

Index tool, which was developed and used by ESP to monitor water utility capacity across several categories. The team also used data from government-collected water utility performance reports to compare water utility technical coverage and the number of water connections between 2010 and 2015. Qualitative data collection consisted of 37 semi-structured interviews and 12 focus group discussions related to eight Indonesian water utilities in Central and West Java. Data collection occurred in March and April 2017.

KEY FINDINGS

Access to water: According to the most recent government data from 2015, six of the eight sampled water utilities increased the proportion of households with a water utility connection within the administrative zones they cover, while two experienced a decrease (Kota Magelang and Kota Yogyakarta; see table). In four water utilities (Kabupaten [Kab] Sukabumi, Kab. Subang, Kab. Sleman, and Kab. Magelang) both coverage and the number of household connections have increased. Two water utilities (Kab. Bogor and Kota Sukabumi) experienced slight increases in the population covered, while experiencing reductions in the overall number of household connections. In the case of Kab. Bogor, these results occurred due to the water utility splitting into two entities in 2012, and the resulting redistribution of customers and water access. The Kota Yogyakarta water utility was the only one in the sample to experience declines in both household coverage and number of connections, most likely due to the local government prioritizing commercial water connections over investment in household connections.

Water Utility	Coverage 2010	Coverage 2015	Connections 2010	Connections 2015
Kab. Bogor, West Java	22.8%	**25.6%**	126,540	**119,950**
Kab. Sukabumi, West Java	12.5%	**30%**	21,134	**32,913**
Kota Sukabumi, West Java	28.4%	**32.3%**	21,593	**20,803**
Kab. Subang, West Java	43.6%	**52.8%**	27,580	**40,420**
Kota Yogyakarta, Central Java	47%	**44.3%**	34,171	**33,871**
Kota Magelang, Central Java	79.1%	**76.9%**	25,072	**28,237**
Kab. Magelang, Central Java	28.1%	**60.0%**	40,484	**50,566**
Kab. Sleman, Central Java	19.5%	**24.7%**	20,154	**26,975**

Numbers in red indicate drops in coverage or connections; blue indicate an increase

Management capacity: All eight water utilities demonstrated continued improvement in management capacity, as measured by their total water utility performance index scores. Qualitative data demonstrated a continued interest in capacity-building products through ongoing use of ESP tools and guidelines, mainly related to standard operating procedures for staff, non-revenue water estimates and reduction strategies, human resources policy, energy efficiency of production and distribution, and water utility annual corporate/business plans.

Financial capacity: Among all aspects of management, water utilities struggled most to improve financial stability after the closure of ESP, as water utility performance index scores in the finance category dropped by 3.1 points on average between 2010 and 2015. This is 2.4 points lower than any other category's average decrease since activity close. Financial support activities during ESP included preparing debt restructuring plans for submission to the Ministry of Finance, helping water utilities to adjust their tariff structure to improve cost recovery, preparing utilities for investment, and working with water utilities to maintain a balanced operating ratio. These activities focused on helping financially weaker water utilities to improve performance and ultimately their creditworthiness in order to attract outside investment. Unfortunately, these utilities were unable to sustain the gains made in financial management during ESP. The Kab. Bogor water utility credited ESP's assistance in establishing a favorable credit rating, which enabled it to obtain a loan to construct a new water treatment plant, and expand services after ESP closed.

Microcredit: The ESP–developed microcredit program ended in 2010 in the three sampled water utilities that had adopted it (Kab. Sukabumi, Kota Sukabumi, and Kab. Subang). This was a joint program between water utilities and local branches of the national Bank Rakyat Indonesia, which allowed qualifying lower income households to pay for a water utility connection through installments, rather than an advance lump sum. The microcredit programs in these three water utilities collectively constituted only a small portion (2.6 percent) of the total number of new water utility connections financed by ESP's microcredit program. One of the key challenges to ESP's microcredit program was Bank Rakyat Indonesia's intensive vetting process, regardless of loan size, which made the borrowing process slow and cumbersome. Since ESP's close, some water utilities have introduced connection installment payment plans or discount programs to continue providing options to lower income populations, demonstrating the continued need for a means to reach all income levels.

