

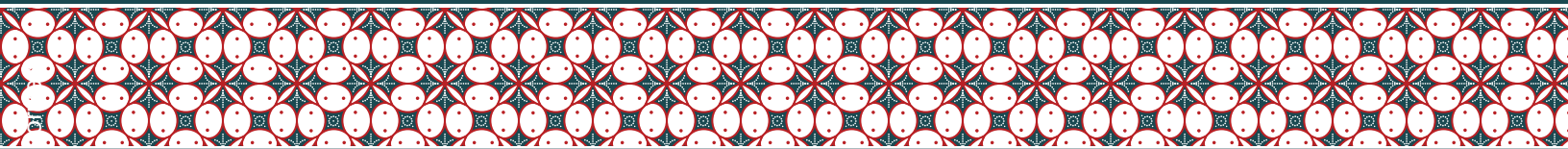


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# Water Supply and Sanitation in Indonesia

Turning Finance into  
Service for the Future



This report is the product of extensive collaboration and information sharing between many government agencies, and organizations in Indonesia. The core team of the Directorate of Settlements and Housings in the Development Planning Agency (Bappenas) has been key partners with the Water and Sanitation Program in analyzing the sector. The authors acknowledge the valuable contributions made by the Members of the Technical Working Group on Water and Sanitation (Pokja AMPL): Bappenas, Ministry of Public Works, Ministry of Home Affairs, Ministry of Health, Ministry of Finance, Ministry of Environment, Ministry of Housings, National Statistical Bureau, and the provincial technical working group of the province of West Sumatra; by the development partners (UNICEF and ADB) and the National Water Supply Association of Indonesia (PERPAMSI).

The Task Team Leader for the Service Delivery Assessment (SDA) in East Asia and Pacific is Susanna Smets. The following World Bank staff and consultants have provided valuable contributions to the service delivery assessment process and report: Martin Albrecht, Rahmi Kasri, Maraita Listyasari, Deviarandy Setiawan and Almud Weitz. The peer reviewers were George Soraya and Fook Chuan Eng from the World Bank, Aidan Cronin from UNICEF and Julian Syah from the ADB in Indonesia.

The SDA was carried out under the guidance of the World Bank's Water and Sanitation Program and local partners. This regional work, implemented through a country-led process, draws on the experience of water and sanitation SDAs conducted in more than 40 countries in Africa, Latin America, and South Asia.

An SDA analysis has three main components: a review of past water and sanitation access, a costing model to assess the adequacy of future investments, and a scorecard that allows diagnosis of bottlenecks along the service delivery pathways. SDA's contribution is to answer not only whether past trends and future finance are sufficient to meet sector targets for infrastructure and hardware but also what specific issues need to be addressed to ensure that finance is effectively turned into accelerated and sustainable water supply and sanitation service delivery.

The Water and Sanitation Program is a multi-donor partnership, part of the World Bank Group's Water Global Practice, supporting poor people in obtaining affordable, safe, and sustainable access to water and sanitation services. WSP's donors include Australia, Austria, Denmark, Finland, France, the Bill & Melinda Gates Foundation, Luxembourg, Netherlands, Norway, Sweden, Switzerland, United Kingdom, United States, and the World Bank.

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# **Water Supply and Sanitation in Indonesia Service Delivery Assessment**

Turning Finance into  
Services for the Future

# Strategic Overview

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Indonesia has made modest progress in recent years to help people gain access to improved water and sanitation services. In 2011, around 55% of the population had access to improved water supply services, and 56% of the population had access to improved sanitation services. Compared to 1993, this is an increase of 17 percentage points for water supply, and 31 percentage points for sanitation. Increasing political priority for sanitation in recent years, and the resulting increase in budget allocation for the sanitation subsector, suggests that Indonesia is on the right track to scale up access to improved sanitation services. It remains unlikely, however, that the Millennium Development Goals for sanitation will be met by 2015. Similarly, the sector targets of universal access by 2019 remain ambitious, and the increasing efforts will need to continue to achieve these targets.

Despite the moderate gains in water supply and sanitation as a whole, a closer look at the urban and rural disaggregation of access rates reveals wide disparities. For water supply, most access gains were achieved in rural areas, where 58% of the rural population had access to improved facilities in 2011, compared to only 32% in 1993. In urban areas, almost no nominal increase in access rates can be determined in the last two decades, which is mainly attributed to the high urban population growth that absorbs most of the relative gains in access rates.

For sanitation, both urban and rural areas have seen quite an increase in access rates over the past two decades. However, despite an increase of 28 percentage points to 39% access to rural sanitation services in 2011, the low starting point of only 11% in 1993 suggests that still more

than 100 million people have to gain access to improved sanitation services to reach the sector targets. Urban areas have had higher access rates to improved services, but similar to water supply, the absolute number of people that need to gain access is also still high due to the high rates of urban population growth.

From an institutional point of view, Indonesia has made good progress in the past decade in setting up the framework for a well-functioning service delivery pathway. This is reflected in the Service Delivery Assessment (SDA) scorecard, which identified a sound institutional and policy framework. Laws, policies and strategies regulate and guide the service delivery and distribute general roles and responsibilities between line ministries and different levels of government, resulting in improved coordination between stakeholders involved. Since decentralization in 2001, local governments have made good progress in building capacity to provide water supply and sanitation services in their districts and cities, and being consistent in reducing inequality by providing access to low income communities in both rural and urban areas. Budget allocation to the water supply and sanitation sector has increased significantly in recent years, proving the increase in political priority to the sector.

While this policy and institutional framework is in place, the Service Delivery Assessment process also revealed that the bottlenecks in the service delivery pathway mainly describe the lack of effectiveness with which policies and finance is turned into access to improved services. The gaps in the planning and budgeting building block, as well as in the output and uptake and use building blocks provide evidence

that Indonesia still faces challenges in turning finances into services in an effective way.

The focus in the future will be to strengthen the existing system, improve the implementation of policies and strategies into actual outputs, improve the overall effectiveness and efficiency of the systems and sustain the achieved services through strong ownership, operation and maintenance. Bottlenecks in the developing and sustaining pillars suggest that high political will needs to be translated into improved investment plans that are linked with local government work plans and budgeting processes. At the same time, priority has to be given to the sound and integrated planning to ensure the future availability of water resources.

Comparing the number of people who still need to gain access to services to achieve the sector targets of universal access with the financial commitments made by the Government for the near future, the SDA costing tool calculates the financial requirements in capital expenditures until 2019

to be very significant: The Government needs to allocate an additional US\$3.1 billion per year for water supply, and an additional US\$1.4 billion per year for sanitation. In absolute numbers, this translates into almost 24 million people per year to gain access to water supply, and 16 million people per year to gain access to sanitation services.

In summary, in order for Indonesia to achieve universal access to improved water supply and sanitation services by 2019, the Government not only has to significantly raise their financial commitments to the sector, but also find solutions of how to best utilize the funds through the existing sector institutions to improve the performance and increase access rates at scale.

Concretely, the agreed priority actions to tackle these challenges, and ensure finance is effectively turned into services, are:

## Sector-wide

| Recommended Priority Actions   | Who to take action  |
|--|---|
| <ul style="list-style-type: none"> <li>Identify support structures for local governments to assess and improve the quality of their strategic planning processes.</li> <li>Scale up development of human resources through institutionalized capacity building.</li> <li>Urge development of sound investment plans and their endorsement and incorporation into local government work plans for immediate implementation.</li> <li>Investigate how local accountability mechanisms are functioning and potential ways to improve this.</li> <li>Actively seek involvement of private sector cooperation in the sector.</li> <li>Engage local governments to improve their planning processes to secure future availability of water resources.</li> </ul> | POKJA AMPL (Water and Sanitation Technical Working Group),<br>Ministry of Public Works,<br>Ministry of Health,<br>Ministry of Planning and Development (Bappenas),<br>Ministry of Finance,<br>Ministry of Home Affairs. |

## Equity

| Recommended Priority Actions   | Who to take action   |
|--|--|
| <ul style="list-style-type: none"> <li>Clearly define poor households at the bottom 40% of the income distribution and design targeted support to ensure inclusive service-delivery.</li> <li>Improve greater coordination between water supply and sanitation programs and poverty programs to increase the effectiveness of service delivery for the bottom 40% households.</li> </ul> | Bappenas,<br>Menkokesra (Coordinating Ministry for Community Welfare),<br>National Team for the Acceleration of Poverty Reduction (TNP2K). |

## Monitoring and evaluation

| Recommended Priority Actions  | Who to take action  |
|---|---|
| <ul style="list-style-type: none"> <li>Link monitoring and evaluation systems to budgeting and planning processes.</li> <li>Strengthen the National Water Supply and Sanitation Information Services System (NAWASIS) to become an integrated portal for sector-wide M&amp;E.</li> <li>Improve local capacity for use of M&amp;E data for sector planning, budgeting and targeting implementation support.</li> </ul> | Bappenas,<br>Ministry of Finance,<br>BPS (National Statistics Agency), National and Local POKJAs. |

## Rural water supply

| Recommended Priority Actions  | Who to take action   |
|---|--|
| <ul style="list-style-type: none"> <li>• Establish a clear demarcation of roles and responsibilities within the local governments after the hand-over of assets on managing and maintaining the water supply systems.</li> <li>• Continue to facilitate and support community organizations in accessing commercial finance from local banks.</li> <li>• Establish comprehensive technical support structures for communities to ensure sustainability of water and sanitation schemes.</li> <li>• Improve capacity to scale up M&amp;E at local level and use it as resource for sector planning, budgeting and implementation support.</li> </ul> | <p>Ministry of Public Works, Bappenas, Ministry of Home Affairs.</p> |

## Urban water supply

| Recommended Priority Actions  | Who to take action  |
|---|---|
| <ul style="list-style-type: none"> <li>• Continue to assist 'unhealthy' Local Government Water Utilities (PDAMs) to improve their overall business management condition and become and remain 'healthy', by improving asset management, implementing cost-recovery tariffs, reduce non-revenue water and improving the management of human resources.</li> <li>• Intensify assistance to PDAMs to access financial sources such as commercial financing or government-assisted schemes.</li> <li>• Continue supportive incentive schemes such as Water Hibah to realize financial commitments by local government into the sector.</li> <li>• Identify further incentives for PDAMs to increase access into low-income communities.</li> <li>• Engage local governments into a sound planning to secure future availability of water sources, e.g. by developing sound water safety plans.</li> </ul> | <p>Ministry of Public Works, BPPSPAM (Support Agency for the Development of Drinking Water Supply Schemes) Ministry of Finance, Bappenas.</p> |

## Rural sanitation and hygiene

| Recommended Priority Actions   | Who to take action            |
|--|-------------------------------|
| <ul style="list-style-type: none"> <li>• Strengthen the capacity of the secretariat of the Community-based Total Sanitation Strategy (STBM) to coordinate and assist the implementation of STBM in Indonesia.</li> <li>• Continue efforts to increase the number and capacity of sanitation entrepreneurs and sanitation personnel to support STBM scaling up nationwide.</li> <li>• Improve capacity to scale up M&amp;E at local level and use it as resource for sector planning, budgeting and implementation support.</li> <li>• Ensure sufficient funding on software components to ensure leverage of household contributions.</li> </ul> | Ministry of Health, Bappenas. |

## Urban sanitation and hygiene

| Recommended Priority Actions   | Who to take action                  |
|--|-------------------------------------|
| <ul style="list-style-type: none"> <li>• Improve technical and managerial performance of urban sanitation treatment facilities by building managerial capacity and increasing the efficiency of the treatment facilities.</li> <li>• Provide technical assistance to intensify the development of fecal sludge management systems in urban areas including private sector participation.</li> <li>• Institutionalize the clear demarcation of roles and responsibilities for regulation and service provision at local level to ensure more effective service delivery.</li> </ul> | Ministry of Public Works, Bappenas. |



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# Abbreviations and Acronyms

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|                   |   |
|-------------------|---|
| <b>ADB</b>        | Asian Development Bank  |
| <b>AKKOPSI</b>    | Association of Districts and Cities that Care about Sanitation      |
| <b>AMPL</b>       | Water and Sanitation  |
| <b>Bappenas</b>   | Ministry for National Planning and Development                      |
| <b>BPKP</b>       | Finance and Development Controller Bureau                           |
| <b>BPPSPAM</b>    | Support Agency for the Development of Drinking Water Supply Systems |
| <b>BPS</b>        | National Statistics Agency  |
| <b>CAPEX</b>      | Capital Expenditure   |
| <b>CBO</b>        | Community-Based Organization  |
| <b>CLTS</b>       | Community-Led Total Sanitation                                      |
| <b>CSR</b>        | Corporate Social Responsibility                                     |
| <b>DAK</b>        | Special Allocation Fund   |
| <b>DAU</b>        | General Budget Allocation   |
| <b>DEWATS</b>     | Decentralized Waste Water Treatment Systems                         |
| <b>DFAT</b>       | Department of Foreign Affairs and Trade of Australia.               |
| <b>DPSP</b>       | Domestic Private Sector Participation Project                       |
| <b>ESI</b>        | Economic of Sanitation Initiatives                                  |
| <b>GDP</b>        | Gross Domestic Product  |
| <b>JMP</b>        | WHO/UNICEF Joint Monitoring Programme                               |
| <b>Menkokesra</b> | Coordinating Ministry for Community Welfare                         |
| <b>MDG</b>        | Millenium Development Goal  |
| <b>MoE</b>        | Ministry of Environment   |
| <b>MoF</b>        | Ministry of Finance   |
| <b>MoH</b>        | Ministry of Health  |
| <b>MoHA</b>       | Ministry of Home Affairs  |
| <b>MoPH</b>       | Ministry of People's Housing  |
| <b>MoPW</b>       | Ministry of Public Works (or Pekerjaan Umum/PU)                     |
| <b>NAWASIS</b>    | National Water and Sanitation Information Services                  |
| <b>O&amp;M</b>    | Operation and Maintenance   |
| <b>PDAM</b>       | Local Government Water Utility                                      |
| <b>PAMSIMAS</b>   | Water and Sanitation for Low Income Communities Project 3           |
| <b>PERPAMSI</b>   | National Water Supply Association of Indonesia                      |
| <b>Pokja AMPL</b> | Water and Sanitation Technical Working Group                        |
| <b>PPP</b>        | Public Private Partnership  |
| <b>PPSP</b>       | Sanitation Acceleration Program                                     |
| <b>Riskesdas</b>  | Indonesia Basic Health Survey                                       |
| <b>PRIJM</b>      | Local Government Mid-Term Investment Plan                           |
| <b>RPJMN</b>      | Mid-Term Development Plan   |
| <b>SAIG</b>       | Sanitation Australian Indonesian Grant                              |

|                |   |
|----------------|---|
| <b>SDA</b>     | Service Delivery Assessment                             |
| <b>SSK</b>     | City Sanitation Strategy                                |
| <b>STBM</b>    | Community-Based Total Sanitation Strategy               |
| <b>SUSENAS</b> | National Socio-Economic Survey                          |
| <b>TNP2K</b>   | National Team for the Acceleration of Poverty Reduction |
| <b>UNICEF</b>  | United Nations Children's Fund                          |
| <b>USAID</b>   | U.S. Agency for International Development               |
| <b>USDP</b>    | Urban Development Sanitation Program                    |
| <b>WSP</b>     | Water and Sanitation Program                            |
| <b>WSSLIC</b>  | Water and Sanitation for Low Income Communities Project |



# 1. Introduction

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Water and Sanitation Service Delivery Assessments (SDA) are being carried out in eight countries in East Asia and the Pacific region under the guidance of the World Bank's Water and Sanitation Program and local partners. This regional work, implemented through a country-led process, draws on the experience of water and sanitation SDAs conducted in more than 40 countries in Africa, Latin America, and South Asia.<sup>1</sup>

An SDA analysis has three main components: a review of past water and sanitation access, a costing model to assess the adequacy of future investments, and a scorecard that allows diagnosis of bottlenecks along the service delivery pathways. SDA's contribution is to answer not only whether past trends and future finance are sufficient to meet sector targets for infrastructure and hardware but also what specific issues need to be addressed to ensure that finance is effectively turned into accelerated and sustainable water supply and sanitation service delivery. Bottlenecks can in fact occur throughout the service delivery pathway – all the institutions, processes, and actors that translate sector funding into sustainable services. Where the pathway is well developed, sector funding should turn into services at the estimated unit costs. Where the pathway is not well developed, investment requirement may be needed to “un-block” the bottlenecks in the pathways.

The scorecard looks at nine building blocks of the service delivery pathway, which correspond to specific functions classified in three categories: three functions that refer to enabling conditions for putting services in place (policy development, planning new undertakings, budgeting), three actions that re-

late to developing the services (expenditure of funds, equity in use of these funds, service output), and three functions that relate to sustaining these services (facility maintenance, expansion of infrastructure, use of the service). Each building block is assessed against specific indicators and is scored from 0 to 3 accordingly. The scorecard uses a simple color code to indicate building blocks that are largely in place, acting as a driver for service delivery (score >2, green); building blocks that are a drag-on service delivery and that require attention (score 1-2, yellow); and building blocks that are inadequate, constituting a barrier to service delivery and a priority for reform (score ≤1, red).

The SDA analysis relies on an intensive, facilitated consultation process, with government ownership and self-assessment at its core. The SDA in Indonesia was led by the National Water and Sanitation Technical Working Group (Pokja AMPL) under the guidance of its chair, Ministry of National Planning and Development (Bappenas), and with support from the World Bank's Water and Sanitation Program (WSP). Data collection of relevant sector documents served as the basis for the following facilitated process. Parallely, financial data on government and donor budgets and expenditures were collected and used to calculate required and anticipated investments through the SDA costing tool. In a consultation workshop held in June 2013, preliminary results of the SDA were reviewed and verified by sector stakeholders, and areas for priority actions were identified.

Despite the efforts of the SDA to provide an evidence-based analysis of the sector, the methodology does have limitations. In highly decentralized countries an assess-

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<sup>1</sup> For example, refer to the Africa CSO synthesis report available at <http://www.wsp.org/sites/wsp.org/files/publications/CSO-Synthesis-Report.pdf>

ment at national level will inevitably lead to generalizations of the performance at local level. This is especially true in the Indonesian context, where water supply and sanitation service delivery is the responsibility of districts and cities, of which there are more than 500. Among local governments, performance level varies substantially between well-performing ones and those that still have a long way to go to meet the sector targets. The SDA does not claim to be representative of the diversity of this decentralized country, but rather seeks to give a general impression of the sector performance from a national level point of view. However, interest was expressed by several Indonesian provincial governments to have the SDA methodology applied for an analysis at the provincial level.

The Service Delivery Assessment in Indonesia has been aligned with the preparation process of the third five-year mid-term development plan (RPJMN) 2015-19. This process also requires adjusting the targets for water supply and sanitation coverage by the end of the RPJMN period. Currently, the idea of how to achieve universal access to

improved water and sanitation services is being circulated among senior government officials involved in the sector. While a final decision is pending upon official approval of the RPJMN, it is likely that targets will be set at 100% access by 2019. It was therefore decided to use these numbers for the calculations of investment requirements and for references made in this report.

The discussions within the structured SDA framework including the scorecard exercise as well as discussing sub-sector targets and identifying funding requirements and gaps informed ongoing discussion forums, technical studies and briefings to higher echelons. Ultimately, this report aims to support the Indonesian government in their assessment and evaluation of the water and sanitation service delivery pathway, locate bottlenecks and present the agreed priority actions to help address them.

The Water and Sanitation Program in collaboration with the Pokja AMPL and other valuable stakeholders produced this SDA report.

**Figure 1: Map of Indonesia**



## 2. Sector Overview: Access Trends

### Access: Assessing Past Progress

Data from the Joint Monitoring Programme<sup>2</sup> (JMP) suggest that Indonesia made modest gains in terms of increasing access to improved water supply and sanitation (see Figure 2.1). Access to improved water supply, which was already quite high in 1990 at 70%, rose to 84% in 2011 and is expected to meet, albeit barely, the Millennium Development Goal (MDG) target by 2015. Most of the gains are in rural areas, where access rates increased from 61% of the population in 1990 to 76% in 2011. Access to improved facilities in urban areas changed very little between 1990 (90% of the population) and 2011 (93%). The JMP also estimates that only a small proportion of the population (21%) had access to piped facilities.

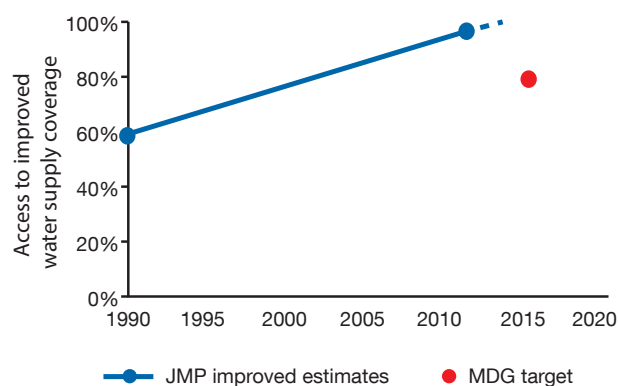
Government estimates of access to improved water supply, which are based on the national socio-economic survey (SUSENAS), use more stringent criteria and indicate lower access rates compared to the JMP<sup>3</sup>. Trends in government indicators suggest that, despite the relatively sharp increase in access rates from 2009 to 2011, considerably higher efforts are needed to achieve the target of 100% access to improved water supply by 2019.<sup>4</sup>

As of 2011, JMP estimates indicate that only 59% of the Indonesian population had access to improved sanitation facilities (Figure 2.2). Compared to the past two decades, progress in increasing access in recent years has been more rapid, suggesting that the country is on the right path towards scaling up access to sanitation services by 2015. However, there is still a wide disparity in access to

improved sanitation facilities between the rural (44%) and urban (73%) population. The amount of treated wastewater is also still low, with only about one percent of the urban population having access to sewerage systems.<sup>5</sup> Therefore, continuous high efforts will be needed to achieve the targets of 100% access to improved sanitation by 2019.

Government and JMP estimates generate similar conclusions with respect to the low access rates and wide disparity in access rates between rural and urban areas. Government statistics further indicate that, if current trends continue, the country is likely to miss government targets in 2019 by a wide margin.

Figure 2.1 Progress in water supply access



SDA Costing tool, JMP (2013)<sup>6</sup>, and Bappenas

<sup>2</sup> JMP (2013) Progress on Drinking Water and Sanitation: 2013 Update. UNICEF and WHO.

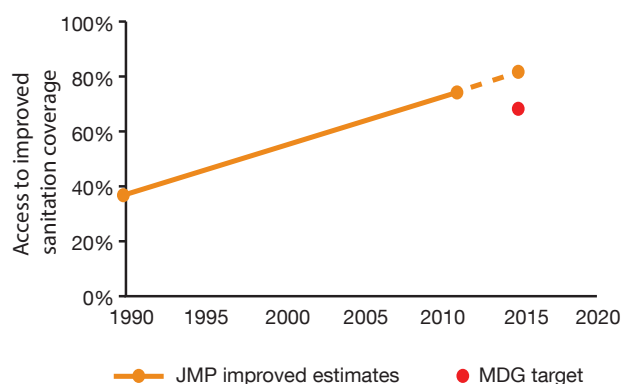
<sup>3</sup> Based on the JMP Report on Inter-country Workshop (2009), there are some major discrepancies between JMP and national data in Indonesia: differences in data sources, methodologies, population estimates, urban/rural definitions and definitions of 'adequate' and 'sustainable'.

<sup>4</sup> The targets for water supply and sanitation are currently being considered by Bappenas for the third Medium-term Development Plan (RPJMN) 2015-19.

<sup>5</sup> See Eales K., R. Siregar, E. Febriani and I. Blackett (2013) Review of Community Managed Decentralized Wastewater Treatment Systems in Indonesia, WSP, February. Also see World Bank and AusAID (2013) Urban Sanitation Review: A Call for Accelerating Action, Draft report, May.

<sup>6</sup> JMP (2013) Progress on Drinking Water and Sanitation: 2013 Update. UNICEF and WHO.

**Figure 2.2 Progress in sanitation access**



SDA Costing tool, JMP (2013)<sup>7</sup>, and BPS

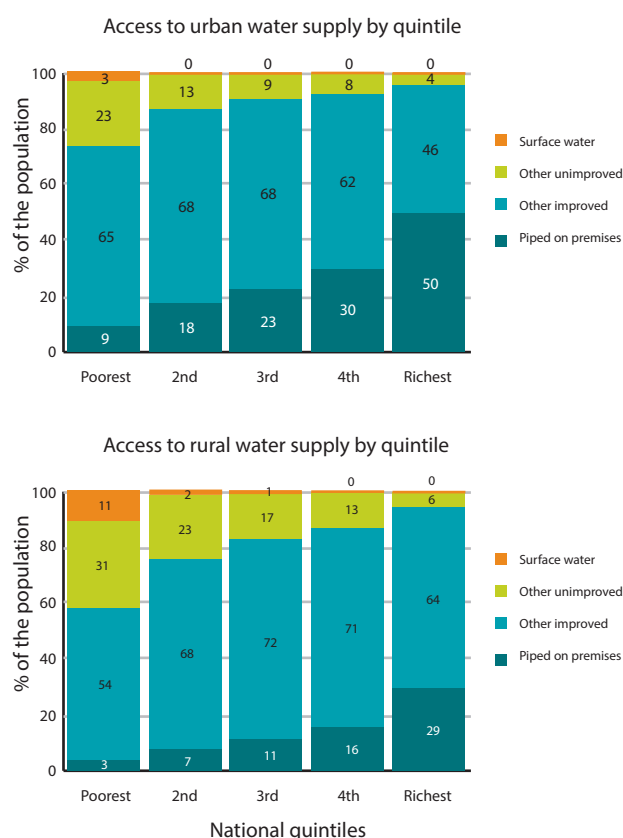
## Equity of Access

Assessing access to improved services disaggregated by wealth levels in Indonesia provides a more nuanced and less positive picture than national averages. For water supply, access to improved services is relatively equally distributed between the four higher wealth quintiles, while the lowest quintile is lagging slightly behind (Figure 2.3). In urban areas, 74% of the people in the lowest quintile have access to improved water supply, compared to 86% - 96% in the higher quintiles. In rural areas, the situation is more severe, with only 57% of the people in the poorest quintile having access to services, compared to 75% - 93% in the higher quintiles.

While progress has been made within each of the quintiles, access to piped water supply is still very low for people in the poorest urban quintile (9%) and in the lowest three rural quintiles (3% - 11%). The rest of the people with access to improved water supply is serviced through protected wells, rainwater or refill water.

The picture for sanitation is less optimistic. Both in urban and rural areas there is a big gap between access to improved sanitation within households in the lowest two quintiles in urban (40% and 65%) and in rural areas (36% and 65%), and the higher three quintiles (82% - 100% in both urban and rural areas). Moreover, there is still a huge number of people practicing open defecation both in urban (37%) and rural areas (43%). This provides evidence that sanitation programs should re-validate and possibly reconsider their strategy of how to target the bottom 40% of the population.

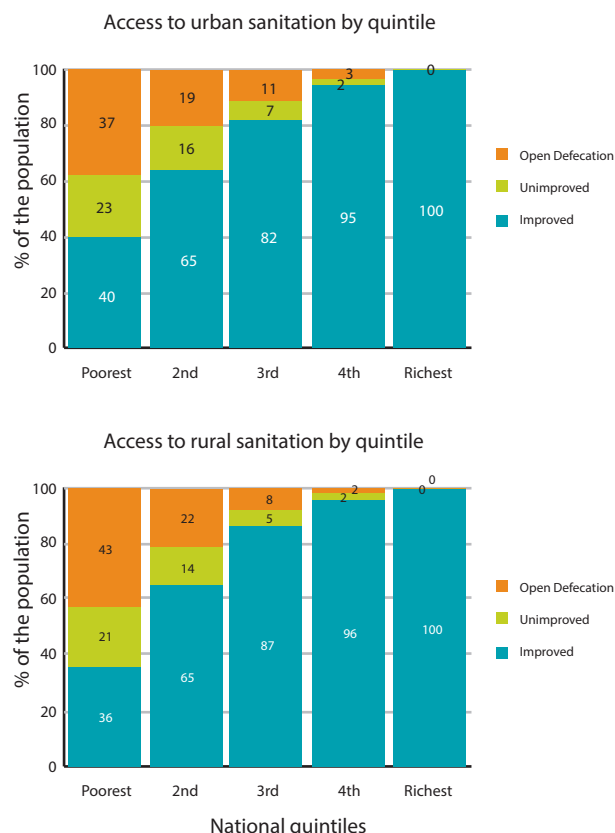
**Figure 2.3 Access to urban and rural water supply by quintile**



<sup>7</sup> JMP (2013) Progress on Drinking Water and Sanitation: 2013 Update. UNICEF and WHO.



**Figure 2.3 Access to urban and rural sanitation by quintile**



#### Recommended priority actions for equity

Clearly define poor households at the bottom 40% of the income distribution and design targeted support to ensure inclusive service-delivery

Improve greater coordination between water supply and sanitation programs and poverty programs to increase the effectiveness of service delivery for the bottom 40% households

## Investment Requirements: Testing the Sufficiency of Finance

In line with the current preparations of the third Mid-term Development Plan (RPJMN) 2015-2019, the SDA costing tool estimates the investments required to meet the targets of universal access to improved water and sanitation services by 2019. It also facilitates a comparison of these requirements with sector investments in order to provide a sense of funding situations.

The analysis derives capital expenditure (CAPEX) requirements, representing hardware costs of new facilities as well as replacement costs of existing facilities at the end of their economic life cycle. Estimated CAPEX requirements are further disaggregated between publicly funded, donor funded and investments contributed by households<sup>8</sup>. Key inputs in the estimation of investment requirements are (a) base year and target year access rates, (b) population projections, (c) unit costs of different facilities and (d) technology mix at the base year and target year. Access rates for the base year (2011), which were based on the SUSENAS survey, were obtained from the National Statistics Agency (BPS) and Bappeanas. The analysis assumes government targets of universal access to improved water supply and sanitation by 2019. It also assumes that 6% of the urban population will have access to sewerage systems by 2019.

Investment data were collected from publicly available documents and websites, and subsequently validated through visits to the various stakeholders. The collected information was divided between recent and anticipated investments, which represent the average annual budgets of government, development partners and users from 2009 to 2011 and 2012 to 2014, respectively. Expenditures were also disaggregated as follows: (a) sector - water supply or sanitation, (b) location - rural or urban, (c) nature - hardware or software, (d) year, and (e) budget versus actual.

<sup>8</sup> Investments of utilities, NGOs and the private sector were excluded in the analysis because of the lack of summary information.

### Box 1.1 Special Allocation Fund - DAK

DAK grants represent central government transfers to local governments for specific purposes that are of interest to the central government. Sectors, geographical locations that receive these grants as well as the total grant amount are identified in the Government Annual Work Plan and are decided on a yearly basis. For water and sanitation, these funds are intended for providing (a) drinking water and sanitation for the improvement of health conditions, (b) household and communal connections for the poor, and (c) access to safe water for remote areas difficult to reach. A condition of the DAK provision is that the recipient local governments should match at least 10% of DAK funds through their own budget. Challenges linked to the DAK include insufficiency of funds to meet the specific requirements and the difficulty to track and monitor the use of the funds.

Information on government investments was obtained from the Ministry of Finance, Ministry of Public Works and Bapenas. Central government funding captures expenditures under the regular budget for water and sanitation and the Special Allocation Fund (DAK).

Local government funds capture their share of contributions to DAK funding from national level as well as rough estimates of expenditures for water supply and sanitation in provincial and district budgets. Based on interviews with government officials, local governments are expected to contribute 10% of DAK-funded projects.

The analysis also assumes that the following shares of provincial budgets were allocated to water supply and sanitation: 0.15% for rural drinking water supply, 0.15% for urban water supply, 0% for rural sanitation, and 0.2% for urban sanitation. Additionally, the following shares of district and city budgets are allocated to water supply and sanitation: 1% for rural water supply, 1% for urban water supply, 0% for rural sanitation, and 0.7% for urban sanitation. These proportions were derived by examining documents from the World Bank<sup>9</sup>, Waspola and consultations with various ex-

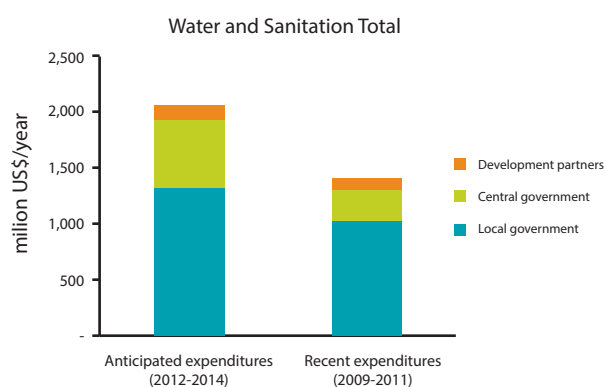
perts. Provincial and district budgets for 2009 to 2011 were provided by the World Bank. Budgets for 2012 and 2013 were extrapolated using the available data.

Funds from development partners represent the investments/loans coming from the Asian Development Bank (ADB), the Australian Department for Foreign Affairs and Trade (DFAT), the Japan International Cooperation Agency (JICA), the Islamic Development Bank (IDB) and the World Bank.

Figure 2.4 shows estimates of anticipated and recent expenditures for the water and sanitation sector of Indonesia based on the methodology discussed above. It indicates that nearly two-thirds of anticipated investments are expected to come from local governments. The large share of local government units, which in the current analysis was only estimated rather than based on published documents, stresses the importance of reviewing the budgets and actual expenditures of these institutions in a recommended follow-up activity.<sup>10</sup>

A more detailed description of the sources and limitations of the information used in the analysis is presented in Annex 2.

**Figure 2.4 Estimated investments for water and sanitation by source of funding**



<sup>9</sup> World Bank (2013) Urban Sanitation Review: Indonesia Country Study, World Bank Group, Washington D.C., September.

<sup>10</sup> One recommended follow-up activity would be a more detailed analysis of government budgeting and spending. The World Bank is currently in the process of conducting a Water and Sanitation Public Expenditure Review.

Table 2.1 presents the annual averages of the CAPEX requirements and anticipated investments that were estimated for Indonesia. It indicates that national targets will be met if about 24 million people per year gain access to improved water supply, and 16 million people per year gain access to improved sanitation facilities. Relatively rapid population growth also implies that a larger proportion of the required beneficiaries are located in urban areas.

The people that will need access to improved water supply and sanitation facilities translate to CAPEX requirements of US\$4.7 billion per year and 2.8 billion per year, respectively. Higher per capita costs and number of people requiring access explain the higher investment requirements for water supply. The required CAPEX for urban areas is also higher than for rural areas mostly as a result of higher per capita costs.<sup>11</sup>

Table 2.1 also shows that anticipated public CAPEX are about US\$1.6 billion per year for water supply and US\$496 million per year for sanitation. Accounting for about 0.2% of 2012 GDP, most of these funds are expected to come from domestic sources.

Subtracting the sum of anticipated CAPEX contributions of the public and households from CAPEX requirements suggests deficits of US\$2.4 billion per year for water supply and US\$1.4 billion per year for sanitation. This implies that projected investments for 2012 to 2014 fall far short of the amounts required to meet targets, especially for water supply. The expected deficits from 2012 to 2014 suggest the need for higher expenditures from 2015 to 2019 if the country wishes to achieve its targets for water supply and sanitation.

**Table 2.1 Coverage and Investment Figures<sup>a</sup>**

|                                       | Coverage<br>(base year) | Target<br>2019 | Population<br>requiring<br>access | Annual CAPEX<br>requirement |              | Anticipated public CAPEX<br>2012-2014 |           |              | Anticipated<br>household<br>CAPEX | Annual<br>surplus<br>(deficit) |
|---------------------------------------|-------------------------|----------------|-----------------------------------|-----------------------------|--------------|---------------------------------------|-----------|--------------|-----------------------------------|--------------------------------|
|                                       |                         |                |                                   | Total                       | Public       | Domestic                              | External  | Total        |                                   |                                |
|                                       | %                       | %              | '000/year                         | US\$ million/year           |              |                                       |           |              |                                   |                                |
| Rural water supply                    | 58%                     | 100%           | 9,283                             | 772                         | 315          | 733                                   | 58        | 791          | 457                               | 476                            |
| Urban water supply                    | 52%                     | 100%           | 14,637                            | 3,975                       | 2,868        | 747                                   | 25        | 771          | 298                               | -2,906                         |
| <b>Water supply<br/>total</b>         | <b>55%</b>              | <b>100%</b>    | <b>23,920</b>                     | <b>4,748</b>                | <b>3,183</b> | <b>1,480</b>                          | <b>83</b> | <b>1,563</b> | <b>755</b>                        | <b>-2,430</b>                  |
| Rural sanitation<br>(on-site)         | 39%                     | 100%           | 8,380                             | 414                         | 4            | 39                                    | 29        | 69           | 410                               | 65                             |
| Urban sanitation<br>(waste treatment) | 73%                     | 100%           | 7,384                             | 2,341                       | 1,439        | 400                                   | 28        | 427          | 439                               | -1,475                         |
| <b>Sanitation<br/>total</b>           | <b>56%</b>              | <b>100%</b>    | <b>15,764</b>                     | <b>2,755</b>                | <b>1,443</b> | <b>439</b>                            | <b>57</b> | <b>496</b>   | <b>848</b>                        | <b>-1,411</b>                  |

Notes: <sup>a</sup> Columns may not add up due to rounding.  
Sources: SDA costing, JMP (2013)<sup>12</sup>, BPS, Bappenas.

<sup>11</sup> There are other studies that present alternative estimates of investment requirements for the water supply and sanitation sector of Indonesia. The estimates from these studies and short comparison with the estimates presented here are provided in Annex 3.

<sup>12</sup> JMP (2013) Progress on Drinking Water and Sanitation: 2013 Update. UNICEF and WHO.

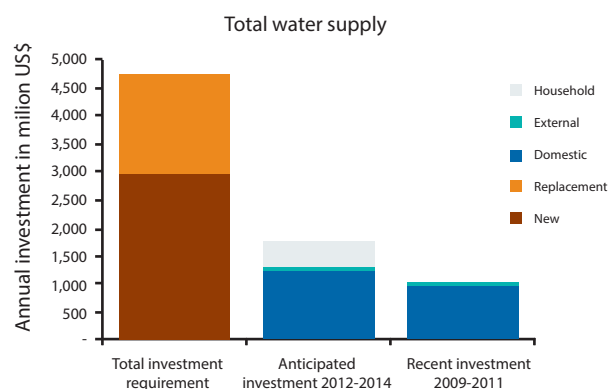
There is some uncertainty over the estimated deficits. Aggregate and sector-specific deficits can be reduced by accounting for expenditures of utilities and the private sector. The implied reduction in the deficits may also be partially or wholly offset when one considers the fact that the anticipated household CAPEX is no more than a rough estimate of the amounts that the households are expected to contribute. However, it is important to note that encouraging households to invest in improved facilities also entails costs in terms of efforts by government and other agencies in social outreach and demand creation.

Figure 2.5 and Figure 2.6 indicate that anticipated investments (excluding the contribution of households) for 2012-14 in water supply and sanitation are higher than recent

investments<sup>13</sup> from 2009-11. While this is a good sign, anticipated investments still fall short of investment requirements.

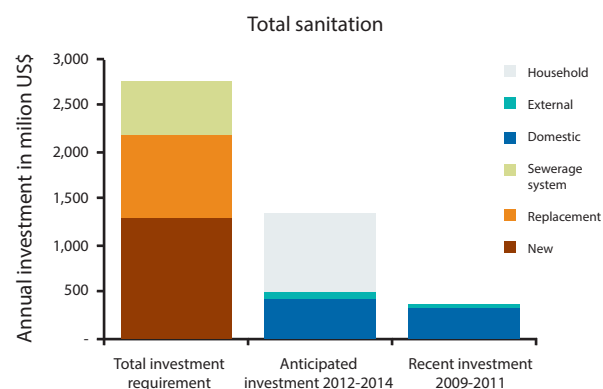
Annual operation and maintenance expenditures for water supply and sanitation facilities are important considerations. These expenditures impose pressure on the budgets of households in the case of private facilities like toilets. It is also a burden on utilities in terms of the need to generate income for their daily operations. Table 2.2 shows that water supply and sanitation service provision requires annual operation and maintenance funds of US\$538 million and US\$262 million, respectively. Most of these funds are expected to be used in urban areas.

**Figure 2.5 Required vs anticipated (public) and assumed (household) expenditure for water supply**



Source: SDA costing. Note: Recent investments do not account for the contribution of households.

**Figure 2.6 Required vs anticipated (public) and assumed (household) expenditure for sanitation**



Source: SDA costing. Note: Recent investments do not account for the contribution of households.

<sup>13</sup> Recent investments do not include the contribution of households.

**Table 2.2 Annual operation and maintenance requirements**

| Subsector                 | O&M<br>US\$ million/year |
|---------------------------|--------------------------|
| Rural water supply        | 64                       |
| Urban water supply        | 474                      |
| <b>Water supply total</b> | <b>538</b>               |
| Rural sanitation          | 31                       |
| Urban sanitation          | 231                      |
| <b>Sanitation total</b>   | <b>262</b>               |

Source: SDA Costing.  
Note: Columns may not add up due to rounding.

### 3. Reform Context

In the decades between the 1970s and the 1990s, Indonesia implemented an extensive water and sanitation development program that resulted in remarkable achievements in the sector: a tenfold increase in production capacity of piped water supply, reaching 94,000 liters per second in 1997, a full cost-recovery and low-income focused tariff policy and growing private sector participation in the delivery of water supply services. However, the country experienced a significant set-back in the economic and institutional landscape when the Asian financial crisis hit in 1997. Further, a law was passed to implement nationwide decentralization reforms in 2001, which handed responsibilities from central to local city and district levels, including the provision of water and sanitation services. Local governments, being newly responsible for service provision following decades of centralized structures, were lacking the

experience and skills needed in their new role. As a consequence of this lack of skills as well as of the inadequate availability of capital funding for investments and operation and maintenance, water supply services provided by local water utilities (PDAMs) and community groups suffered serious degradation in the following years. In several cases, the challenges in service provision continue onwards until today.

The situation in urban areas is further exacerbated by the fact that access rates to water supply services cannot catch up with high urban population growth rates of around 4%.<sup>14</sup> Against this backdrop, the government's commitment to the Millennium Development Goals (MDGs) in 2000 had a considerable impact on refocusing public investments on water and sanitation sector priorities.

**Table 3.1 Key dates in the reform of the sector in Indonesia**

| Year | Reform Context   |
|------|--|
| 1945 | Independence   |
| 2001 | 1 January 2001 Law No. 22/1999 implemented; beginning of decentralization reforms and local autonomy period                        |
| 2003 | Establishment of the inter-ministerial technical water supply and sanitation working group (Pokja AMPL)                            |
| 2004 | Law No. 7/2004 on water resources  |
| 2005 | Government Decree No 16/2005 on development of water service systems   |
| 2008 | Ministry of Health Decree No 832/2008 on national community based total sanitation program   |
| 2009 | Presidential Regulation No.29/2009 on Guaranty and Interest Subsidy by National Government to Accelerate Provision of Water Supply |

<sup>14</sup> Bappenas, "Perkembangan Kebijakan Penyediaan Air Minum", [http://perkim-Bappenas.info/index.php?prm\\_page\\_id=1&prm\\_id=21&prm\\_type\\_id=4&prm\\_parent\\_id=20&prm\\_doc\\_cat\\_id=4&prm\\_text=air\\_sejarah.php&prm\\_lbl=Sejarah](http://perkim-Bappenas.info/index.php?prm_page_id=1&prm_id=21&prm_type_id=4&prm_parent_id=20&prm_doc_cat_id=4&prm_text=air_sejarah.php&prm_lbl=Sejarah)

As a response, the Indonesian government strengthened the responsibilities for the water and sanitation sector development within five line ministries: Bappenas, the Ministries of Public Works, Home Affairs, Health and Finance. In line with political decentralization reforms, the service provision shifted from central government to local governments, from projects to programs, from government officers to communities, from infrastructure construction to sustainable infrastructure and behavior change, and from loans to increasing financial contributions from government, communities and the private sector. A number of supporting laws and regulations were issued to enable a conducive environment for sector development (see Table 3.1).