DISCUSSION

FACILITATORS TO SUSTAINABILITY

Several factors facilitated the sustainability of ESP's capacity-building efforts: accessible tools, appropriate alternative financing and investment options, and ongoing monitoring. The introduction of **accessible tools,** such as standard operating procedures and guidance on water utility corporate plan writing, which can be used by utility managers regardless of staff turnover, was deemed one of the key enablers of capacity building. Another facilitator to sustainability was identifying **appropriate alternative financing and investment options,** beyond tariffs, as was the case in Kab. Bogor. The **ongoing monitoring,** conducted first by ESP through annual

performance capacity measurements and then by the government through annual water utility performance reports, has likely played a role in motivating continued improvements within water utilities from one year to the next. Importantly, the government report assigns a score that is associated with future debt forgiveness by the Ministry of Finance.

BARRIERS TO SUSTAINABILITY

The evaluation team identified several factors that have hindered sustainability since ESP's close: alternative water sources, lack of coordination, environmental factors, and financial constraints.

Six out of eight water utilities studied by the evaluation increased the proportion of the catchment population with household connections since ESP ended. (Photo credit: Annette Fay/Water CKM Project)

One of the major challenges facing water utilities that need to expand their customer base is the omnipresence, in some areas, of **alternative water sources** (namely, private wells). The typical Indonesian household has a private well on their property, so water utility connections are perceived as expensive and unnecessary in the face of an existing, reliable well. Customers interviewed in all eight water utility catchment areas complained that water utility service outages were common, leaving people without a water source at certain times of day. Some claimed people were cutting their water utility connections due to poor service. Many customers felt utility water quality was poor or had a bad taste compared to well water, however, Indonesians typically boil their water before drinking, whether from a water utility connection or from a well, so the water quality of an alternative source did not appear to be a major driver of choice. Where families do not have access to a private well, however, the cost of water sold in jerry cans remains higher than water sold through the water utility, making a water utility connection attractive. Given the competition with existing water sources, water utility service has to be high quality, consistent, and affordable to maintain its customer base.

Lack of coordination among the many government-managed water access projects within the Indonesian water sector poses a challenge to effective water utility planning and service delivery. In one area, sustainable water utility water access for households was threatened when local government priorities shifted to favor increased water access for commercial interests. In other areas, lack of institutional coordination threatened sustained management capacity. For example, a district-level water utility allowed a city-level water utility (located in a similar geography) to draw from its raw water supply without receiving any remuneration. Another such institutional threat to sustained management capacity occurred in Kab. Bogor when an administrative district was split into two entities, and a new water utility was created in Kab. Bogor's previous operating area. This disruption forced both water utilities to face a new set of challenges operationally, financially, and in terms of increasing their customer base.

Environmental factors, such as seasonality, drought, or pollution, influence the availability of alternative water sources and the demand for water utility water services, and therefore affect the sustainability of water utility service coverage. For example, water utilities experienced increased demand for new connections when environmental conditions rendered alternative sources unavailable. Likewise, customers often seek to shut off their water utility connection when alternative sources are abundant. Water utilities need a consistent customer base to meet their operational costs.