The reform history puts the service delivery pathway into a broader historical context that allows the report to explore the progress of different pillars of service provision. The

SDA scorecard tool was developed to provide a snapshot of the reform progress along the service delivery pathway. The scorecard was designed to assist the government in consolidating information on the status of water supply and sanitation based on subsector development progress. It does so by grouping the service delivery pathway into three pillars, each of which comprising of three building blocks: developing services (policy, planning and budget), enabling services (expenditure, equity and output) and sustaining services (maintenance, expansion, user outcome). The results of the scorecard are then interpreted in the light of progress, past spending, future funding needs and commitments.

Section 4 to 6 highlight challenges across three thematic areas: the institutional framework, finance, and monitoring and evaluation (M&E). The scorecards for each subsector are presented in their entirety in sections 7 to 10.

## 4. Institutional Framework

### Priority actions for institutional framework

- Identify support structures for local governments to assess and improve the quality of their strategic planning processes.
- Clarify roles and responsibilities for regulation and operation of urban sanitation service provision at local government level.
- Ensure efficient implementation of agreed commitments on water and sanitation sector development.
- Scale up development of human resources through institutionalized capacity building.
- Establish a comprehensive technical support structure for communities to ensure sustainability of water and sanitation schemes.

### Decentralization and Coordination

With the implementation of decentralization in 2001, roles and responsibilities for water and sanitation service delivery changed. Central government including the line ministries responsible for water and sanitation service provision now focuses on policy and strategy development as well as oversight of implementation rather than direct control of service delivery. At the sub-national level, districts and cities carry the authority to ensure service delivery, while provincial governments provide technical support to their respective cities and districts. A critical challenge for the sector is for sub-national government to develop the capacity to fulfil its devolved role in the planning, development and management of services; and for effective instruments to be in place to hold it accountable for doing so.

Technical working groups for water and sanitation (Pokja AMPL) have been established both at national as well as sub-national levels to support the implementation of policies and strategies, and the coordination of day to day

activities. The national Pokja is headed by Bappenas and comprises representatives of 8 line ministries engaged in the sector, such as the Ministries of Home Affairs, Health, Public Works, Finance, Environment, Education and National Bureau of Statistics. The national Pokja is also supported by various projects, NGOs, donor agencies, universities, etc. At local level, Pokjas comprise the respective local government agencies responsible for water supply and sanitation. When meeting on a regular basis, Pokjas have proved to be a very effective forum to support and coordinate sector development. To date, Pokjas have been established in all provinces, and in more than 400 district and city governments.

While provision of water and sanitation services since decentralization in Indonesia has been divided up between central government for policy making and overseeing, and local governments for implementation, the actual responsibilities for particular subsectors lie with individual line minis-



tries and their corresponding offices at local level. The Ministry of Public Works is the lead agency for providing water and sanitation infrastructure to urban and rural areas, while the Ministry of Health is responsible for behavior change and setting standards for drinking water quality. Bappenas is in charge of setting sector targets and policy development. The Ministry of Home Affairs is responsible for capacity building for local governments

## Water Supply Service Provision

Drinking water supply in Indonesia is carried out through different ways and organizational structures, and can be broadly divided into utility-managed and community-managed systems. As part of the utility-managed systems, local water utilities in urban areas (PDAMs) are in charge of providing water to households through piped systems. Owned by the respective local governments, management of PDAMs – including budget and tariff approvals, as well as investment decisions – is usually undertaken in close cooperation with other departments at local government level, and local parliament. Typical challenges PDAMs are facing include providing equity investment for their PDAMs to expand into low-income areas or accessing debt restructuring programs. The lack of revenues due to tariffs below cost-recovery level is another frequent challenge PDAMs are facing. Failure to increase tariffs to a cost-recovery level, however, is only the symptom of deeper issues. Since laws and regulations for appropriate, cost-recovery tariffs do exist, the main reason local government and PDAM management do not implement tariff increases reflects a lack of political will and support for a sound management of the PDAMs.

One way to support the development of urban water supply services is through the *Water Hibah* program (a grant program), which the Government set up with assistance by the Australian government. Through the *Water Hibah*, the central government reimburses a large part of the capital investment costs to local governments or PDAMs for investments made

to low-income households, providing incentives to expand their networks into these areas. Another way to address these challenges is by accessing the government's special budget allocation fund (DAK, see Box 1.1), which is granted from central government to cities and districts to reduce idle capacity of water supply in urban area or to serve low-income communities in urban slums and water scarce areas

Water utilities are being supervised and receive technical support through several channels. The Ministry of Finance monitors PDAM performance across a wide range of parameters through semi-annual audits undertaken by its financial and development oversight agency, the Finance and Development Controller Bureau (BPKP). Under the Ministry of Public Works, BPPSPAM (Support Agency for the Development of Drinking Water Supply Systems) compiles and disseminates a statistical summary of the BPKP performance data. Based on criteria derived from that data, BPPSPAM further establishes the PDAM rating system, categorizing the utilities into *healthy*, *less healthy* or *sick*. To date, around 375 PDAMs exist across the country, with 214 of them categorized as '*healthy*'.<sup>15</sup> Setting water tariffs is under the responsibility of the district heads (Bupati) or mayors, who are guided by laws and regulations issued by the Ministry of Home Affairs. PERPAMSI (the National Water Supply Association of Indonesia) is an association representing all PDAMs in Indonesia with the objective of coordinating investment and support activities, demonstrating best practices, promoting professional business principles and motivating utilities to improve human resource management.

In urban areas that are not served by piped water supply, households tend to access groundwater through deep wells and pumps, although groundwater quality has been deteriorating in densely populated areas due to overuse and contamination by domestic waste. Laws and regulations exist to regulate the overuse of groundwater, but monitoring and enforcement are difficult due to a limitation of resources.

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<sup>15</sup> BPPSPAM conducts an assessment of PDAMs against a set of 30 indicators, including technical, financial, managerial ones, categorizing the utilities as healthy, less healthy or sick. The target is that all 375 PDAMs are in a healthy condition by 2014.

Developing community-based water supply systems in rural and peri-urban areas has been on the Government's priority agenda since the late 1990s. Through large programs such as Water and Sanitation for Low Income Communities 1 and 2 (WSSLIC) and the successor Water and Sanitation for Low Income Communities Project 3 (PAMSIMAS), the central government is supporting the development of local community-based water and sanitation systems. The program is aimed at attracting local government funding to set up, support, and scale up community-based systems throughout the country. This approach is working quite successfully in Indonesia: access rates to rural water supply services have increased from 61% in 1990 to 76% in 2011.<sup>16</sup> Further, community-based organizations (CBOs) managing water supply schemes are formally recognized by the central government as official providers of water supply systems as stated in Government Regulation No.16/2005. It is estimated that around 13,000 CBOs exist to date.

Challenges remain such as how to attract support from local governments to enable CBOs expand their services since in reality, CBOs are still facing many challenges to do so: (a) a lack of capacity to maintain and expand services; (b) a lack of access to finance that would provide much-needed capital; and (c) an unclear legal framework in relation to the expansion of services across more than one village administration area. Commercial banks remain reluctant in granting credits to CBOs, mainly due to poor accountability mechanisms within the CBOs, a lack of collaterals, poor financial management of the CBOs or simply a lack of understanding of the local water and sanitation service market by the banks. Some initiatives to improve and expand community-managed water schemes have been carried out by the Ministry of Public Works with support from WSP and DFAT (formerly AusAID). The aim of these initiatives is to build partnerships among CBOs, local governments and the private sector in supporting the development of rural water supply in Indonesia.<sup>17</sup>

Altogether, management of the water supply schemes overall has become more effective in recent years. The work of institutions and large-scale programs are backed up by supportive regulations, planning processes coordination mechanisms, finance and audit mechanisms and monitoring and evaluation systems. Many recommendations from evaluations are being followed up if financial and human resources allow. Performance evaluations for PDAMs are done regularly by BPPSPAM according to standards laid out in PDAM performance indicators

## Sanitation Service Provision

For urban sanitation services, institutional challenges are much more severe than that for water supply systems, so several large gaps remain. Despite good overall progress made in recent years in increasing access to sanitation services, coverage of centralized wastewater systems in urban areas in Indonesia remains very low – estimates range from 1-2% for altogether only 12 cities (Jakarta, Banjarmasin, Denpasar, Medan, Cirebon, Bandung, Prapat, Yogyakarta, Surakarta, Balikpapan, Tangerang, Batam). According to a recent study, only 1% of the sewerage is actually being treated.<sup>18</sup> These centralized systems are managed by local utilities<sup>19</sup> that are owned by local governments. They require heavy subsidization mainly due to low wastewater tariffs as potential source of revenues and a low number of household connections to the systems. Several initiatives have been carried out by central government to reduce idle capacity in the existing sewerage systems, which some studies quantify to around 50%. Some cities are also preparing feasibility studies and detailed engineering designs to build new sewerage systems. Further, the Government through the Sanitation Australian Indonesian Grant (SAIG) project is intensifying its effort to develop simplified centralized sewerage systems in many cities. However, despite these efforts, national targets for centralized sewerage systems are only 5% by 2014, which is still far from being realized.

<sup>16</sup> In comparison, access to urban water supply services has only increased from 90% to 93% between 1990 and 2011. While pointing out successes in rural water supply development, the report does acknowledge that the different increase in access rates between urban and rural areas is majorly influenced by the high urban population growth rate of around 4%.

<sup>17</sup> Several projects such as the Multi Village Pooling Project, the Second Generation Project and the Domestic Private Sector Participation Project (DPSP) have been implemented by MPW to facilitate partnerships among local governments, CBOs and local banks in order to improve provision of rural water supply services.

<sup>18</sup> World Bank & AusAID (2013): EAP Urban Sanitation Review, Indonesia Country Study: Only 1% of sewerage and 4% of sludge is being treated, while 95% of waste water is not disposed safely.

<sup>19</sup> These utilities are either specific waste water utilities (PDPAL), or combined with water supply utilities (PDAM) or own an own utility for this system only (BLUD in Denpasar, Bali).

Hence, the majority of urban areas in Indonesia will continue to depend on decentralized and on-site sanitation systems in the foreseeable future.

Decentralized wastewater treatment systems (DEWATS) are one of the available options to bridge the gap between onsite sanitation and centralized sewerage systems, particularly in dense, low-income urban areas. A growing number of DEWATS have been built in Indonesia over the past years, with over 80% of them functioning well. However, challenges within a number of DEWATS systems remain, especially in relation to ineffective community management structures, lack of local government support, and a shortage of skilled project facilitators to train residents about the long-term operation and maintenance of the systems.<sup>20</sup>

One of the key aspects of introducing both centralized or decentralized wastewater systems to urban settings is the willingness of households to connect to the system. Preliminary findings of a WSP study show that households can be reluctant to conduct physical work on their premises, mainly due to financial, institutional, technical and/or social reasons, e.g. who would bear the cost for installing the pipe to the house or unclear land and asset ownership. Different solutions are currently being considered, e.g. interceptors that capture gray and black water at the corner of the premises or from a canal. This also allows for better functioning system through sufficient inflow into the treatment plants and the possibility of a gradual upgrade of household connections to the wastewater system.

Recent studies show that around 60% of the urban population have access to onsite sanitation facilities, which mostly consist of enforced pit-latrines or septic tanks.<sup>21</sup> These facilities do count as 'access to improved sanitation' according to the JMP but that masks the fact that the management of septage is not functioning well – only around 4% of septage

is treated properly.<sup>22</sup> This is caused by several issues commonly found in cities, such as low demand for pit and tank emptying service; lack of enforcement to ensure septage from tanker is treated safely; and under-performance of septage treatment plants. Efforts are currently ongoing under the leadership of the Ministry of Public Works—with support from USAID and WSP—to support local government to improve their urban septage management systems. Some cities are starting to pilot regular desludging in order to lower the risk of groundwater and surface water pollution. In response to the growing demand of desludging within the city, private sector operator engagement is sporadically available. But often, sludge is not disposed safely into the treatment plant, but illegally dumped into the environment.

Compared to urban sanitation services, rural sanitation, on the other hand, has seen some remarkable progress in recent years. Following the introduction and success of the Community-Led Total Sanitation (CLTS) approach in 2005, the Government under the leadership of the Ministry of Health has developed the Community-based Total Sanitation Strategy (STBM), which takes the CLTS approach as basis and complements it with hand washing with soap, hygiene and safe food and water treatment, safe wastewater management as well as solid waste management at household level. At the same time, the Government is actively encouraging the private sector to deliver affordable sanitation products and services, with local sanitarians and health cadres taking a key role in behavior change and demand creation. Since rolling out in 2008, STBM is now accepted as the standard approach for sanitation across Indonesia. Responsibilities for implementation are with local health offices and their sanitarian staff to carry out the program in their respective communities with strong support of local government, local and international NGOs, as well as development partners.

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<sup>20</sup> WSP (2013): Review of Community-Managed Decentralized Wastewater Treatment Systems in Indonesia.

<sup>21</sup> World Bank & AusAID (2013): EAP Urban Sanitation Review, Indonesia Country Study.

<sup>22</sup> WSP (2013): Review of Fecal Sludge Management in 12 Cities, Draft Report.

## Hygiene Practices

Although hygiene programs had been introduced and implemented nationally since 1970s together with the provision of latrines and the establishment of official schools for sanitation, the outcomes of the programs have only resulted in limited success. In 2007, hand washing with soap practice was still low with only 23% of the population regularly washing their hands at ‘critical times’.<sup>23</sup> The Community-Based Total Sanitation (STBM) strategy adopted by the Government in 2008 also includes a hygiene component focusing on behavior change as basis for communities to adopt safe hygiene practices. According to the RISKESDAS survey, by 2013 the rate of people washing their hands with soap at critical times has risen to around 47%.

To successfully scale up hygiene promotion in Indonesia, the most important link necessary is a strong partnership with the private sector. Using mass media to communicate hygiene-related messages to a large number of people, or combining sales strategies for hygiene products with the persuasive messaging are areas where the private sector has a comparative advantage over government. Further, the collaboration with midwives to communicate hygiene behavior messages is a way to reach scale.

## Human Resources Development

Despite the progress made in recent years, institutional challenges are to deliver at-scale services throughout the country and to provide the human resources required to do so. Scaling up water and sanitation service provision in order to reach sector targets will require a large number of skilled personnel. For the water supply sector, however, no aggregated data on number and status of human resources needed or those available exist yet. The sanitation subsector, on the contrary, has estimated in a recent study<sup>24</sup> that around 18,000 personnel are needed to meet the national

target in medium term. Only around 9,000 sanitation personnel are currently available, though, indicating a gap of 50%.

Different training institutions exist within the Ministries of Public Works and Health, which follow standard government curricula aligned with existing government programs such as STBM. However, the amount of graduates that finally support the sector development in the districts and provinces – especially facilitators, project managers and technicians – continue to fall short of the demand throughout the country. Since 2013, MoH connects the STBM capacity building program to the ministry’s human resource development schemes through accredited training, individual government officer’ performance credit mechanisms, e-learning, and by including it into the health schools curricula.

## Sustainability and Asset Transfer

Sustainability of community-operated water supply schemes is often weakened by an unclear transfer process of assets from government programs or projects to communities. In theory, existing laws and regulations define how ownership of assets is handed over by national government and projects to local governments and communities after the completion of an intervention to operate, maintain and manage the systems. In reality the operational process of handing over assets bears a number of challenges: For example, monitoring and registration of assets is required on a voluntary basis and therefore not conducted diligently; at handover, the registry of the assets as well as their functionality is not clear; and subsequently, responsibilities after handover are often disputed with communities or local governments refusing to allocate budget for repairs, operation and maintenance. Furthermore there is a lack of support structures for communities to request assistance for the

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<sup>23</sup> Hand washing at five critical times includes after defecation, after babies and children defecate, before eating and preparing food, before breastfeeding and after contact with animals.

<sup>24</sup> Qipra Galang Kualita (2012): Sanitation Personnel: Capacity Development Strategy.

proper operation and management of their newly acquired systems. Assistance is required to help both parties monitor and register the quantity and functionality of the assets at the point of transfer, as well as to technical support to communities on how to manage the new systems in the time after handover. Government programs and projects are further to engage more actively already from an early stage with the community representatives, who will be part of the operation and maintenance teams after transfer.

# 5. Financing and its Implementation

## Priority actions for financing and its implementation

- Urge development of sound investment plans and their endorsement and incorporation into local government work plans for immediate implementation.
- Establish a clearly defined public financing policy for urban sanitation with sources well identified.
- Actively seek involvement of private sector participation in the sector.
- Continue to develop alternative financing schemes to leverage sector investment.

## Investment Planning

Investment planning in the water and sanitation sector in Indonesia is still not done systematically throughout the sector and lacks coordination among key stakeholders. For the water supply subsector, the Ministry of Public Works has developed the Water Investment Roadmap (WIRA),<sup>25</sup> which includes an assessment of issues in the water supply subsector and proposes specific investment packages and programs to reach sector targets. For sanitation, Bappenas coordinates the Sanitation Acceleration Program (PPSP), which includes an overview of investment requirements based on the stages of the program.

At local government level, a mid-term investment plan (RPI-JM) is developed to coordinate funding from the Ministry of Public Works at national level as well as from provincial and local level budgets. Cities and districts participating in PPSP have to develop city sanitation strategies (SSK), which includes mid-term investment plans and is also included into the RPIJM. For water supply, local water utilities (PDAMs) develop investment plan as part of their business plans, which is a requirement to participate at the debt restructuring program.

While these investment planning exercises cover large parts of the water supply and sanitation sector, it does not cover rural sanitation development. In fact, the investment roadmaps and plans are mainly focusing on infrastructure development in the sector, which is why they have not yet been fully applied to the rural sanitation sub-sector with its behavior change approach that is aimed at leveraging household contributions. Even though the PPSP roadmap covers both rural and urban sanitation development nationwide, it does lack the depth and detail of a comprehensive investment plan.

In order to achieve sector targets by 2019, the raising rate of budget allocation to the sector over recent years has to be increased even further. It is therefore crucial to continuously optimize the processes of how finances are turned into access to services. For that, a sound and comprehensive investment planning process is key so that available funds can be utilized in an efficient way. It is further important to link investment planning processes at central level with the more detailed, specific investment planning processes at local level, to ensure that local sector development also contributes to national targets.

<sup>25</sup> MoPW, World Bank (2012): Indonesia Water Investment Roadmap 2011-14.

## Budget Transparency

Despite clear mandates and regulations, it remains difficult to get a comprehensive picture of the total budget and expenditures in the water and sanitation sector. The Indonesian law requires a three-party consensus for budget planning, including the Ministry of Finance, Bappenas, and the according line ministry. A number of criteria have been set up to develop the budget, such as consistency with targeted performance indicators, accountability of users and source of funds. The formula used to calculate the budget might be revised every year depending on national and local revenues, the share of tax allocation for the sector, the population growth and technical conditions. The Ministry of Finance releases a detailed mechanism and formula every year as guidance for developing budget allocations. For transparency and accountability reasons, a national government accounting system is implemented jointly between the Ministry of Finance and the line ministries. Budget and financial audit reports are available for the public, although most of those documents are not accessible online but only upon request.

There has been great improvement in recording government budgets and auditing expenditures, including categorizing budgets and expenditures by source of funds. The disaggregation of data, however, stops at the sector-level—reports do not disaggregate the water and sanitation sector further into urban and rural areas. This complicates specific accountability of sector performance to individual agencies, especially because the water and sanitation budget is held by several ministries involved with particular parts of the sector, and can even be spread out within several departments within one ministry. So despite the fact that the data do exist in one form or another, due to a variety of different forms and templates used by different ministries or local government agencies, no consolidated report is available at national level for the sector as a whole, neither at national nor at local level.

## Utilization of Budgets

It is difficult to get a real picture of the budget utilization given the unreliability of data as described above. In fact, the lack of compiled data reports in the water and sanitation sector continues into the auditing mechanisms. Audits are mostly done for individual ministries or projects, but do not cover a disaggregation between rural and urban areas. Audit reports do exist but are scattered among different agencies or projects. Stakeholders estimate that the rate of budget utilization is more than 75% for the sector as a whole and in some cases reaches almost 100%. In the review of the RPJMN 2010 – 2014, the ADB estimated a 75% utilization of the development budget for the water and sanitation sector, which is why many ministries work hard to ensure a maximum utilization of their budgets.

## Private Sector Participation

Private involvement through public-private partnerships (PPP) or by utilizing corporate social responsibility funds for the water sector does exist, although it's still limited. Two presidential regulations<sup>26</sup> to strengthen partnerships with the private sector and to provide a guarantee fund mechanism for viable PPP schemes have been developed and need to be intensified in its implementation to provide access to new and large sources of investment funds for local governments. Currently, the Indonesia Water and Sanitation Investment Facility is under preparation. This initiative, led by Ministry of Finance, Bappenas, and the Ministry of Public Works with support from World Bank is aimed at providing financing in combination with technical assistance when required, to help PDAMs access non-government sources of funding, in case they are not 'healthy' enough to borrow from commercial banks.

Another idea to leverage increased private sector funding would be to establish a pooled Municipal Development Fund, aimed to mobilize funds from different sources for

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<sup>26</sup> Perpres 13/2010 and Perpres 78/2010.

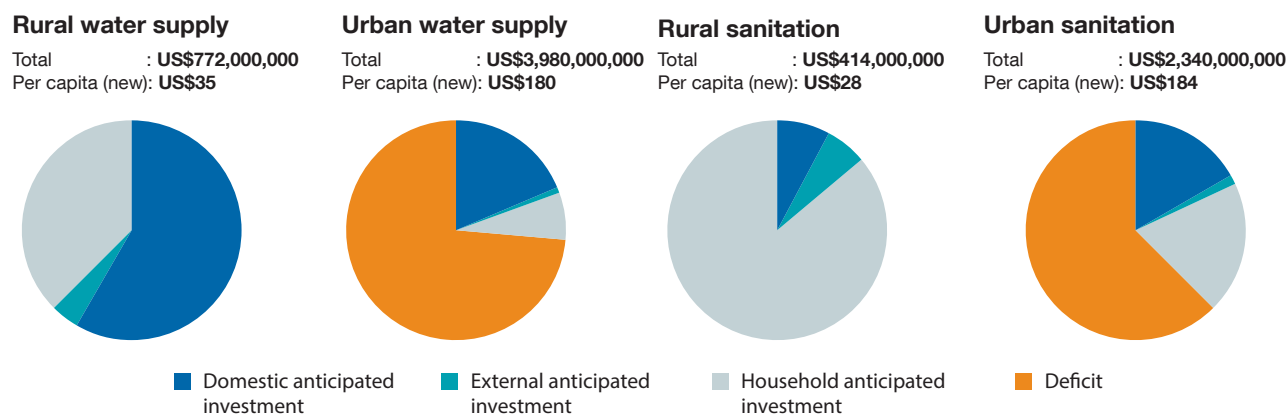
investment in infrastructure. This would then have to be combined with a project preparation facility to support local governments in developing good, bankable investment projects.

## Budget Adequacy

Figure 5.1 shows the different sources of finance for the four sectors. As a whole, there are deficits in the urban water and sanitation sector, as can be seen in orange color in the diagram. However the reverse seems to be the case in rural areas, where water supply and sanitation are projected to be fully funded.

It is clear from Figure 5.1 that households and other domestic stakeholders<sup>27</sup> are expected to be a major source of investments in both rural and urban areas. In rural sanitation, removing anticipated household investments leads to a deficit rather than a fully funded subsector. This raises a question of whether rural sanitation is actually fully funded. The reason is that the household anticipated expenditures were modeled rather than based on documents or expressed intentions of stakeholders, which was the case for Government and donor agencies. In other words, there is no assurance that households will actually make these investments.

**Figure 5.1 Overall annual and per capita investment requirements and contribution to anticipated financing by source**



Source: SDA costing

<sup>27</sup> Domestic stakeholders are represented in this case mostly by the national government. The basis of the Figure 3 contains limited information on local governments and no information on utilities and the private sector.



## 6. Sector Monitoring and Evaluation

### Priority actions for sector monitoring and evaluation

- Link monitoring and evaluation systems to budgeting and planning processes.
- Strengthen the National Water Supply and Sanitation Information Services System (NAWASIS) to become an integrated portal for sector-wide M&E.
- Improve local capacity for use of M&E data for sector planning, budgeting and targeting implementation support.

Most monitoring efforts in the Indonesian water and sanitation sector are still being undertaken at a program or project level with limited coordination across the sector. Decentralization and the new responsibilities of local governments to provide water and sanitation services has not made this effort easier. Many local governments still lack the capacity, full understanding and incentives to regularly conduct monitoring and utilize the data for planning purposes. In fact, many local governments are reaching their capacity limits with the multitude of reports they already have to submit every year for numerous programs and projects they participate in.<sup>28</sup>

Despite these difficulties, there has been significant improvement in sector monitoring and evaluation in recent years, both regarding coordination mechanisms and technical aspects. Line ministries, local governments and other stakeholders have conducted regular monitoring and evaluation exercises, formulated follow up actions, and implemented corrective actions based on the results. The national Pokja undertakes a coordinated regular annual review for the sector, involving several main government agencies related to water and sanitation.

While this is a very useful and welcomed exercise, the results of these reviews are not sufficiently shared and agreed corrective actions of respective agencies at national and local level are not always followed through diligently. Despite annual review mechanisms, development partners and projects continue to carry out their own internal M&E reviews, but do not necessarily share the findings with other line ministries or the Pokja. Communities also conduct M&E reviews on a voluntary basis, but there is no clear reporting requirement to share their reports with their respective district offices. M&E studies done by line ministries and partners, even though available, are also not always shared or published. Above all, consolidated reports based on comparable sets of data are not yet available, either, making it difficult to find reliable data, except for project M&E systems such as PAMSIMAS, which now operates in 220 out of 440 districts in Indonesia. Similarly, other large programs that fund for example water schemes, such as PNPM, have their own program M&E system.

NAWASIS as a national level M&E platform would facilitate consistent targets and indicators derived from a compre-

<sup>28</sup> Some local governments report that they have to submit up to 27 reports annually to various donors and projects that are active in their areas.

hensive results framework. So far, the RPJMN 2009-2014 does not differentiate between targets and indicators for rural and urban areas, and each ministry or sector partner has their own specific indicators and targets for their part of the sector – which are not always in line with national indicators in mid-term or long-term development plans.

The Ministry of Public Works has developed an online M&E tool for water supply named SIMSPAM. The number, condition, and location of water utilities are constantly kept updated. At this moment, the system covers about 6 million people. MoH is also developing an online reporting system for sanitation, through SMS and web-based M&E. This system currently covers 9 provinces. It is planned that it will be implemented nationally in 2014. It remains to be discussed

in detail how this system can be incorporated into the NA-WASIS umbrella.

Despite increased efforts to carry out monitoring and evaluation in the water and sanitation sector, the data collected are not always analyzed and compiled in a systematic sector review. Furthermore, recommendations and priority actions, if available, are not always followed up to improve the quality of services. It is therefore recommended to improve the Government's capacity to scale up M&E at local level and use it as resource for sector planning, budgeting and implementation support. This should be linked to a systematic incentive structure tailored to local circumstances, that combines rewards and punishments.

## 7. Subsector: Rural Water Supply

### Priority actions for rural water supply

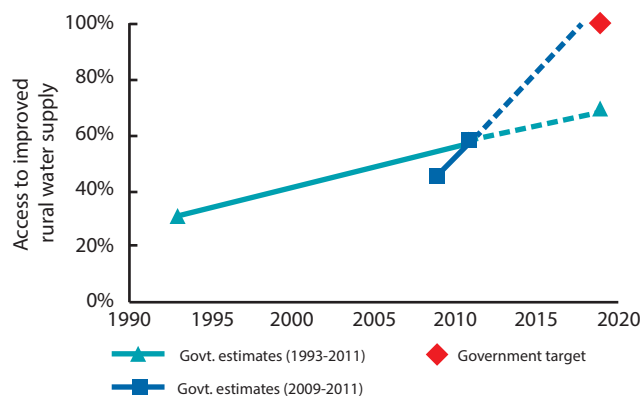
- Establish a clear demarcation of roles and responsibilities within the local governments after the hand-over of assets on managing and maintaining the water supply systems.
- Continue to facilitate and support community organizations in accessing commercial finance from local banks.
- Establish comprehensive technical support structure for communities to ensure sustainability of water and sanitation schemes.
- Improve capacity to scale up M&E at local level and use it as resource for sector planning, budgeting and implementation support.

Figure 7.1 shows access rates and targets for rural water supply. Government estimates from Bappenas, which are based on the SUSENAS survey, indicate that only about 58% of the rural population had access to improved water supply in 2011. Progress between 1993 and 2011 has been moderate, with about 0.7 percentage points per year on average. However, following years of large rural water supply projects,<sup>29</sup> and an increase in the Government's commitment into the sector in recent years, a more rapid increase in access rates can be witnessed between 2009 to 2011, amounting to around 5% per year on average. If this accelerated trend continues to rise, it might be possible for the Government to meet the 2019 targets of universal access.

JMP estimates, which have a less stringent standard for defining improved water supply compared to the Government, indicate that a much higher proportion (76%) of the rural population had access to improved sanitation.

However, JMP and government indicators both suggest modest increases in access rates over time and, if current trends continue, a strong likelihood that country targets for 2019 will not be reached.

Figure 7.1 Access to rural water supply

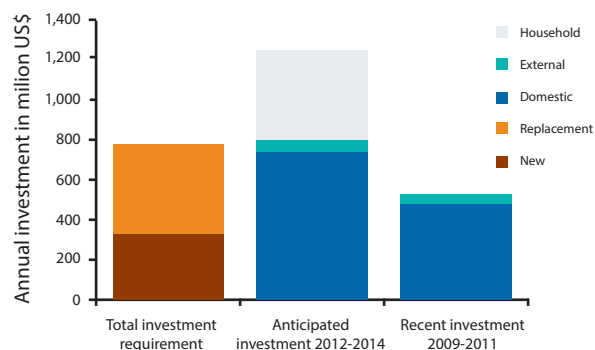


Sources: SDA costing, Bappenas, and JMP (2013)<sup>30</sup>

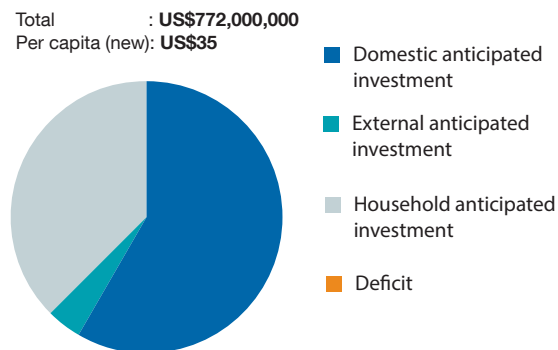
<sup>29</sup> Three Water Supply and Sanitation for Low-Income Communities Projects have been implemented in the past two decades (WSSLIC 1 and 2, PAMSIMAS).

<sup>30</sup> JMP (2013) *Progress on Drinking Water and Sanitation: 2013 Update*. UNICEF and WHO.

**Figure 7.2 Rural water financing (required, anticipated and recent investments)**



**Figure 7.3 Rural water supply financing, anticipated and gaps**



Source: SDA costing

The SUSENAS survey for 2010, as presented in the JMP,<sup>31</sup> indicates that protected wells were the most common (33% of the rural population) drinking water source in the rural Indonesia. Other common sources were tubewells/boreholes (13%) and protected springs (14%). Private access to piped water remains low at less than 5% of the rural population.

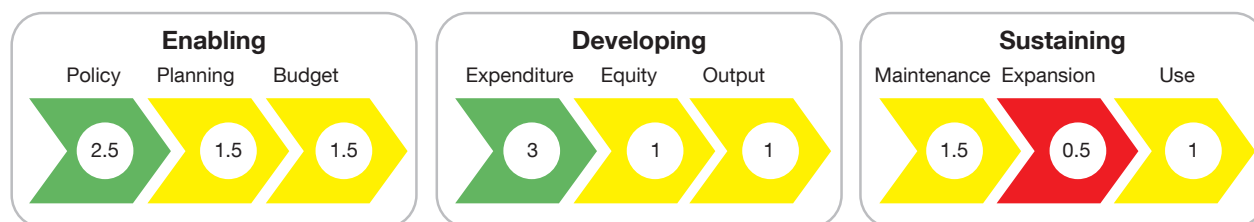
The country needs to raise an estimated US\$772 million per year in order to meet its rural water supply targets for 2019 (Figure 7.2). About 57% of this amount is needed to replace worn-out facilities over the period of analysis. Anticipated investments (\$1.2 billion per year), which represent projected annual investments from 2012-14, are much higher than requirement investments. This finding is consistent with the earlier projection that the sector is likely to meet its target. It also suggests that government and donors should continue with current efforts to fund the sector. While funds from government and donors seem sufficient to fund requirements, the fully funded budget resulting from the inclusion of household anticipated invest-

ment has to be treated with caution. As explained earlier, this has to do with household investments being modeled in the analysis rather than reflecting an expressed desire of households to fund expenditures for water supply facilities.

Figure 7.4 shows the scorecard results of the rural water supply service delivery pathway. The development of the rural water supply subsector reflects positive scores as a result of a supportive policy, shared roles and responsibilities among major stakeholders, good coordination among government institutions, and improving quality of scheme management and financial record keeping. At the same time the red scores and those on the lower end of the yellow blocks, particularly equity, output, expansion and user outcomes, give reason for concern: It is especially the focus on equity, ensuring that the money is spent effectively on developing new services, as well as expanding and sustaining performance of existing schemes that need to function well in order to increase access rates especially for low-income areas.

<sup>31</sup> JMP (2012) *Estimates for the use of Improved Drinking-Water Sources: Indonesia*, wssinfo.org.

**Figure 7.4 Rural water supply scorecard**



Source: SDA scorecard

In order to improve the service delivery pathway for access to rural sanitation, a series of priority actions can be identified. Since most systems are built through national programs or projects, problems – if there are any – mostly occur after the projects are finished. There is no clear division of roles and responsibilities within local governments on who does what in terms of providing assistance to communities. Although a Ministry of Home Affairs Decree<sup>32</sup> is being issued that aims to increase the priority of supporting CBOs as part of the expansion and improvement of existing rural water supply schemes, it is not clear yet on how this will be implemented. The capacity of many CBOs to manage existing water supply schemes, on the other hand, is still limited.

To address these gaps in capacity of CBOs, the challenge is how to reach the large number of CBOs in the country with only limited resources. In that regard, two approaches are being carried out: In the first approach, the Ministry of Public Works with support from WSP through the Domestic Private Sector Participation project (DPSP) is strengthening the role of local governments to provide assistance to CBOs, in order to improve community-managed service provision through public and private investment funds.

The second approach includes CBO Associations (Asosiasi BPSPAM), both at central and at district levels, that

have been established with support from the Ministry of Public Works. These associations are a forum for CBOs to engage in knowledge sharing and horizontal learning amongst each other. Further, the associations are used as vehicle to carry out performance monitoring. Finally, the Government is strengthening the capacity of the associations to provide technical assistance to their member CBOs, and serve as a supportive link between the CBOs and other potential partners, such as the private sector.

Aside from the level of capacity of CBOs, the amount of public funds available is not sufficient to cover the demand for access to services in the rural areas. However, facilitating CBOs to access finance from local banks has proved to improve the capacity of the CBOs to improve and expand services. It is therefore recommended to identify well functioning, alternative financial sources as well as alternative financial schemes, and scale them up more widely across the country.

In terms of sustaining services, the monitoring and information system developed through PAMSIMAS has been widely used to provide updates on the functionality of local water systems. Moreover, this monitoring system could be used as a tool for local governments to track their achievements compared with the targets stated in their individual development plans.

<sup>32</sup> Ministry of Home Affairs Decree No. 23/2013 regarding the Local Government Development Plans (RKPD).

## 8. Subsector: Urban Water Supply

### Priority actions for urban water supply

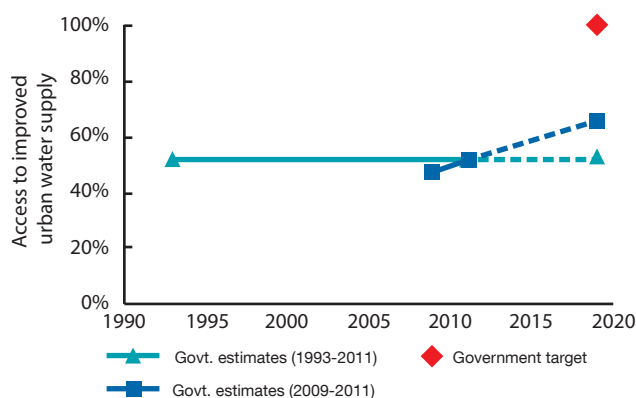
- Continue to assist 'unhealthy' PDAMs to improve their overall business management condition and become and remain 'healthy', by improving asset management, implementing cost-recovery tariffs, reduce non-revenue water and improving the management of human resources.
- Intensify assistance to PDAMs to access financial sources such as commercial financing or government assisted schemes.
- Continue supportive incentive schemes such as Water Hibah to realize financial commitments by local government into the sector.
- Identify further incentives for PDAMs to increase access into low-income communities.
- Engage local governments into a sound planning to secure future availability of water sources, e.g. by developing sound water safety plans.

Figure 8.1 shows access rates and targets for urban water supply. Government estimates from Bappenas, which are based on the SUSENAS survey, indicate that only about 52% of the urban population had access to improved water supply in 2011. Access rates have significantly improved since 2010 due to strong political commitment to prioritize the achievement of the MDGs, as stated in RPJMN 2010-2014. However, in order to reach the more ambitious target of universal access by 2019, more efforts than in the recent past are needed.

The JMP uses less stringent standards compared to the Government and estimates that 93% of the urban population had access to improved water supply sources in 2011. Despite this difference, JMP and government estimates are similar in the sense that access rates have changed very slowly over the past two decades and that 2019 targets are unlikely to be met if the current changes in access rates continue.

The SUSENAS survey for 2010, as presented in the JMP,<sup>33</sup> indicates that access to private piped water supplies (18% of the urban population) as a source of drinking water in the urban areas of Indonesia is quite low. There remains a heavy reliance on tubewells/boreholes (19%), protected wells (22%), bottled water (9%) and water refillers (16%).

**Figure 8.1 Access to urban water supply**

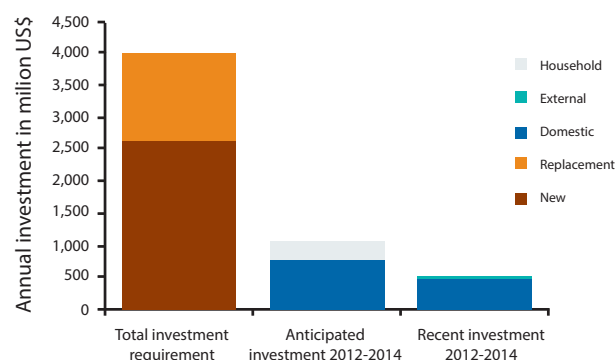


Sources: SDA costing, Bappenas. JMP (2013)<sup>34</sup>

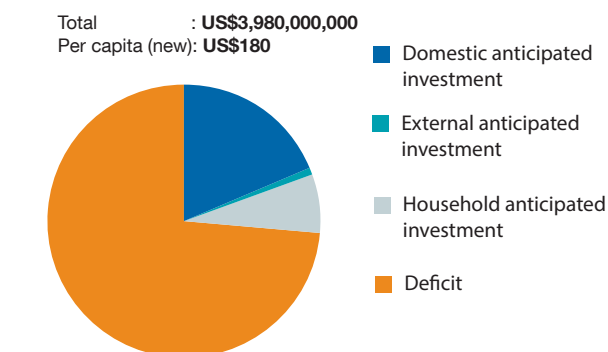
<sup>33</sup> JMP (2012) Estimates for the use of Improved Drinking-Water Sources: Indonesia, wssinfo.org.

<sup>34</sup> JMP (2013) Progress on Drinking Water and Sanitation: 2013 Update. UNICEF and WHO.

**Figure 8.2 Urban water supply financing (required, anticipated and recent investments)**



**Figure 8.3 Urban water supply financing (anticipated and gap)**



Source: SDA costing

The country needs to raise an estimated US\$4 billion per year in order to meet its targets for 2019 (Figure 8.2). More than half (66%) of these requirements are for providing access to people who did not have facilities (new investments) in the base period. The remaining investments are required for replacing facilities at the end of their economic life (replacement investment). Recent investments, which are mostly from domestic sources, are very low. Anticipated investments, which are also projected to come mostly from domestic sources, are estimated to be higher than recent investments. However, this only amounts to about 10% of investment requirements. Funding issues are compounded by the findings in Section 2 that an additional US\$474 million per year needs to be generated for O&M expenditures.

The high deficit of almost US\$3 billion per year is mainly due to the high targets for piped water supply in urban areas (projected to be for 90% of all households with access to improved water supply by 2019), and the associated high unit costs for these piped systems.<sup>35</sup> Considering the urban population growth, reaching these targets will require considerable investments into the subsector.

The service delivery pathway for urban water supply achieves overall higher scores than the other subsectors (Figure 8.4), which can mainly be attributed to better policy and legal guidance on well-defined responsibilities, coordination mechanisms, recording and reporting, as well as organization and management of the utilities. While there is high commitment by the central government to provide access to water supply in urban areas, local governments continue to face challenges to increase access rates. One major gap identified by stakeholders remains the Government's ability to commit an adequate budget necessary to reach the sector targets. This is exacerbated by the limited resources available to PDAMs to invest and expand coverage.

In comparison, expansion in the sustaining pillar receives a medium score of 1.5, indicating autonomy and the availability of business plans. This is an important basis, but – as can be seen at the low output block – does not automatically translate into effective results if the quality of these business plans is not sufficient and not enough funds are available to implement them. Closely related to the low score of the output building block is the medium score of

<sup>35</sup> For more information on unit costs, see Annex 2.

1.5 given to planning and budgeting within the enabling pillar. In order to meet the target of universal access by 2019, the effectiveness of producing outputs and expanding services needs to be increased.

Of specific concern is the low score of 0.75 attributed to the maintenance building block of the sustainability pillar. Many of the issues that prevent PDAMs from more efficiency are compiled in this building block: non-revenue water losses (NRW), cost-recovery and tariff reviews. The national average for NRW is still as high as 38% in 2012, just two percentage points below a red score in the scorecard; the ratio between operational revenues and costs is below 0.8, indicating insufficient collection of revenues and high losses (e.g. due to NRW); and tariffs are reviewed regularly with regards to cost-recovery level, as required by law, but often no tariff adjustment is made. This underlines the important point that well managed water provision through utilities is not only a technical or managerial matter, but heavily dependent on the dynamics of the political economy at local level. With a strong political leader understanding the need for sustainable service provision by the water utility, tariff reviews and adjustments are expected to happen faster and more frequently.

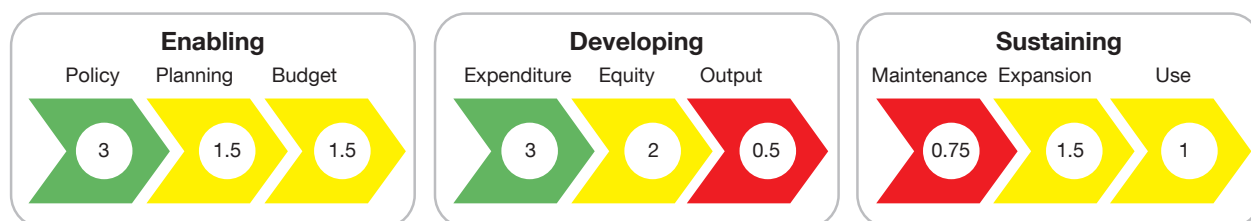
In order to strengthen efforts to serve low-income communities, active participation of communities facilitated by

local government, CSOs and projects, as well as realizing equity funds from local budgets, should be continuously advocated and encouraged. Support and participation of private sector such as corporate social responsibility (CSR) should also be strengthened.

## Water Resources Security

High population growth, and continuous high rate of urbanization, combined with widespread water pollution and decreasing water conservation areas are increasingly stressing the availability of water resources for domestic use. Linked with rising economic growth and increased prosperity, the volume of water used is also rising. At the same time, the development and implementation of technologies to reclaim water has started although its use is still limited. Leaking latrines and the lack of a properly functioning fecal sludge management system also contributes to pollution of water sources, which is why the synergy between sanitation and water has to start from the planning stage. For future security of water sources in view of the projected demographic and climate change scenarios, local governments need to be engaged into a rigorous discussion to improve resilience and improve their capability to adjust service provision accordingly. Continuous focus on an integrated and coordinated water safety planning process at local level is crucial for this challenge.