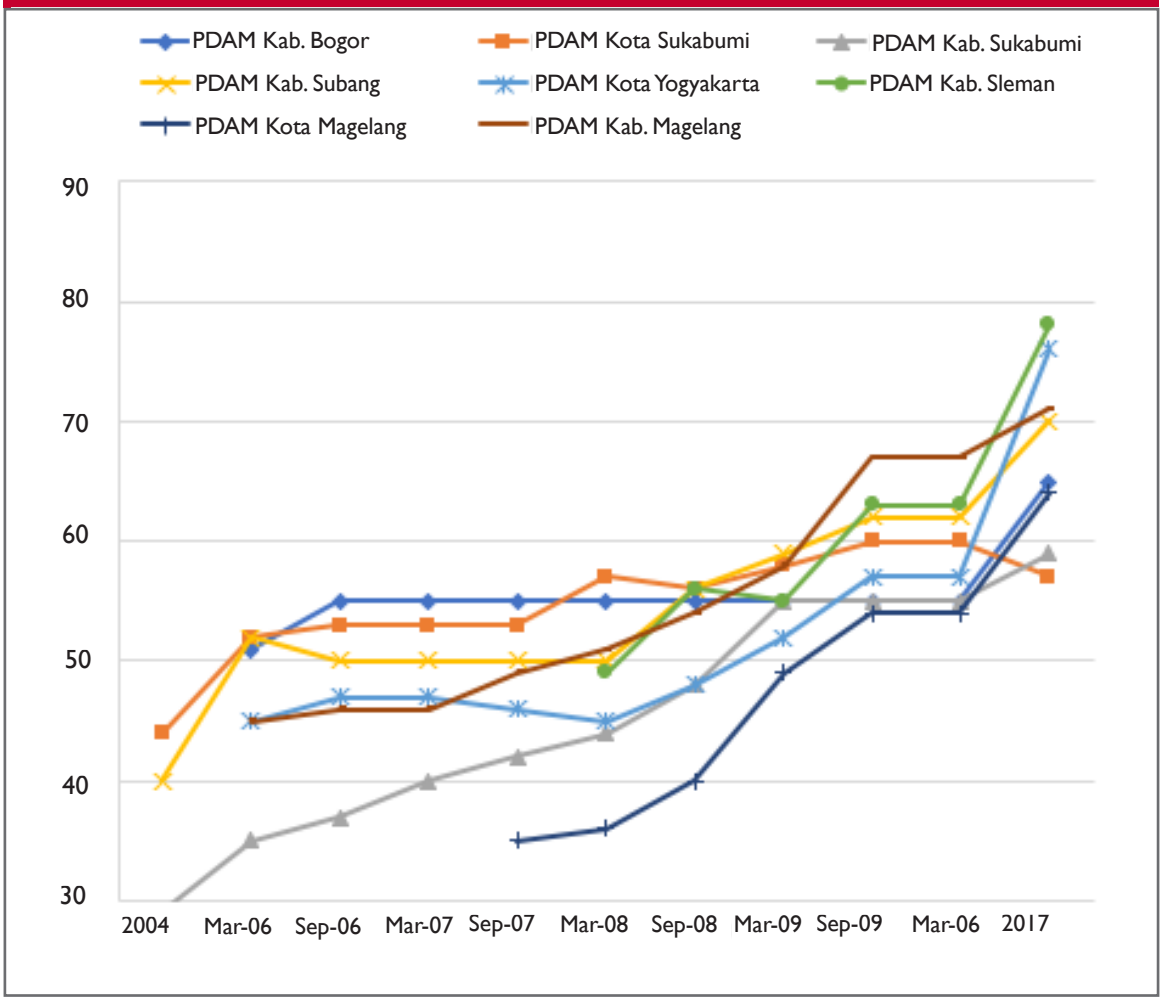
Financial constraints continue to plague water utilities. Water utility management faces numerous pressures in Indonesia: ongoing heavy debt preventing the water utility from becoming creditworthy, the necessity of increasing the number of household connections to bring in more revenue, the maintenance (or achievement) of high service quality to retain and attract new customers, the need to approve the annual budget prior to any investment decisions, and, in some cases, the inability of the utility to make its own financial decisions without prior government approval. The prospect of debt forgiveness, as recently proposed through a Government of Indonesia program to forgive debt of high-performing water utilities, is a step in the right direction, but will not provide a fix for all of the above problems.

KEY IMPLICATIONS AND RECOMMENDATIONS

Evaluation findings and conclusions support the following recommendations for future programs:

1. Capacity-building initiatives with municipal water utilities should seek to assist staff in developing accessible products such as standard operating procedures, corporate plans, and other tools, as ESP did. These resources can serve as enduring references regardless of utility staff turnover.

This figure shows water utility (PDAM) performance index scores recorded throughout ESP and at the time of the sustainability evaluation.



2. Microcredit programs to expand piped water access among the poor in Indonesia may work best in partnership with smaller banks that are accustomed to smaller loans and have less intensive borrower vetting processes, or stronger prior community relationships with the populations seeking microcredit. Alternatively, financially stable water utilities can engage the poor by offering their own payment installment programs and discounted offers.
3. USAID and other donors should coordinate with Government of Indonesia water access efforts to avoid competing programs, priorities, or subsidies. This will help ensure strategic and consistent access to water for all people in a water utility catchment area, as well as continued operating "health" for water utilities to maintain and expand reliable service delivery.
4. Annual performance monitoring, particularly when accompanied by incentives for strong performance, as in the case of annual performance reports, can help motivate water utilities to continue to improve operating performance.

The Water Communications and Knowledge Management Project *is conducting a series of independent ex-post evaluations of closed USAID–funded water activities to further USAID's understanding of why the outcomes of its completed water, sanitation, and hygiene activities have or have not been sustained. This Evaluation Brief summarizes results from the second full evaluation in the series. For more information and for the complete report visit Globalwaters.org or contact Annette Fay, M&E Lead: AFay@waterckm.com.*

Cover Image The PDAM Tirta Rangga Manager demonstrates that the water produced from his utility is as clean as commercial drinking water. (Photo credit: Annette Fay/Water CKM Project)*