**Figure 8.4 Urban water supply scorecard and results (0 = lowest; 3 = highest)**





## 9. Subsector: Rural Sanitation and Hygiene

### Priority actions for rural sanitation and hygiene

- Strengthen the capacity of the STBM secretariat to coordinate and assist the implementation of STBM in Indonesia.
- Continue efforts to increase the number and capacity of sanitation entrepreneurs and sanitation personnel to support scaling up STBM nationwide.
- Improve capacity to scale up M&E at local level and use it as resource for sector planning, budgeting and implementation support.
- Ensure sufficient funding on software components to ensure leverage of household contributions.

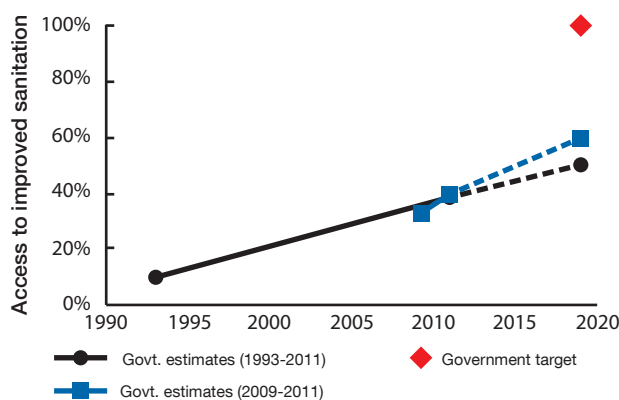
Figure 9.1 shows access rates and targets for rural sanitation. Government estimates from BPS, which are based on the SUSENAS survey, indicate that only about 39% of the rural population had access to improved sanitation in 2011. While the 2011 access rate is about three times higher compared to 1993, the rate of increase (1.5 percentage points per year) is not fast enough to meet the target of universal access in 2019.

The JMP operates on less stringent standards compared to the Government and estimates that 44% of the urban population had access to improved sanitation in 2011. Despite this difference, JMP and government estimates are similar in the sense that 2019 targets are unlikely to be met if the current trends in access rates continue.

The SUSENAS survey for 2010, as presented in the JMP,<sup>36</sup> indicates that flush-toilets/gooseneck pans are very common in rural Indonesia (64%). However, government definitions for improved facilities are much lower because these

also require that the toilets be private and have access to either a septic tank, a sewerage system or a pit. The JMP<sup>37</sup> also estimates that more than a third (35%) of the rural population still practiced open defecation in 2011.

**Figure 9.1 Access to rural sanitation**



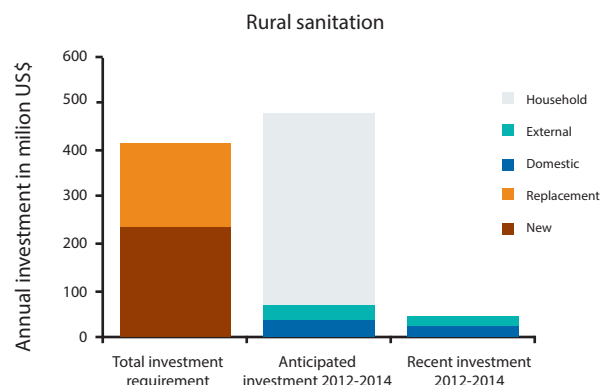
SDA costing, BPS and JMP (2013)<sup>38</sup>

<sup>36</sup> JMP (2012) *Estimates for the use of Improved Sanitation Facilities: Indonesia*, wssinfo.org.

<sup>37</sup> JMP (2013) *Progress on Drinking Water and Sanitation: 2013 Update*. UNICEF and WHO.

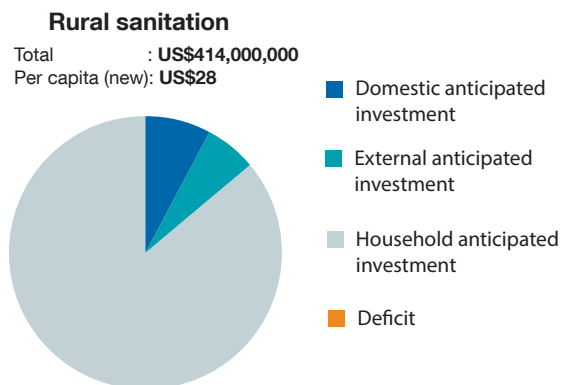
<sup>38</sup> JMP (2013) *Progress on Drinking Water and Sanitation: 2013 Update*. UNICEF and WHO.

**Figure 9.2 Rural sanitation financing (required, anticipated and recent investments)**



Indonesia needs to raise an estimated US\$414 million per year in order to meet its rural sanitation targets for 2019 (Figure 9.2). About 43% of these requirements are needed for replacing facilities at the end of their economic life (replacement investment). Anticipated investments are expected to meet requirements, indicating that targets for rural sanitation might even be reached earlier than 2019. However, care must be exercised in interpreting the results for two reasons. First, current trends presented earlier suggest that the access rate in 2019 is likely to be way below the target. Second, the anticipated contribution of households (US\$410 million per year) is the primary reason for the existence of the surplus. Recalling that such investments were simply modeled rather than based on documents/budgets suggests a significant amount of uncertainty. The surplus could very well be a deficit if households decide to spend less than projected here. The fact that access to improved sanitation in rural areas remains low suggests that a significant amount of investment for demand creation (software) will also be necessary to induce households to invest in hardware facilities.

**Figure 9.3 Rural sanitation financing (anticipated and gap/surplus)**



Source: SDA costing

Rural sanitation has received a significant increase in political priority over the past years, following the National Community-Based Total Sanitation Strategy (STBM) issued in 2008 and the definition of sector targets including 'open defecation free' status by 2014. Meeting these targets, however, remains challenging for various reasons. First, the magnitude of the problem. With still 100 million people still not having access to improved sanitation facilities (and 58 million people still practicing open defecation in 2011), Indonesia will need to help 16 million people per year gain access to improved sanitation facilities, current population growth rates considered. Second, the type of approach used for sector development. The methodology underlying STBM is based on a community-participatory, non-subsidy approach triggering behavior change, ultimately leveraging household contributions as main source of financing, and aiming for collective outcomes. This means a higher focus on software compared to hardware expenditures, such as capacity building through training and institutionalization in schools or the development of real-time SMS and web-based monitoring.

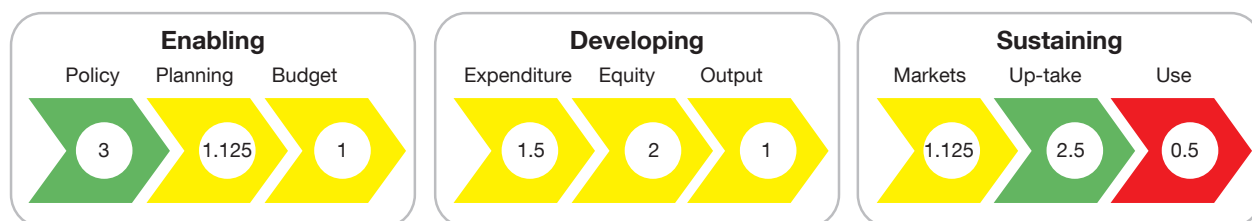
In this regard, the scorecard reveals a quite realistic picture of the current situation of the rural sanitation subsector (Figure 9.4): The green building blocks policy and up-take reflect the existence of the STBM program, a sound policy framework including sector targets and clearly established roles and responsibilities, embracing a high degree of community participation and equity, with a number of incentives and focus on behavior change.

The challenges now focus on the next step in the process, the implementation of the policy at national level, and sustainability of the services created. Here, the scorecard results show some bottlenecks. The planning and budgeting building blocks, including creating investment plans, establishing monitoring and evaluation mechanisms, assessing number and capacity of human resources, as well as having sound budget and financial planning mechanisms in place, are maturing, although are still in need of development to achieve full nation-wide implementation. A number of initiatives, activities and mechanisms have been implemented in numerous provinces and now being replicated across the wide-spread rural population in Indonesia.

Promising improvements as well as large remaining gaps are both combined in the sustainability level of the program. Acceptance of the approach among the community, willingness to bear the cost of improved sanitation services, and improved health and hygiene outcomes were confirmed by an impact evaluation in 2012.<sup>39</sup> The local private sector of sanitation enterprises is seen as an important partner in delivering services, as well as contributions through corporate social responsibility programs, all of which are contributing towards better sector performance.<sup>40</sup> At the same time, the use building block still shows a score of 0, indicating that great efforts are still required to meet the 2019 sector targets, the effectiveness of the equity focus still needs to be strengthened, and the use of improved facilities is still quite low.

At central government level, a secretariat in the Ministry of Health has been set up to assist the implementation of the STBM program. This is key to scale up STBM to a nation-wide level. The secretariat, however, requires continued assistance to build capacity and coordinate the implementation of the strategy.

**Figure 9.4 Rural sanitation and hygiene scorecard and results (0 = lowest; 3 = highest)**



<sup>39</sup> WSP (2013): TSSM Impact Evaluation, Field note.

<sup>40</sup> According to the Association for Sanitation Entrepreneurs (APPSANI), more than 3000 private sanitation entrepreneurs exist in Indonesia to date.

# 10. Subsector: Urban Sanitation and Hygiene

## Priority actions for urban sanitation and hygiene

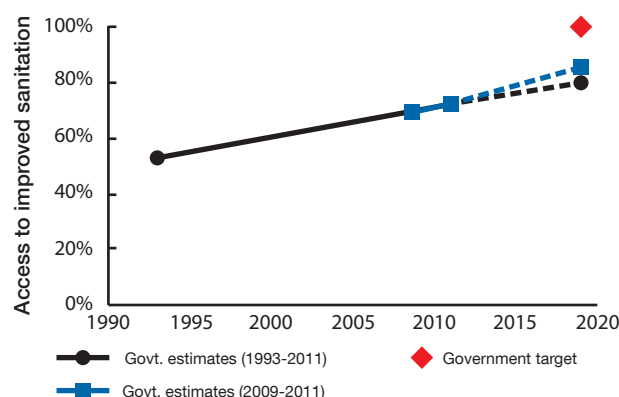
- Improve technical and managerial performance of urban sanitation treatment facilities by building managerial capacity and increasing the efficiency of the treatment facilities.
- Provide technical assistance to intensify the development of fecal sludge management systems in urban areas including private sector participation.
- Institutionalize the clear demarcation of roles and responsibilities for regulation and service provision at local level to ensure more effective service delivery.

Figure 10.1 shows access rates and targets for urban sanitation. Government estimates from the BPS, which are based on the SUSENAS survey, indicate that about 73% of the urban population had access to improved sanitation in 2011. Access rates have improved modestly since 1993 and the changes do not seem large enough to meet the target of universal access in 2019. The JMP access rates for 2011 are very close to government estimates.

The SUSENAS survey for 2010, as presented in the JMP,<sup>41</sup> indicates that flush toilets/gooseneck toilet pans are common in rural Indonesia (88%). However, government definitions for improved facilities are much lower than JMP definitions, because they require that the toilets be private and have access to either a septic tank, a sewerage system or a pit. Access to sewerage systems and sewerage treatment in urban areas is still very low, covering only about 1% of the urban population, according to studies by the USDP

and Eales et al.<sup>42,43</sup> The JMP also estimates that as of 2011, about 14% of the urban population still practiced open defecation.<sup>44</sup>

Figure 10.1 Access to urban sanitation



Source: SDA costing<sup>44</sup>

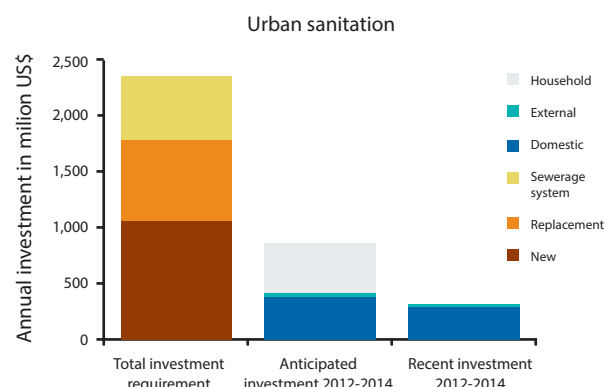
<sup>41</sup> JMP (2012) Estimates for the use of Improved Sanitation Facilities: Indonesia, wssinfo.org.

<sup>42</sup> Urban Sanitation Development Program (2012) National Sanitation Demand Assessment 2012, Draft report, November.

<sup>43</sup> Eales K., R. Siregar, E. Febriani and I. Blackett (2013) Review of Community Managed Decentralized Wastewater Treatment Systems in Indonesia, WSP, February.

<sup>44</sup> JMP (2013) Progress on Drinking Water and Sanitation: 2013 Update. UNICEF and WHO.

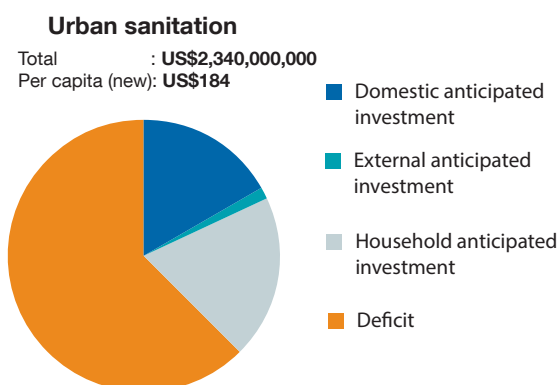
**Figure 10.2 Urban sanitation financing (required, anticipated and recent investments)**



The country needs to raise an estimated US\$2.3 billion per year in order to meet its 2019 targets for urban sanitation (Figure 10.2). About 24% (US\$560 million per year) of this amount is for providing access to sewerage systems, with a national target of 6% of the urban population by 2019. Anticipated investments are less than investment requirements, suggesting that planned expenditures for 2012-14 are not enough to meet the targets. This implies that achieving the targets for 2019 may require substantial increases in investments starting now. The deficits for 2012-14 might actually be higher than what is estimated here. The reason is that 51% of the anticipated expenditures are projected to come from households. Funding issues are compounded further by the finding in Section 2 that an additional US\$214 million per year needs to be generated for maintenance and operating expenditures

The results of the urban sanitation scorecard (Figure 10.4) show that it is evident that Indonesia has developed a sound basis for urban sanitation service delivery: Policy and budget building blocks receive quite high scores, followed

**Figure 10.3 Urban sanitation financing (anticipated and gap)**



by medium scores for planning, expenditure and equity. However, the performance of how services are implemented and sustained still show major weaknesses, especially regarding the rate of expansion and quality of treatment, described through the low output score. For example, in the past, a number of urban sanitation facilities were constructed throughout the country, but as recent studies show,<sup>45</sup> many of the facilities still have substantial issues regarding the quality of their performance. Although regulations (including norms and standards) are available, but ensuring high quality technical and managerial performance is one of the biggest challenges Indonesia faces in the urban sanitation sector.

Another major bottleneck is the markets building block, which reveals the shortcomings in fecal waste collection and treatment (score = 0) and the lack of cost recovery of treatment systems (score = 0). Given the large prevalence of pit latrines and septic tanks in urban areas, the lack of fecal sludge management is of particular concern. Studies have shown<sup>46,47</sup> that the majority of facilities, which are com-

<sup>45</sup> Refer to WSP (2013), Review of Community-Managed Decentralized Wastewater Treatment Systems in Indonesia, World Bank and AusAID (2013), Urban Sanitation Review: Indonesia Country Study.

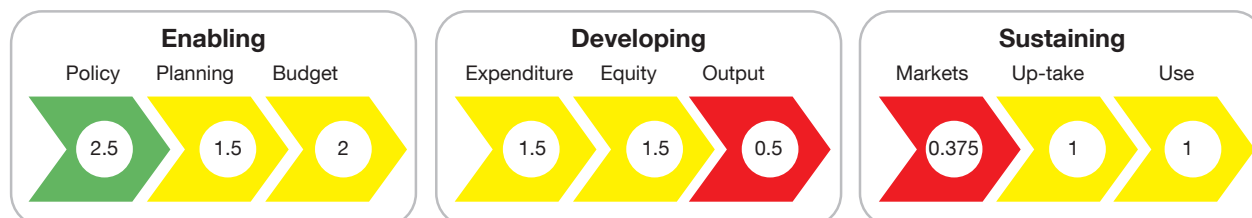
<sup>46</sup> Urban Sanitation Review: Indonesia Country Study. The World Bank, 2013.

<sup>47</sup> Urban Sludge Management, WSP [reference]

only called ‘septic tanks’, do not actually include a properly functioning sealed tank and treatment system; in most cases, they are merely latrine facilities with an enforced pit as sub-structure. Households in urban areas – many of them are tenants with unclear land ownership structures – are not aware of the potentially improperly functioning sub-structures, hence operation and maintenance is poor, pits are leaking and often discharging directly into the groundwater. As a consequence, only a few households request their tanks to be emptied regularly by calling either public or private service providers for desludging. Once the sludge is collected from the households, these providers then further lack a regulatory mechanism and incentives to safely dispose the fecal sludge into the septage treatment plants. As a result, a large portion of the collected sludge is disposed unsafely directly into the environment.<sup>48</sup> The Government is aware of the issue and with support from USAID and WSP is currently developing a program of fecal sludge management to improve the services.

Further bottlenecks in the service delivery pathway of the urban sanitation and hygiene subsector is the lack of proper management of decentralized wastewater treatment systems (DEWATS systems), as well as septage and wastewater treatment plants. Tariffs collected do not cover costs for operation and maintenance, which leads to dysfunctional facilities. In particular for DEWATS systems, studies have shown that external monitoring and support for technical and non-technical problem solving is highly necessary to keep infrastructure in a well functioning shape and ensure good treatment performance on the long term. Furthermore, this management issue is also related with institutional arrangements due to the unclear distinction between regulator and service provider – in numerous cases at local government level, one entity resumes both roles. To tackle this issue, central government has started some initiatives, such as the Ministry of Public Works and the Ministry of Home Affairs, with support from development partners.

**Figure 10.4 Urban sanitation and hygiene scorecard and results (0 = lowest; 3 = highest)**



<sup>48</sup> It is estimated that only 4% of septage in urban areas is being treated (Urban Sanitation Review: Indonesia Country Study, The World Bank, 2013).

# 11. Conclusion

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Both Government and JMP data sources indicate that Indonesia has made significant progress in the overall increase of access to water and sanitation services in recent years. However, sector targets of 100% coverage by 2019, as set out in the development plans, are very ambitious, even though they can be interpreted as a reflection of the increased political priority the sector is receiving as result of years of strong sector development. Nonetheless, the strong political support to the sector needs to be continued, and budget allocations need to be increased even more than they already have over the recent years to reach these targets. At the same time a focus on reducing the overall bottlenecks in the sector through more accurate planning, effective implementation and a focus on sustaining the services is required to improve the service delivery pathway

Reaching universal access by 2019 will require a total annual investment into the sector amounting to more than US\$4.7 billion per year for water supply and US\$2.8 billion per year for sanitation. These numbers constitute a 4.5-fold and 7.5-fold increase in investment into the water supply and sanitation subsector, respectively, compared to recent years, when progress was already at an all-time high level. However, the anticipated investments over the three years between 2012 and 2014 still fall far short of the requirements, with projected deficits of US\$2.4 million for water supply and US\$1.4 billion for sanitation. On top of this, approximately US\$538 million is required for the operation and maintenance of water supply services, and US\$244 million for sanitation. This money is necessary when considering the number of people that have to gain

access in the coming years to achieve universal access by 2019; about 24 million people per year have to gain access to water supply services and 16 million per year for sanitation services.

The financial analysis reveals that most of the money is needed for the development of urban water supply facilities (US\$4 billion per year) as well as urban sanitation facilities (US\$2.3 billion per year). The reason for these high costs associated with urban services is attributed to the high rate of urbanization and population growth as well as the higher unit costs associated with urban services.

The scorecard analysis shows that overall, Indonesia is progressing reasonably well in the enabling and developing pillars of the service delivery pathway. This results from a supportive institutional environment, improved coordination between line ministries, and consistency in reducing inequality by providing access to low income communities in both rural and urban areas. The focus in the future will be to strengthen the existing system, improve the implementation of policies and strategies into actual outputs, improve the overall effectiveness and efficiency of the systems and sustain the achieved services through strong ownership, operation and maintenance. Bottlenecks in the developing and sustaining pillars suggest that high political will needs to be translated into improved investment plans that are linked with local government work plans and budgeting processes. Considering the high investment requirements to develop urban water supply services, the need for water utilities to generate revenues and expand access to the

poor is rising as well. This includes a supportive political economy environment at local government level and its influence on achieving cost-recovery tariffs. It further includes strengthening the equity focus by developing clear sub-sector strategies for reaching the poor, including specific incentives or subsidies for the poor.

At the same time, priority has to be given to the sound and integrated planning to ensure the future availability of water resources. Without this, many existing weaknesses in the performance of the water supply and sanitation service delivery will be exacerbated and investments and solutions required will increase significantly.

The big task for Indonesia in the near future will be to find ways to address these challenges. In addition to detailed subsector priority actions identified in section 6 to 10, the following sector-wide priority actions have been identified by stakeholders:

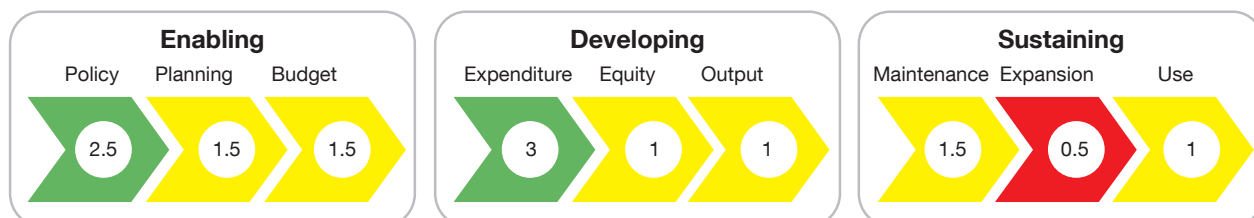
- Identify support structures for local governments to assess and improve the quality of their strategic planning processes.
- Scale up development of human resources through institutionalized capacity building.
- Develop sound investment plans and ensure their endorsement and incorporation into local government work plans for immediate implementation.
- Investigate how local accountability mechanisms are functioning and potential ways to improve this.
- Actively seek involvement of private sector and develop alternative financing mechanism.
- Engage local governments in water management and planning to secure future availability of water resources.
- Clearly define poor households at the bottom 40% of the income distribution and design targeted support to ensure inclusive service-delivery.

- Improve greater coordination between water and sanitation sector programs and poverty programs to increase the effectiveness of service delivery for the poor.
- Improve local capacity for using M&E systems to inform sector planning, budgeting and targeting implementation support.
- Strengthen the National Water Supply and Sanitation Information Services System (NAWASIS) to become an integrated portal for sector-wide M&E.

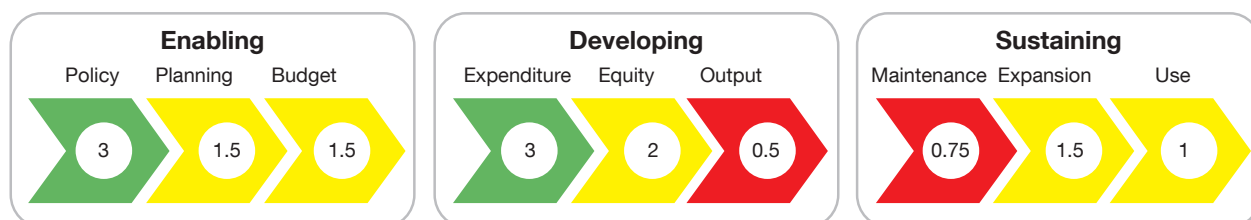


Figure 11.1 Scorecard of the service delivery pathway for all four subsectors

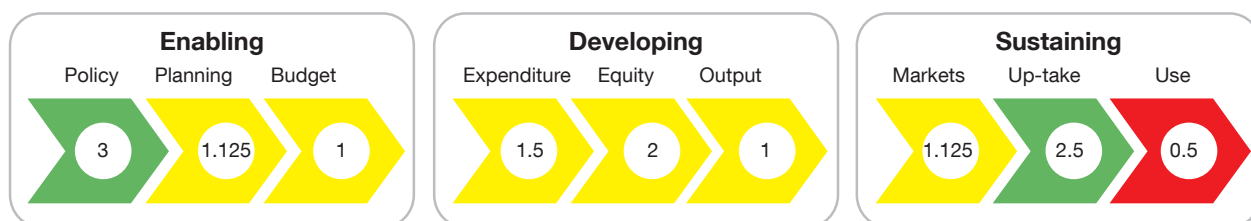
#### Rural Water Supply



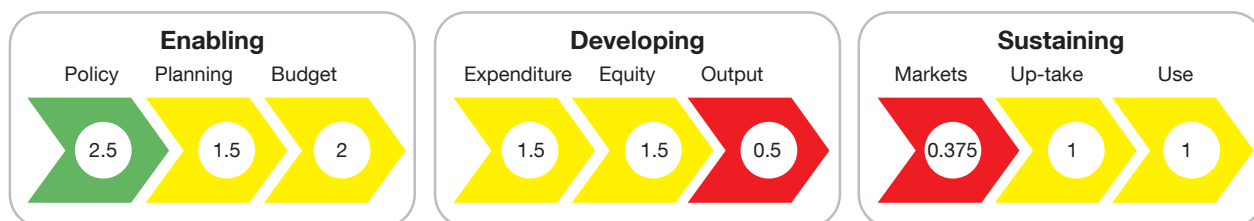
#### Urban Water Supply



#### Rural Sanitation and Hygiene



#### Urban Sanitation and Hygiene



# Annex 1: The Score of SDA in Indonesia

| Service Delivery Cycle  | Building Block      | Areas of evidence for assessment   | Question   | High (1)  | Medium (0,5)   | Low (0)                            | Score | Explanation for score  | Source of evidence  |
|-------------------------|---------------------|--|--|---|--|------------------------------------|-------|--|---|
| <b>RURAL SANITATION</b> |                     |  |  |   |  |                                    |       |  |   |
| <b>ENABLING</b>         |                     |  |  |   |  |                                    |       |  |   |
| Enabling                | Policy              | Sector targets   | Are there RWS access targets in the national level development plan?   | Yes, there are water supply in the development plan | There are national targets in the development plan but none for rural water. | No targets in the development plan | 1     | Mid-term Development plan: 67% access for water by 2014 (no separate target between rural and urban). Indonesia MDG target: 54% rural piped water. Long-term Development Plan: access for water for all population by 2025. Renstra of the MPW includes sub-sectoral targets for rural water supply.   | Indonesia Mid-term Development Plan (2010-2014), Indonesia Long-term Development Plan (2005-2025). Indonesia MDG Target.  |
| Enabling                | Policy              | Sector Policy  | Is there a rural water policy that is agreed by stakeholders, approved by government, and is publicly available? | Policy officially approved and publicly available   | Policy drafted and agreed but not officially approved                        | No policy                          | 1     | Law No. 7/2004 on Water Resources. Article 40 stated that provision of water supply is a shared responsibility among national government, local government, community and private sector to ensure quality service at affordable price. Law No. 32/2009 on protection and management of environment gives mandate to Ministry of Environment to control balance of environment and protect water resources. Government Decree No. 16/2005 on system for provision of water. Article 65 of this Decree acknowledges community-based water organizations as a legal body to manage provision of water in rural areas. Also Renstra available in the MPW. | Related law, agreement, decree on water (publicly available on internet). Buku Saku Regulasi AMPL - Air Minum dan Penyehatan Lingkungan (handbook of water and environmental health policy), Pokja AMPL, 2010 |
| Policy                  | Institutional Roles | Are the institutional roles of rural water subsector players (national/state & local government, service provider, regulator etc) clearly defined and operationalized? | Defined and operationalized  | Defined but not operationalized                     | Not defined  | Not defined                        | 0.5   | Clearly defined in several laws, decrees and agreements such as Water and Environmental Health National Strategy (2003), Law No. 32/2004 on local autonomy, Government Decree No. 38/2007 on demarcation of roles between national and local government, Minister of Health Decree No. 736/2010 on water surveillance, Minister of Public Works Decree No. 12/2010 on water system business management, Government Decree No. 72/2005 on villages. However, there are some operational issues when the rural water system has been handed-over to rural communities/village government regarding asset management and maintenance.                     | Rural Water Workshop  |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question  | High (1)  | Medium (0.5)   | Low (0)                                    | Score | Explanation for score  | Source of evidence   |
|------------------------|----------------|----------------------------------|---|---|--|--|-------|--|--|
| Enabling               | Planning       | Fund flow coordination           | Does government have a process for coordinating multiple investments in the subsector (domestic or donor, eg. National grants, state budgets, donor loans and grants etc.)? | Coordination process defined and operationalized                      | Coordination process defined but not operationalized       | Not defined/ no process                    | 0.5   | Clearly defined process and equipped with related supporting planning, implementation, monitoring and reporting documents. Budgeting process was done by three parties: Ministry of Finance, Bappenas, and sector ministry/agencies. There is very few off-budget, off records in the sector. Budgeting process is guided by the law, but there are still issues with quality of budgeting.  | Rural Water Workshop   |
| Enabling               | Planning       | Investment plan                  | Is there a medium term investment plan for rural water based on national targets that costed, prioritizes investment needs, is published and used?                          | Investment plan based on priority needs exists, is published and used | Exists but not used, or under preparation                  | Does not exist                             | 1     | There is an Indonesian Water Investment Roadmap (2011-2014) developed by Ministry of Public Works and a Master Plan for Developing Community Based Water Provision System (BPPSPAM) for a period of 15-20 years (starting in 2007). Roadmap and master plan are technical documents (Government Work Plans - RKP) that consist of detailed cost estimates and detailed implementation plans. Investment plan implementation is being prepared. | Indonesian Water Investment Roadmap (2011-2014). Master plan for Developing Water Provision System (BPPSPAM). Rural Water Workshop |
| Enabling               | Planning       | Annual review                    | Is there an annual multi-stakeholder review in place to monitor subsector performance, to review progress and set corrective actions?                                       | Review of performance and setting of corrective actions               | Review of performance but no setting of corrective actions | No review or setting of corrective actions | 0.5   | There are regular reviews conducted by stakeholders and projects. Regarding technical issues, Ministry of Public Works has an online M&E system (SIMSPAM) to accelerate corrective action. Necessary corrective actions exist for some projects (e.g. PAMSIMAS), but not systematically.   | Rural Water Workshop   |
| Enabling               | Planning       | HR Capacity                      | Has an assessment been undertaken of the human resource needs in the subsector to meet the subsector target and is the action plan being implemented?                       | Assessment undertaken and actions being implemented                   | Assessment undertaken but no action being taken            | No assessment undertaken                   | 0     | No specific assessment made on this area.  | Rural Water Workshop   |
| Enabling               | Budget         | Adequacy (of financing)          | Are the public financial commitments to the rural water subsector sufficient to meet the national targets for the subsector?  | More than 75% of what is needed                                       | Between 50-75% of needs                                    | Less than 50% of needs                     | 1     | More than 75%. The SDA costing analysis estimates that if funding continues as anticipated, the sector will be fully funded to meet the targets by 2019.   | SDA costing analysis.  |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question   | High (1)                                      | Medium (0.5)                                   | Low (0)                                       | Score | Explanation for score  | Source of evidence  |
|------------------------|----------------|----------------------------------|--|---|--|---|-------|--|---|
| Enabling               | Budget         | Structure                        | Does the budget structure permit the investments and subsidies (operational costs, administration, debt service, etc) for the rural water sector to be clearly identified? | Yes for investment and for subsidies          | Yes for investment but not subsidies           | No  | 0.5   | There is a separation between subsidy and investment in the budget structure, but not between rural and urban. This is stated in Presidential Regulation No.29/2009 on Guaranty and Interest Subsidy by National Government to Accelerate Provision of Water Supply. It is also guided in Minister of Finance Decree No. 229/2009 on Implementation Guideline on the Guaranty and Interest Subsidy by National Government to Accelerate Provision of Water Supply. | Presidential Regulation No.29/2009, Minister of Finance Decree No. 229/2009, and Rural Water Workshop.  |
| Enabling               | Budget         | Comprehensive                    | Does the government budget comprehensively cover domestic and official donor investment/subsidy to rural water?  | More than 75% of funds to subsector on budget | Between 50-75% of funds to subsector on budget | Less than 50% of funds to subsector on budget | 0     | Not all budgets are registered, especially communities' contribution in the community based rural water supply. Ministry of Finance keeps record of all government budget on water, however, this does not provide the overall budget of this sector since it is estimated only 70% of the budget comes from government, while the other 30% from private sector. Also no separation between urban and rural is available.   | Sekilas APBN, Dinamika Penganggaran di Indonesia (2011), Draft report on review of midterm development plan 2010-2014 (ADB, 2013), PHLN Dalam Disparitas Pembangunan Kesehatan (2010), and Rural Water Workshop |
| <b>DEVELOPING</b>      |                |                                  |  |   |  |   |       |  |   |
| Developing             | Expenditure    | Utilization of domestic funds    | What percentage of domestic funds budgeted for rural water are spent (3 year average)?   | Over 75%                                      | Between 50% and 75%                            | Less than 50%                                 | 1     | ADB Midterm Review of the Midterm Development Program stated that more than 75% budget has been utilized. However, no separate data on rural and urban.  | ADB Midterm Review, Rural Sanitation Workshop   |
| Developing             | Expenditure    | Utilization of external funds    | What percentage of external funds budgeted for rural water are spent (3 year average)?   | Over 75%                                      | Between 50% and 75%                            | Less than 50%                                 | 1     | Mostly almost 100% when the projects/activities finish.  | Rural Water Workshop  |
| Developing             | Expenditure    | Reporting                        | Is rural water expenditure versus budget audited and reported on in a consolidated format for all sources of domestic and official donor expenditure?                      | Yes for domestic and donor expenditure        | Yes for domestic expenditure                   | No  | 1     | All government budget from all sources are audited and reported in a consolidated government format, but in-line with PMK 59/PMK06/2005, there is no requirement for a separate account for pure government and project's expenditures as all are considered as government.  | Rural Water Workshop  |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question  | High (1)  | Medium (0.5)                                       | Low (0)  | Score | Explanation for score   | Source of evidence   |
|------------------------|----------------|----------------------------------|---|---|--|--|-------|---|--|
| Developing             | Equity         | Local participation              | Are there clearly defined procedures for informing, consulting with and supporting local participation in planning, budgeting and implementing for rural water developments?          | Yes and systematically applied                  | Yes, but not systematically applied                | No   | 0.5   | Planning and implementation of water and sanitation in Indonesia are bottom up forwarding local participation. This is clearly stated in program's and project's guideline, which was developed by local implementer, and concretely realized in program's or project's cost sharing. Though, clearly procedure is exist, realization of commitment is still weak.                    | Rural Water Workshop   |
| Developing             | Equity         | Budget allocation criteria       | Have criteria (or a formula) been determined to allocate rural water funding equitably to rural communities and is it being applied consistently?                                     | Yes, applied consistently                       | Yes, but not applied consistently                  | No   | 0.5   | Law No. 32/2004 on local government and Minister of Finance Regulation No 165/2012 on transfer fund stated that budget allocation is conducted by MoF with specific criteria. MoF consults other technical ministries and local government, especially to get technical inputs, when allocating the budget. However, the allocation is not applied consistently by local governments. | Rural Water Workshop   |
| Developing             | Equity         | Reducing inequality              | Is there periodic analysis to assess whether allocation criteria and local participation procedures set by government have been adhered to and are reducing disparities in access?    | Yes periodic analysis published and acted upon  | Yes periodic analysis published but not acted upon | No   | 0     | No periodic analysis is being conducted   | Rural Water Workshop   |
| Developing             | Output         | Quantity                         | Is the annual number of new systems built (and systems replaced) sufficient to meet sector targets? (including output by government directly as well as through contractors and NGOs) | Over 75% of that needed to reach sector targets | Over 50% of that needed to reach sector targets    | Less than 50% of that needed to reach sector targets | 0     | Intellectual guess: less than 50%. Target rural piped water 19.76% (2015). Access in 2011 was 13.94 (or 70.54% from 2015 target). Non-piped water: no reliable national data (not yet fully incorporated in SIMSPAM data). PAMSIMAS project reported access for 4 million people.   | Dit PAM, Dirjen Cipta Karya, Ministry of Public Works data, PAMSIMAS data, and Rural Water Workshop. |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question  | High (1)   | Medium (0.5)                                     | Low (0) | Score | Explanation for score   | Source of evidence   |
|------------------------|----------------|----------------------------------|---|--|--|---------|-------|---|----------------------|
| Developing             | Output         | Capacity for promotion           | Are there drinking water quality standards for rural water and are all new installations tested?          | Standards exist and new installations tested         | Standards exist but new installations not tested | No      | 0.5   | Minister of Health Regulation No.736/2010 set up guideline for water quality surveillance. Minister of Health Regulation No.492/2010 set up more detail requirement on quality of water. Assessment report is available every year for public in a number of publication such as Basic Health Survey, National Social Economic Survey, and Indonesian Health profile. Ministry of Health data 2011: 90.8% water can fulfil basic requirement for healthy water. However, considering that the surveillance system was done through sampling method and not a census, then participants at the Rural Sanitation Workshop could not ensure more than 75% has been tested. | Rural Water Workshop |
| Developing             | Output         | Reporting                        | Is the number of new schemes and their locations reported in a consolidated format each year?             | Yes with full listing of locations                   | Yes but without a full listing of locations      | No      | 0.5   | Most projects and programs through Ministry of Public Works are well documented and reported through working groups. Data include location and status. Yet, national statistic bureau does not include location in its quarterly social economic survey. Issues occurred among others: data report and maintenance after facilities being handed over to communities? who will continue maintaining facilities made by groups of communities? hand-over issues?.  | Rural Water Workshop |
| <b>Sustaining</b>      |                |                                  |   |  |  |         |       |   |                      |
| Sustaining             | Maintenance    | Functionality                    | Are there regular asset register updates of rural water infrastructure including their functional status? | Asset register and regular updating of functionality | Asset register but no updating of functionality  | Neither | 0.5   | Partially available. Updating is conducted by projects and some ministries coordinated by Ministry of Public Works. For example, PAMSIMAS updates assets in its 5000 program villages, Waspola does in 3 districts, and infrastructure unit financed by Special Allocation Budget (DAK) does it in 6 provinces. Through the government audit system, all assets financed by government are registered and their status is updated. However, the quality of data is still questionable. No information on the record of assets provided by communities and private sectors.  | Rural Water Workshop |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment               | Question   | High (1)   | Medium (0.5)  | Low (0)   | Score | Explanation for score   | Source of evidence   |
|------------------------|----------------|--|--|--|---|---|-------|---|----------------------|
| Sustaining             | Maintenance    | Cost recovery                                  | Is there a national policy on O&M costs and are O&M costs known and covered from subsidies and/or user fees?   | O&M policy exists, costs are assessed and >75% covered   | O&M policy exists, costs are estimated and >50% covered   | No O&M policy, costs not known  | 0.5   | BPPSPAM study: O&M for community based water systems is based on consumer contributions. Amount of contribution is the average of total cost. According to national policy, national government does not cover O&M, it is local government's responsibility. For piped rural water schemes, O&M will be charged to consumers through the PDAM.  | Rural Water Workshop |
| Sustaining             | Maintenance    | Spare parts chain                              | Is there a system defined for spare parts supply chain that is effective in all places?  | Systems defined and spares available in >50% of villages   | Systems defined but spares not available up to 50% of villages  | Systems not defined   | 0.5   | Spare parts are available near bigger settlements. It is unlikely that people will have to go more than a day trip to access the spare part. Yet, there is no specific system in place to ensure the spare part availability. Currently, government with support from a number of partners and associations is setting up spare part marketing system.  | Rural Water Workshop |
| Sustaining             | Maintenance    | Management of Disaster Risk and Climate Change | Do rural service providers have plans for coping with natural disasters and climate change?  | Yes, the majority of rural service providers have a plan for disaster risk management and climate change | No. Only some service providers have a plan for disaster risk management and climate change or most service providers have undertaken a vulnerability assessment. | No service provider has a climate action plan or has undertaken a vulnerability assessment. | 0.5   | Social safeguards have been incorporated in rural water system development in some areas, in particular those vulnerable to natural disaster. Most of projects have also incorporated plans to cope with natural disaster and effects of climate change. Considering Indonesia's geography, government is currently promoting the importance to incorporate this issue in all project management plans. | Rural Water Workshop |
| Sustaining             | Expansion      | Investment support                             | Are piped systems in rural areas recognized as management entities and given technical and financial support to expand their systems either by government or larger utilities? | Recognized and supported   | Recognized but not supported  | Neither   | 0.5   | Minister of Public Works Regulation No. 20/2006 on water system management has recognized rural piped water schemes as management entities, which are given technical assistance and human resources, including support given by local government. However, no systematic funding is given to CBOs after hand-over of assets to expand their services   | Rural Water Workshop |
| Sustaining             | Expansion      | Plans  | Are there scheme-level plans for the expansion of piped systems in rural areas?  | Yes in most rural areas  | Yes in around half of rural areas   | In a small proportion, or no rural areas  | 0     | Intellectual guess: less than half have documented plans, from the projects and Sub-District Cities program (KK).   | Rural Water Workshop |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question   | High (1)  | Medium (0.5)   | Low (0)                                  | Score | Explanation for score   | Source of evidence  |
|------------------------|----------------|----------------------------------|--|---|--|--|-------|---|---|
| Sustaining             | Expansion      | Investment finance               | Are expansion costs for rural water being covered by user fees and/or public grants?   | Yes in most rural areas   | Yes in around half of rural areas  | In a small proportion, or no rural areas | 0     | Only to a very small extent. Government and PAMSIMAS, for example provide small amount of funds for expansion. The rest relies on community contributions.  | Rural Water Workshop  |
| Sustaining             | Use            | Subsector progress               | Is the subsector on track to meet the stated target?   | On-track  | Off-track but keeping up with population growth                              | Off-track                                | 0.5   | In the right direction, but increased commitments and budgets need to materialize to reach the targets.   | SUSENAS 2011, RISKESDAS 2010, Vice President Report (2012), Rural Water Workshop.   |
| Sustaining             | Use            | Equity of use                    | What is the ratio of improved drinking water access between the lowest and highest quintile in rural areas?                              | Less than 2 times   | Between 2 and 5  | More than 5 times                        | 0     | more than 5.  | BPS data. Rural Water Workshop.   |
| Sustaining             | Use            | Quality of user experience       | Of the households using an improved drinking water source, what proportion are using piped drinking water in the dwelling and yard/plot? | More than 50% of households                                       | More than 25% of households  | Less than 25% of households              | 0.5   | 40.2% (National Statistical Bureau Data)  | BPS data. Rural Water Workshop.   |
| URBAN SANITATION       |                |                                  |  |   |  |  |       |   |   |
| ENABLING               |                |                                  |  |   |  |  |       |   |   |
| Enabling               | Policy         | Sector Targets                   | Are there UWS access targets in the national level development plan?   | Yes, there are urban water supply targets in the development plan | There are national targets in the development plan but none for urban water. | No targets in the development plan       | 1     | Second RPJMN: 67% access to improved water supply by 2014 (no separate target between rural and urban). Indonesia MDG target: 69% urban piped water. Third RPJMN: universal access by 2019.   | Indonesia Mid-term Development Plan (2010-2014). Indonesia Long-term Development Plan (2005-2025). Indonesia MDG Target.  |
| Enabling               | Policy         | Sector Policy                    | Is there an urban water policy that is agreed by stakeholders, approved by government, and publicly available?                           | Policy officially approved, and publicly available                | Policy drafted and agreed but not officially approved                        | No policy                                | 1     | Law No. 5/1962 on the establishment of local water companies (PDAM). Law No.7/2004 on Water Resources. Article 40 stated that provision of water is a shared responsibility among national government, local government, community and private sector to ensure quality service with affordable price. Law No.32/2009 on protection and management of environment gives mandate to Ministry of Environment to control balance of environment and protect water resources. Government Decree No. 16/2005 on system for provision of water. | Related law, agreement, decree on water (publicly available on internet). Buku Saku Regulasi AMPL-Air Minum dan Penyehatan Lingkungan (handbook of water and environmental health policy), Pokja AMPL, 2010 |



| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question  | High (1)  | Medium (0.5)  | Low (0)                                    | Score | Explanation for score  | Source of evidence     |
|------------------------|----------------|----------------------------------|---|---|---|--|-------|--|------------------------|
| Enabling               | Policy         | Institutional Roles              | Does government have a process for coordinating multiple investments in the subsector (domestic or donor, eg. National grants, state budgets, donor loans and grants etc.)? | Coordination process defined and operationalized                      | Coordination process defined but not operationalized              | Not defined/no process                     | 1     | Law No. 33/2004 on Fiscal Balance gives mandate to MoF to coordinate fiscal balance, including transfer and grants, and will be audited by BPK. The process is clear already. However, to date, there are still some issues on off budget, such as fund provided by NGOs or CSR.   | Urban Water Discussion |
| Enabling               | Planning       | Fund flow coordination           | Is there a medium term investment plan for urban water based on national targets that is costed, prioritizes investment needs, is published and used?                       | Investment plan based on priority needs exists, is published and used | Exists but not used, or under preparation                         | Does not exist                             | 0.5   | Indonesian Water Investment Roadmap (2011 - 2014) developed by Ministry of Public Works and Master Plan for Developing Community Based Water Provision System (BPPSPAM) for a period of 15-20 years (2007). Roadmap and master plan are technical documents (RKP-Government Work Plan) that consist of detail cost estimates and detail implementation plan. Investment plan and detail implementation is under preparation. | Urban Water Discussion |
| Enabling               | Planning       | Investment plans                 | Is there a medium term investment plan for urban water based on national targets that is costed, prioritizes investment needs, is published and used?                       | Investment plan based on priority needs exists, is published and used | Exists but not used, or under preparation                         | Does not exist                             | 0.5   | Indonesian Water Investment Roadmap (2011 - 2014) developed by Ministry of Public Works and Master Plan for Developing Community Based Water Provision System (BPPSPAM) for a period of 15-20 years (2007). Roadmap and master plan are technical documents (RKP-Government Work Plan) that consist of detail cost estimates and detail implementation plan. Investment plan and detail implementation is under preparation. | Urban Water Discussion |
| Enabling               | Planning       | Annual review                    | Is there an annual multi-stakeholder review in place to monitor subsector performance, to review progress and set corrective actions?                                       | Annual review of performance and setting of corrective actions        | Annual review of performance but no setting of corrective actions | No review or setting of corrective actions | 0.5   | Various multi-stakeholder review activities have been conducted organized by Pokja AMPL, BPPSPAM, Public Works, and projects. There is a dedicated directorate for evaluation and monitoring in Public Works (sector based) and region directorate in Public Works. Some stakeholders are not yet involved, though.  | Urban Water Discussion |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question   | High (1)  | Medium (0.5)                                     | Low (0)                                       | Score | Explanation for score   | Source of evidence  |
|------------------------|----------------|----------------------------------|--|---|--|---|-------|---|---|
| Enabling               | Planning       | HR Capacity                      | Has an assessment been undertaken of the human resource needs in the subsector to meet the subsector target and is the action plan being implemented?                  | Assessment undertaken and actions being implemented | Assessment undertaken but no action being taken  | No assessment undertaken                      | 0     | This is at preparation stage. PERPAMSI (water companies association) has established a new special unit to organize training and HR assessment. ADB supports Public Works to do an assessment study to establish center for excellence to optimize PIP2B. At this moment, training needs are being assessed.  | Urban Water Discussion  |
| Enabling               | Budget         | Adequacy                         | Are the public financial commitments to the urban water subsector sufficient to meet the national targets for the subsector?   | More than 75% of what is needed                     | Between 50 and 75% of needs                      | Less than 50% of needs                        | 0     | Less than 50%. The SDA costing analysis estimates that if current trends continue, anticipated investments are falling far short of required investments, with only about 25% covered.  | SDA costing analysis.   |
| Enabling               | Budget         | Structure                        | Does the budget structure permit investments and subsidies (operational costs, administration, debt service, etc) for the urban water sector to be clearly identified? | Yes for investment and for subsidies                | Yes for investment but not subsidies             | No  | 1     | There is a separation between subsidies and investments in the budget structure, but not between rural and urban. This is stated in Presidential Regulation No.29/2009 on Guaranty and Interest Subsidy by National Government to Accelerate Provision of Water Supply. It is also guided in Minister of Finance Decree No. 229/2009 on Implementation Guidelines on the Guaranty and Interest Subsidy by National Government to Accelerate Provision of Water Supply. Minister of Finance Regulation No. 238/2005 explained about government accounting system which set up categorizations for budget, including subsidy and grant. | Presidential Regulation No.29/2009, Minister of Finance Decree No. 229/2009, and Urban Water Workshop.  |
| Enabling               | Budget         | Comprehensive                    | Does the government budget comprehensively cover domestic and official donor investment/subsidy to urban water?  | More than 75% of funds to subsector on budget       | Between 50 - 75% of funds to subsector on budget | Less than 50% of funds to subsector on budget | 0.5   | Not all budgets are registered. Ministry of Finance keeps records of all government budgets on water and sanitation which computed by sector in districts/provinces, however, this does not provide the overall budget of this sector and specific breakdown of source of fund. It is estimated only 70% of the budget comes from government, while the other 30% from the private sector. Ministry of Public Works can ensure 100% percent registration of urban water sector under review, but no firm explanation available about budget managed by other ministries.  | Sekilas APBN, Dinamika Penganggaran di Indonesia (2011), Draft report on review of midterm development plan 2010-2014 (ADB, 2013), PHLN Dalam Disparitas Pembangunan Kesehatan (2010), and Urban Water Workshop |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question  | High (1)                           | Medium (0.5)                        | Low (0)          | Score | Explanation for score  | Source of evidence                                   |
|------------------------|----------------|----------------------------------|---|------------------------------------|-------------------------------------|------------------|-------|--|--|
| <b>DEVELOPING</b>      |                |                                  |   |                                    |                                     |                  |       |  |  |
| Developing             | Expenditure    | Utilization of domestic funds    | What percentage of domestic funds budgeted for urban water are spent (3 year average)?  | Over 75%                           | Between 50% and 75%                 | Less than 50%    | 1     | ADB Midterm Review of the Midterm Development Program stated that more than 75% budget has been utilized. However, no separate data on rural and urban.  | ADB Midterm Review, Urban Sanitation Workshop        |
| Developing             | Expenditure    | Utilization of external funds    | What percentage of external funds budgeted for urban water are spent (3 year average)?  | Over 75%                           | Between 50% and 75%                 | Less than 50%    | 1     | More than 75% as recorded by Ministry of Public Works. Same goes with other ministries, usually utilization is more than 75% or almost 100%.   | Urban Water Discussion                               |
| Developing             | Expenditure    | Reporting                        | Do urban utilities (national or 3 largest utilities) have audited accounts and balance sheet?   | Audited accounts and balance sheet | Balance sheet but not audited       | No balance sheet | 1     | All government budget from all sources are audited and reported in a consolidated government format. 90% PDAMs have been audited (PDAM Performance Report 2011), the remaining 10% of PDAM are currently in process of being audited.  | PDAM Performance Report 2011, Urban Water Discussion |
| Developing             | Equity         | Local participation              | Are there clearly defined procedures for informing, consulting with and supporting local participation in planning, budgeting and implementing for urban water developments?                  | Yes and systematically applied     | Yes, but not systematically applied | No               | 0.5   | Composition of budget of water supply for low income communities is 40% from national government and 60% from local government. Some issues: low utilization because delay in cost sharing from local government, some political consideration due to budget availability at local level, and change of commitment/ policy direction due to rapid change of governor/ regent. Procedures are clear, commitments are already written down in documents, but budget disbursement is often delayed. | Urban Water Discussion                               |
| Developing             | Equity         | Budget allocation criteria       | Have criteria (or a formula) been determined to allocate urban water funding equitably to urban utilities or service providers and among municipalities and is it being consistently applied? | Yes, applied consistently          | Yes, but not applied consistently   | No               | 1     | Law No. 32/2004 on local government and Minister of Finance Regulation No 165/2012 on transfer fund stated that budget allocation is conducted by MoF with specific criteria. MoF consults other technical ministries and local government, especially to get technical inputs, when allocating the budget.  | Urban Water Discussion                               |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question  | High (1)  | Medium (0.5)   | Low (0)  | Score | Explanation for score  | Source of evidence  |
|------------------------|----------------|----------------------------------|---|---|--|--|-------|--|---|
| Developing             | Equity         | Reducing inequality              | Have urban utilities or service providers (national or in 3 largest cities) developed and implemented specific plans for serving the urban poor?  | Plans developed and implemented   | Plans developed but not implemented  | No plans documented                                    | 0.5   | Main target of water supply development is low income communities and unserved location. This is clearly stated and guided in national water and sanitation policy (2003), PAMSIMAS guidelines (2012), Water Investment Plan, Water Grant, and moreover Minister of Home Affairs Decree No. 47/1999 on PDAM performance guideline. Special Budget allocation (DAK) is also used to fix idle capacity water supply in urban areas. In reality, it is not implemented consistently. The Water Hibah program is further addressing these issues within local governments and PDAMs, trying to incentivize investment into low-income areas. | Law related documents, Urban Water Discussion   |
| Developing             | Output         | Quantity (access)                | Is the annual expansion of HH connections and stand posts in urban areas sufficient to meet the subsector targets?                                | Over 75% of that needed to reach sector targets                             | Over 50% of that needed to reach sector targets  | Less than 50% of that needed to reach sector targets   | 0     | JMP estimate: 36% piped water. Ministry of Public Works as per Oct 2011: 41.88%.   | JMP 2012, Urban Water Discussion  |
| Developing             | Output         | Quantity (treatment)             | Are there drinking water quality standards for urban water that are regularly monitored and the results published?                                | Standards exist, there is a surveillance program, and results are published | Standards exist and there is a surveillance program but there is no publication of results | No standards, or standards exist but are not monitored | 0.5   | Internal PDAM does the quality checking but no result is publicly available. MoH does quality check and issue an annual report.  | Urban Water Discussion  |
| Developing             | Output         | Reporting                        | Is the number of additional household connections made and stand posts constructed reported on in a consolidated format for the nation each year? | Yes with full listing of connections  | Yes but without a full listing of connections  | No   | 0     | The reporting system is available but done for less than 75% of new connections. Additionally, PDAM/Public Works is still trying to increase the updating system as well as some technical errors.   | Urban Water Discussion  |
| <b>SUSTAINING</b>      |                |                                  |   |   |  |  |       |  |   |
| Sustaining             | Maintenance    | Functionality                    | What is the weighted average percentage of non-revenue water across urban utilities (national or 3 largest utilities) (last 3 years average)?     | Less than 20%   | 20% to 40%   | More than 40%  | 0.5   | 2012: 38%  | <a href="http://ciptakarya.pu.go.id/simspam/index.php/rekap#data_keuangan">http://ciptakarya.pu.go.id/simspam/index.php/rekap#data_keuangan</a> |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment               | Question   | High (1)   | Medium (0.5)  | Low (0)   | Score | Explanation for score   | Source of evidence     |
|------------------------|----------------|--|--|--|---|---|-------|---|------------------------|
| Sustaining             | Maintenance    | Cost recovery                                  | Are all O&M costs for utilities (national or 3 largest utilities) being covered by revenues (user fees and/subsidies) (last 3 years average)?  | Operating ratio greater than 1.2   | Operating ratio between 0.8 and 1.2   | Operating ratio below 0.8   | 0     | Big PDAMs apply full cost recovery. Small PDAMs use money for O&M. National average between all PDAMs estimate ratio below 0.8  | Urban Water Discussion |
| Sustaining             | Maintenance    | Tariff reviews                                 | Are tariff reviews regularly conducted using a process and tariffs adjusted accordingly and published?   | Conducted, adjusted and published  | Conducted but not adjusted  | Not conducted   | 0.5   | Regular review is conducted, however it takes time and political support to increase tariffs. Some PDAMs already have automatic tariff increment systems and usually publish this on their website and brochures. | Urban Water Discussion |
| Sustaining             | Maintenance    | Management of Disaster Risk and Climate Change | Do utilities (national or 3 largest utilities) have plans for coping with natural disasters and climate change?  | Yes, the majority of urban service providers have a plan for disaster risk management and climate change | No. Only some service providers have a plan for disaster risk management and climate change or most service providers have undertaken a vulnerability assessment. | No service provider has a climate action plan or has undertaken a vulnerability assessment. | 0     | To date, only very few utilities in especially disaster prone areas such as West Sumatra or Aceh have developed disaster management plans. Considering the total number of PDAMs (>350), this is still very few.  | Urban Water Discussion |
| Sustaining             | Expansion      | Uptake   | Do utilities or service providers (national or 3 largest) have operational decision-making autonomy in investment planning, HR, finance (separate balance sheet) and procurement management? | Yes in all aspects   | In all aspects except investment planning   | No  | 0.5   | Depends on PDAM. Some are already autonomous and some are still depending on local government. Enabling policies are available such as Law No. 7/2004 and Gov. Regulation No. 16/2005.                            | Urban Water Discussion |
| Sustaining             | Expansion      | Plans  | Do service providers (national/state or 3 largest utilities) have business plans for expanding access to urban water?  | Business plans for increasing access being implemented   | Business plans for increasing access being prepared   | No business plans   | 0.5   | All PDAMs have business plan as a requirement of performance evaluation and to get support and interest subsidy from national government. The quality of the business plans often remains questionable, though.   | Urban Water Discussion |

| Service Delivery Cycle    | Building Block | Areas of evidence for assessment | Question   | High (1)  | Medium (0.5)   | Low (0)   | Score | Explanation for score   | Source of evidence   |
|---------------------------|----------------|----------------------------------|--|---|--|---|-------|---|--|
| Sustaining                | Expansion      | Borrowing                        | Are utilities allowed by law to access and are they accessing commercial finance for expansion?                                    | Allowed and accessing   | Allowed but not accessing                                  | Not allowed   | 0.5   | Supported by President Regulation No. 29/2009 on guaranty and interest subsidy provided by national government for water supply through bank loan. Although banks have provided a large amount of fund, only about IDR 200 bn is accessed by the PDAMs due to issues such as a delay in the appraisal from the Ministry of Finance, cancellation of guarantees by local governments, concern that DAU (general budget allocation) will be forwarded as collateral, or some political interventions. | <a href="http://www.ditpam-pu.org/index.php?option=com_content&amp;view=article&amp;id=120:program-pinjaman-perbankan-bantu-pdam-tingkatkan-pelayanan&amp;catid=51:berita&amp;Itemid=148">http://www.ditpam-pu.org/index.php?option=com_content&amp;view=article&amp;id=120:program-pinjaman-perbankan-bantu-pdam-tingkatkan-pelayanan&amp;catid=51:berita&amp;Itemid=148</a> ; urban water discussion |
| Sustaining                | Use            | Subsector progress               | Is the subsector on track to meet the stated target?   | On-track  | Off-track but keeping up with population growth            | Off-track   | 0     | Interministerial consensus -verified BPS and JMP's data: 52%. The sub-sector is struggling to keep up with high population growth in many urban areas.  | Urban Water Discussion   |
| Sustaining                | Use            | Equity of use                    | What is the ratio of improved drinking water access between the lowest and highest quintile in urban areas?                        | Less than 2 times   | Between 2 and 5  | More than 5 times                                   | 0     | more than 5   | BPS/Urban Water Discussion   |
| Sustaining                | Use            | Quality of user experience       | What is the average number of hours of service per day across urban utilities? (Weighted by number of HH connections per utility)? | More than 12 hours per day  | 6 to 12 hours per day                                      | Less than 6 hours per day                           | 1     | 14 hours average/day.   | <a href="http://ciptakarya.pu.go.id/simspam/index.php/rekap#data_keuangan">http://ciptakarya.pu.go.id/simspam/index.php/rekap#data_keuangan</a>  |
| <b>RURAL WATER SUPPLY</b> |                |                                  |  |   |  |   |       |   |  |
| <b>ENABLING</b>           |                |                                  |  |   |  |   |       |   |  |
| Enabling                  | Policy         | Sector targets                   | Are there RSH access targets, for households and/or communities, in the national level development plan?                           | Targets for rural household access and communities becoming ODF in the development plan | Targets for rural household access in the development plan | No rural sanitation targets in the development plan | 1     | RPJMN: Open Defecation Free by 2014, off-site sewerage system for 10% of population (5% sewerage, 5% communal), 90% onsite sewerage system. New RPJMN: universal access by 2019.  | Indonesia Mid-term Development Plan (2010-2014), Indonesia Long-term Development Plan (2005-2025), Indonesia MDG Target.   |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question  | High (1)  | Medium (0.5)   | Low (0)                                    | Score | Explanation for score  | Source of evidence        |
|------------------------|----------------|----------------------------------|---|---|--|--|-------|--|---------------------------|
| Enabling               | Policy         | Institutional Roles              | Are the institutional roles of rural sanitation subsector players (national/state & local government, service provider, regulator etc) clearly defined and operationalized? | Defined and operationalized   | Defined but not operationalized                            | Not defined                                | 1     | Clearly defined in several laws, decrees and agreements such as Water and Environmental Health National Strategy (2003), Law No. 32/2004 on local autonomy, government decree No. 38/2007 on demarcation of roles between national and local government, Minister of Health Decree Regulation No. 852/2008 on Community Based Total Sanitation, Law No. 18/2009 on waste management. | Rural Sanitation Workshop |
| Enabling               | Policy         | Fund flow coordination           | Does government have a process for coordinating multiple investments in the subsector (domestic or donor, eg. national grants, state budgets, donor loans and grants etc)?  | Coordination process defined and operationalized                      | Coordination process defined but not operationalized       | Not defined/no process                     | 1     | Clearly defined process and equipped with related supporting planning, implementation, monitoring and report documents. Coordination is led by assigned leading agencies such as public Works for infrastructure and MoH for behavior change.  | Rural Sanitation Workshop |
| Enabling               | Planning       | Investment Plan                  | Is there a medium term investment plan for rural sanitation based on national targets that is costed, prioritizes investment needs, is published and used?                  | Investment plan based on priority needs exists, is published and used | Exists but not used, or under preparation                  | Does not exist                             | 0     | Not available for rural sanitation investment plan.  | Rural Sanitation Workshop |
| Enabling               | Planning       | Annual review                    | Is there a annual multi-stakeholder review in place to monitor subsector performance, to review progress and set corrective actions?  | Review of performance and setting of corrective actions               | Review of performance but no setting of corrective actions | No review or setting of corrective actions | 0     | Reviews conducted by projects in intervention areas or in areas with an active Pokja. But it is not clear whether all stakeholders have been involved.   | Rural Sanitation Workshop |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question  | High (1)  | Medium (0.5)                                    | Low (0)                                       | Score | Explanation for score   | Source of evidence                               |
|------------------------|----------------|----------------------------------|---|---|---|---|-------|---|--|
| Enabling               | Planning       | HR Capacity                      | Has an assessment been undertaken of the human resource needs in the sub sector to meet the subsector target and is the action plan being implemented?                      | Assessment undertaken and actions being implemented | Assessment undertaken but no action being taken | No assessment undertaken                      | 0.5   | Sporadic assessments have been made but no clear information on follow up action or only few is being followed up. Some assessments: Bappenas and World Bank Study: sanitation capacity building, MPU HR analysis. MoH is trying to accredited and institutionalize capacity building for sanitarians and related facilitators.   | Rural Sanitation Workshop                        |
| Enabling               | Budget         | Adequacy (of financing)          | Are the public financial commitments to the rural sanitation subsector sufficient to meet the national targets for the subsector?   | More than 75% of what is needed                     | Between 50-75% of needs                         | Less than 50% of needs                        | 0     | Less than 50%. The SDA costing analysis estimates that anticipated domestic and external funds fall short of the requirements. It is further calculated that household contributions will be substantial, however no guarantee is given that these household contributions will be made. Furthermore, public funds are necessary to leverage household contributions, and given current estimations, public funds are also insufficient for this objective. | SDA costing analysis.                            |
| Enabling               | Budget         | Structure                        | Does the budget structure permit investments and subsidies (operational costs, administration, debt service, etc) for the rural sanitation sector to be clearly identified? | Yes for investment and for subsidies                | Yes for investment but not subsidies            | No  | 0     | There is no subsidy in the government approach for rural sanitation. There is also no budget for promotion/marketing of rural sanitation.   | MoF Finance Note 2013; Rural Sanitation Workshop |
| Enabling               | Budget         | Comprehensive                    | Does the government budget comprehensively cover domestic and official donor investment/subsidy to rural sanitation?  | More than 75% of funds to subsector on budget       | Between 50-75% of funds to subsector on budget  | Less than 50% of funds to subsector on budget | 1     | Yes, on budget, on treasury, equipped with correlated audit process. But no subsidy is available  | Rural Sanitation Workshop                        |
| <b>DEVELOPING</b>      |                |                                  |   |   |   |   |       |   |  |
| Developing             | Expenditure    | Utilization of domestic funds    | What percentage of domestic funds budgeted for rural sanitation are spent (3 year average)?   | Over 75%  | Between 50% and 75%                             | Less than 50%                                 | 1     | No reliable data, but estimated at more than 75%. Rural Sanitation Workshop   | Rural Sanitation Workshop                        |



| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question   | High (1)                                       | Medium (0.5)                                       | Low (0)       | Score | Explanation for score   | Source of evidence        |
|------------------------|----------------|----------------------------------|--|--|--|---------------|-------|---|---------------------------|
| Developing             | Expenditure    | Utilization of external funds    | What percentage of external funds budgeted for rural sanitation are spent (3 year average)?  | Over 75%                                       | Between 50% and 75%                                | Less than 50% | 0.5   | No reliable data, however based on normal practice the average is usually more than 50%.  | Rural Sanitation Workshop |
| Developing             | Expenditure    | Reporting                        | Is rural sanitation expenditure versus budget audited and reported on in a consolidated format for all sources of domestic and official donor expenditure?                         | Yes for domestic and donor expenditure         | Yes for domestic expenditure                       | No            | 0     | No consolidated report  | Rural Sanitation Workshop |
| Developing             | Equity         | Local participation              | Are there clearly defined procedures for informing, consulting with and supporting local participation in planning, budgeting and implementing for rural sanitation developments?  | Yes and systematically applied                 | Yes, but not systematically applied                | No            | 1     | Philosophy and approach for sanitation: community based (bottom up approach) emphasizes on local participation and guided with several regulations and guidelines. Budget composition, at least 20% local participation.  | Rural Sanitation Workshop |
| Developing             | Equity         | Budget allocation criteria       | Have criteria (or a formula) been determined to allocate rural sanitation funding equitably across rural communities and is it being applied consistently?                         | Yes, applied consistently                      | Yes, but not applied consistently                  | No            | 1     | Law No. 32/2004 on local government and Minister of Finance Regulation No 165/2012 on transfer fund stated that budget allocation is conducted by MoF with specific criteria. MoF consults other technical ministries and local government, especially to get technical inputs, when allocating the budget. | Rural Sanitation Workshop |
| Developing             | Equity         | Reducing inequality              | Is there periodic analysis to assess whether allocation criteria and local participation procedures set by government have been adhered to and are reducing disparities in access? | Yes periodic analysis published and acted upon | Yes periodic analysis published but not acted upon | No            | 0     | There is no data on whether a periodic analysis is being conducted regularly. Analyses are being carried sporadically by projects or government, but not regularly, not widespread and it is not being acted upon.  | Rural Sanitation Workshop |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question  | High (1)  | Medium (0.5)  | Low (0)   | Score | Explanation for score   | Source of evidence   |
|------------------------|----------------|----------------------------------|---|---|---|---|-------|---|--|
| Developing             | Output         | Quantity                         | Is the annual expansion of rural households gaining access to safe sanitation sufficient to meet the subsector targets?   | Over 75% of that needed to reach sector targets             | Between 75% and 50% of that needed to achieve targets         | Less than 50% of that needed to reach targets                   | 0     | 35% of urban population still practice open defecation, (SUSENAS 2011), still far till national target of 100% ODF in 2014.   | SUSENAS 2011, Rural Sanitation Workshop  |
| Developing             | Output         | Quality of water                 | Is there enough capacity - staff, expertise, tools, materials - to deliver a sanitation program at scale, using tailored community-based and/or other approaches?       | Yes, capacity exists and approaches are being used at scale | Gaps in capacity but approaches generally being used at scale | Deficits in capacity and no community-based approaches at scale | 0.5   | Sanitarians have work and generally function well. Follow up actions of capacity building assessment are being done through training and supervisory activities. Minister of Health Regulation No. 32/2013 on sanitation set up guidelines for capacity building include rewards and support given for the sanitarians. | Rural Sanitation Workshop, Qipra study (2012), Minister of Health Regulation No. 32/2013 |
| Developing             | Output         | Reporting                        | Does the government regularly monitor and report on progress and quality of rural sanitation access, including settlement-wide sanitation, and disseminate the results? | Quality, quantity and disseminated                          | Quality or quantity   | Neither   | 0.5   | Regular surveillance monitoring is conducted by MoH. It is part of the main responsibility of the sanitarians and reported on a monthly basis. At this moment, 5 provinces already do sms based daily reports that appears online with STBM website.<br>No verification is conducted, though.                           | Rural Sanitation Workshop  |
| <b>SUSTAINING</b>      |                |                                  |   |   |   |   |       |   |  |
| Sustaining             | Markets        | Supply-chain                     | Does the supply-chain for sanitation products meet household needs (ready availability, quantity and cost), satisfy government standards and reach to unserved areas?   | Yes for quantity, cost, standards and reach                 | Yes, but not for all of quantity, cost, standards and reach   | No  | 0.5   | Indonesian Sanitation Market Assessment (2010): supply chain system is existing, but only few provides have one stop shop services at an affordable price and a variation of products. It is available in some part of Indonesia but not yet nationwide.  | Rural Sanitation Workshop  |
| Sustaining             | Markets        | Private sector capacity          | Is there sufficient mason/artisan/ small business capacity to meet household needs (quantity, quality and cost)?  | Yes for quantity and cost                                   | Yes, for quantity but not for cost                            | Neither   | 0.5   | Intervention in some regions. Masons/artisans are generally available, but quality of skills and products delivered not always sufficient.  | Rural Sanitation Workshop  |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment               | Question  | High (1)   | Medium (0.5)  | Low (0)   | Score | Explanation for score  | Source of evidence  |
|------------------------|----------------|--|---|--|---|---|-------|--|---|
| Sustaining             | Markets        | Private sector development                     | Does the government have programs to promote and guide the domestic private sector and facilitate innovation for the provision of sanitation services in rural areas? | Yes, with various components   | Yes, but either being developed or has gaps   | No promotion, guidance or encouragement   | 0.5   | MoH has some programs on health promotion and private sector engagement - e.g. in STBM and its corresponding projects such WSP projects, and PAMSIMAS. Currently this initiative is still at the early stage and will be continuously developed. | Rural Sanitation Workshop   |
| Sustaining             | Markets        | Management of Disaster Risk and Climate Change | Do local government or rural service providers have plans for coping with natural disasters and climate change?   | Yes, the majority of rural service providers have a plan for disaster risk management and climate change | No. Only some service providers have a plan for disaster risk management and climate change or most service providers have undertaken a vulnerability assessment. | No service provider has a climate action plan or has undertaken a vulnerability assessment. | 0     | No plans for the rural sanitation subsector exist.   | Rural Sanitation Workshop   |
| Sustaining             | Uptake         | Support for expansion                          | Are expenditures at the local level in line with the national sanitation policy and are they sufficient to achieve national targets?                                  | In line with policy and sufficient to achieve national targets   | In line with policy but insufficient to achieve national targets  | Not in line with policy and insufficient to achieve national objectives                     | 0.5   | Many cities and districts have provided minimum to sufficient amount of budget for rural sanitation (STBM) strategy.   | Nugroho Tri Utomo, blog www.ampl.org, 22 Nov 2011; Rural Sanitation Workshop. |
| Sustaining             | Uptake         | Incentives                                     | Has government (national or local) developed any policies, procedures or programs to stimulate uptake of rural sanitation services and behaviors by households?       | Policies and procedures (instruments) developed and being implemented                                    | Some policies and procedures (instruments) developed but not implemented  | No policies or procedures (instruments) exist   | 1     | MoH has issued a policy to support incentives at national level. Currently this policy is being disseminated to local governments. MoH also provides technical advisory and training to provinces, cities, and districts.                        | Rural Sanitation Workshop   |
| Sustaining             | Uptake         | Behaviors                                      | Is the subsector on track to meet the stated target?  | On-track   | Off-track but keeping up with population growth   | Off-track   | 0     | 39% (basic sanitation access-SUSENAS 2011). Subsector development is improving, but still off track to meet the targets.   | Rural Sanitation Workshop   |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment   | Question   | High (1)   | Medium (0.5)   | Low (0)   | Score | Explanation for score   | Source of evidence   |
|------------------------|----------------|------------------------------------|--|--|--|---|-------|---|--|
| Sustaining             | Use            | Subsector progress                 | Is the subsector on track to meet the stated target?   | On-track   | Off-track but keeping up with population growth  | Off-track   | 0.5   | Rate of progress is not high enough to reach national target  | NTPI, NTPI completion Reports: Annual 2011, 2012<br>NTP Reports<br>UN Summit Reports.<br>WB Report on Poverty Reduction. |
| Sustaining             | Use            | Equity of use                      | What is the ratio of improved toilet access between the lowest and highest quintile in rural areas?                    | Less than 2 times  | Between 2 and 5  | More than 5 times                                   | 0.5   | The SDA equity analysis revealed that in rural areas, the richest quintile has 100% access to improved sanitation, compared to 36% for the lowest quintile, which is about 3 times.   | SDA equity analysis.   |
| Sustaining             | Use            | Hygienic use of quality facilities | What percentage of people living in rural areas use improved toilet facilities (excluding shared facilities)?          | More than 75% of people use toilets  | Between 50% and 75% of people use toilets  | Less than 50% of people use toilets                 | 0     | SUSENAS 2011: 39%, RISKESDAS 2010: household access (59%), shared 7%.   | SUSENAS 2011, RISKESDAS 2010, Rural Sanitation Workshop  |
| URBAN WATER SUPPLY     |                |                                    |  |  |  |   |       |   |  |
| ENABLING               |                |                                    |  |  |  |   |       |   |  |
| Enabling               | Policy         | Sector targets                     | Are there USH access targets (household level and sewerage/septage management) in the national level development plan? | Yes, targets for urban household access and sewerage/septage management included in the development plan | Targets for urban household access included in the development plan but no sewerage or septage management targets included | No urban sanitation targets in the development plan | 1     | RPJMN: Open Defecation Free by 2014, off-site sewerage system for 10% of population (5% sewerage, 5% communal), 90% onsite sewerage system, 80% urban household have better waste management, deduct 22.500 acres flooding area in 100 strategic urban location, PPSP target: renovate public sanitation facilities in 226 selected cities, deduct waste water by 20% by improve waste water management in 240 cities. Next RPJKN: universal access to improved sanitation by 2019. | Indonesia Mid-term Development Plan (2010-2014), Indonesia Long-term Development Plan (2005-2025), Indonesia MDG Target. |
| Enabling               | Policy         | Sector policy                      | Is there an urban sanitation policy that is agreed by stakeholders, approved by government, and publicly available?    | Policy officially approved and publicly available  | Policy drafted and agreed but not officially approved  | No policy   | 1     | Ministry of Public Works Regulation No. 16/2008 set up requirement for consultation with stakeholders before making a policy, and it should be available publicly.  | Permen PU No. 16/2008; Urban Sanitation Workshop   |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question   | High (1)  | Medium (0.5)   | Low (0)                                    | Score | Explanation for score  | Source of evidence          |
|------------------------|----------------|----------------------------------|--|---|--|--|-------|--|-----------------------------|
| Enabling               | Policy         | Institutional Roles              | Are the institutional roles of urban sanitation subsector players (national/state & local government, service provider, regulator etc.) clearly defined and operationalized? | Defined and operationalized   | Defined but not operationalized                            | Not defined                                | 0.5   | Institutional roles are partly defined in several laws, decrees and agreements such as Water and Environmental Health National Strategy (2003), Law No. 32/2004 on local autonomy, government decree No. 38/2007 on demarcation of roles between national and local government, Minister of Health Decree Regulation No. 852/2008 on Community Based Total Sanitation, Law No. 18/2009 on waste management. Demarcation of roles and functions among institutions and local government can also be seen at Government Regulation No. 41/2007 on local government. However, issues remain in urban sanitation about a lack of clear distinction between service provider and regulator. | Urban Sanitation Discussion |
| Enabling               | Planning       | Fund flow coordination           | Does government have a process for coordinating multiple investments in the subsector (domestic or donor, eg. National grants, state budgets, donor loans and grants etc.)?  | Coordination process defined and operationalized                      | Coordination process defined but not operationalized       | Not defined/ no process                    | 0.5   | Clearly defined process and equipped with related supporting planning, implementation, monitoring and report documents. Coordination is led by Bappenas. However, not yet fully operationalized.   | Urban Sanitation Discussion |
| Enabling               | Planning       | Investment plan                  | Is there a medium term investment plan for urban sanitation based on national targets that is costed, prioritizes investment needs, is published and used?                   | Investment plan based on priority needs exists, is published and used | Exists but not used, or under preparation                  | Does not exist                             | 0.5   | Available in ministries' strategic plans, provincial/district mid-term development plan, sectoral strategic plan, mid-term investment plan, sanitation memorandum program, etc., These plans are being executed. Issue: quality implementation. The mechanism must be followed but not all SSKs are fine with that.  | Urban Sanitation Discussion |
| Enabling               | Planning       | Annual review                    | Is there an annual multi-stakeholder review in place to monitor subsector performance, to review progress and set corrective actions?  | Review of performance and setting of corrective actions               | Review of performance but no setting of corrective actions | No review or setting of corrective actions | 0.5   | Annually, there are ministries/ institutions' evaluation. For general review, Bappenas has a development evaluation directorate. Outcomes are submitted to the president. The deviation of the outcomes will be used as a basis for the future work plan. BPS also does annual evaluation for sanitation.  | Urban Sanitation Discussion |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question  | High (1)  | Medium (0.5)                                    | Low (0)                                       | Score | Explanation for score  | Source of evidence                               |
|------------------------|----------------|----------------------------------|---|---|---|---|-------|--|--|
| Enabling               | Planning       | HR Capacity                      | Has an assessment been undertaken of the human resource needs in the subsector to meet the subsector target and is the action plan being implemented?                       | Assessment undertaken and actions being implemented | Assessment undertaken but no action being taken | No assessment undertaken                      | 0.5   | Sporadic assessments have been made but no clear information on follow up action or only few is being followed up. Each ministry has its own HR center and evaluation/assessment center. | Urban Sanitation Discussion                      |
| Enabling               | Budget         | Adequacy                         | Are the annual public financial commitments to the urban sanitation subsector sufficient to meet national targets for the subsector?  | More than 75% of what is needed                     | Between 50-75% of needs                         | Less than 50% of needs                        | 0     | Less than 50%. The SDA costing analysis estimates that only 37% of the required investments can currently be anticipated.  | SDA costing analysis.                            |
| Enabling               | Budget         | Structure                        | Does the budget structure permit investments and subsidies (operational costs, administration, debt service, etc) for the urban sanitation sector to be clearly identified? | Yes for investment and for subsidies                | Yes for investment but not subsidies            | No  | 1     | There is no subsidy, budget for promotion is available at MoH. In budget plan and capital budget plan, source of investment has some categorization but no subsidy available.            | MoF Finance Note 2013; Rural Sanitation Workshop |
| Enabling               | Budget         | Comprehensive                    | Does the government budget comprehensively cover domestic and official donor investment/subsidy to urban sanitation?  | More than 75% of funds to subsector on budget       | Between 50-75% of funds to subsector on budget  | Less than 50% of funds to subsector on budget | 1     | Yes, on budget, on treasury, equipped with correlated audit process.   | Urban Sanitation Discussion                      |
| <b>DEVELOPING</b>      |                |                                  |   |   |   |   |       |  |  |
| Developing             | Expenditure    | Utilization of domestic funds    | What percentage of domestic funds budgeted for urban sanitation are spent (3 year average)?   | Over 75%  | Between 50% and 75%                             | Less than 50%                                 | 0.5   | No reliable data, but there is a special budget for urban sanitation.  | Urban Sanitation Discussion                      |
| Developing             | Expenditure    | Utilization of external funds    | What percentage of external funds budgeted for urban sanitation are spent (3 year average)?   | Over 75%  | Between 50% and 75%                             | Less than 50%                                 | 0.5   | No reliable data, estimated guess between 50-75%.  | Urban Sanitation Discussion                      |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question   | High (1)  | Medium (0.5)  | Low (0)                                       | Score | Explanation for score  | Source of evidence                      |
|------------------------|----------------|----------------------------------|--|---|---|---|-------|--|---|
| Developing             | Expenditure    | Reporting                        | Is urban sanitation expenditure versus budget audited and reported on in a consolidated format for all sources of domestic and official donor expenditure?   | Yes for domestic and donor expenditure          | Yes for domestic expenditure                          | No  | 0.5   | No consolidated report, but there is a division between external and internal sources of funds. The data are available at each relevant ministry.  | Urban Sanitation Discussion             |
| Developing             | Equity         | Local participation              | Are there clearly defined procedures for informing, consulting with and supporting local participation in planning, budgeting and implementing for urban sanitation developments?                  | Yes and systematically applied                  | Yes, but not systematically applied                   | No  | 0     | Philosophy and approach for sanitation: community based (bottom up approach) emphasizes on local participation and guided with several regulations and guidelines. Mid-term development plan is developed through bottom up approach. In reality, reports show high number of cases of insufficient community participation for managing and utilizing off-site systems. | Urban Sanitation Discussion             |
| Developing             | Equity         | Budget allocation criteria       | Have criteria (or a formula) been determined to allocate urban sanitation funding equitably to urban utilities or service providers and among municipalities and is it being consistently applied? | Yes, applied consistently                       | Yes, but not applied consistently                     | No  | 1     | Law No. 32/2004 on local government and Minister of Finance Regulation No 165/2012 on transfer fund stated that budget allocation is conducted by MoF with specific criteria. MoF consults other technical ministries and local government, especially to get technical inputs, when allocating the budget. Readiness of the city is also considered.                    | Urban Sanitation Discussion             |
| Developing             | Equity         | Reducing inequalities            | Do local government or urban service providers (national or in 3 largest cities) have specific plans or measures developed and implemented for serving the urban poor?                             | Plans developed and implemented                 | Plans developed but not implemented                   | No plans documented                           | 0.5   | Plans are being developed within PPSP, and according to Impres no. 3/2010 on equity of development. But these plans are not fully implemented yet.   | Urban Sanitation Discussion             |
| Developing             | Output         | Quantity                         | Is the annual expansion of urban households gaining access to safe sanitation sufficient to meet the subsector targets?  | Over 75% of that needed to reach sector targets | Between 75% and 50% of that needed to achieve targets | Less than 50% of that needed to reach targets | 0     | Urban sanitation access to improved sanitation = 77% (SUSENAS 2012). However, sector targets outline by 2019: 100% access to improved sanitation overall, 6% access to sewerage systems, and increase in communal systems. Annual expansions still fall short to less than 50%   | SUSENAS 2012, Urban Sanitation Workshop |

| Service Delivery Cycle      | Building Block | Areas of evidence for assessment | Question   | High (1)   | Medium (0.5)   | Low (0)  | Score | Explanation for score   | Source of evidence   |
|-----------------------------|----------------|----------------------------------|--|--|--|--|-------|---|--|
| Developing                  | Output         | Reporting                        | Are there procedures and processes applied on a regular basis to monitor urban sanitation access and the quality of services and is the information disseminated?                | Quality, quantity and disseminated                     | Quality or quantity  | Neither  | 0.5   | Regular surveillance monitoring is conducted by MoH. It is part of the main responsibility of the sanitarians and reported in monthly basis. At this moment, 5 provinces already do sms-based daily reports that appears online with STBM website. Some issues with data quality remain, though.  | <a href="http://ciptakarya.pu.go.id/v2/?act=vn&amp;id=1142">http://ciptakarya.pu.go.id/v2/?act=vn&amp;id=1142</a> , MoPW data, Urban Sanitation Workshop |
| <b>SUSTAINING WSP study</b> |                |                                  |  |  |  |  |       |   |  |
| Sustaining                  | Markets        | Collection and treatment         | What is the proportion of total fecal waste generated that gets safely collected and treated?  | Over 75% of that generated is collected and treated    | Over 50% of that generated is collected from the HH level    | Less than 50% of that generated                                    | 0     | Only 5 IPLTs are working properly. No systematic retribution system exists yet, only a few neighbor groups start to implement it.   | Urban Sanitation Discussion  |
| Sustaining                  | Markets        | Cost recovery                    | Are O&M costs of treatment systems (beyond household level facilities) assessed/known and fully met by either cost recovery through user fees and/or local revenue or transfers? | O&M costs known and >75% covered through cost recovery | O&M costs are known and 50% covered through cost recovery    | O&M costs not known  | 0     | Unclear O&M system, many IPLT and IPAL do not work properly. Households pay for discharge and government pays for treatment   | Urban Sanitation Discussion  |
| Sustaining                  | Markets        | Discharge                        | Are there norms and standards for wastewater discharge for septage and sewerage treatment plants that are systematically monitored under a regime of sanctions (penalties)?      | Exist and are monitored under a regime of sanctions    | Exist and majority are monitored, but there are no sanctions | Standards exist but majority of plants are not regularly monitored | 0.5   | Law No. 32/2009 on the protection and management of the environment. Some local governments have their own regulations such as Jakarta with Governor Regulation No. 220/2010 on IPAL and AMDAL. However, no firm evidence on enforcing sanctions exists, though monitoring is managed by the local environment management body (BPLHD). MoH is monitoring medical waste management. | Urban Sanitation Discussion  |



| Service Delivery Cycle | Building Block | Areas of evidence for assessment               | Question   | High (1)   | Medium (0.5)  | Low (0)   | Score | Explanation for score  | Source of evidence   |
|------------------------|----------------|--|--|--|---|---|-------|--|--|
| Sustaining             | Markets        | Management of Disaster Risk and Climate Change | Do local government or service providers (national or in 3 largest cities) have plans for coping with natural disasters and climate change?  | Yes, the majority of urban service providers have a plan for disaster risk management and climate change | No. Only some service providers have a plan for disaster risk management and climate change or most service providers have undertaken a vulnerability assessment. | No service provider has a climate action plan or has undertaken a vulnerability assessment. | 0     | An emergency sanitation policy exists including procedures, a program, and a cluster on disasters (BNPB). The government has a plan to prepare a policy, but no clear information whether the private sector has access to it. | Urban Sanitation Discussion  |
| Sustaining             | Expansion      | Autonomy                                       | Do utilities or service providers (national or 3 largest) have operational decision-making autonomy in investment planning, HR, finance (separate balance sheet) and procurement and management? | Yes in all aspects   | In all aspects except investment planning   | No  | 0.5   | Utilities are financially autonomous but Investment / Master plans must be approved by the Local Government authorities.   | Decrees of Production and Consumption of Clean Water (177/2006/ND-CP & 124/2011/ND-CP) |
| Sustaining             | Expansion      | Uptake   | Has government (national or local) developed any policies, procedures or programs to stimulate uptake of urban sanitation services and behaviors by households?                                  | Policies and procedures (instruments) developed and being implemented                                    | Some policies and procedures (instruments) developed but not implemented  | No policies or procedures (instruments) exist   | 0.5   | A baseline study, preliminary socialization, and nation-wide campaign is being led by MoH. Still limited implementation.   | Urban Sanitation Discussion  |
| Sustaining             | Expansion      | Plans  | Do government/ service providers have business plans for expanding the proportion of citywide fecal waste that is safely collected and treated?  | Business plans for expansion of collection & treatment being implemented                                 | Business plans for expansion of collection & treatment under preparation  | No Business Plans   | 0     | PPSP develops city sanitation strategies (SSK), which include urban sanitation strategies. However, the constraints in urban fecal sludge management are still substantial, no management system is in place yet.              | Urban Sanitation Discussion  |

| Service Delivery Cycle | Building Block | Areas of evidence for assessment | Question  | High (1)                | Medium (0.5)                                    | Low (0)                 | Score | Explanation for score  | Source of evidence               |
|------------------------|----------------|----------------------------------|---|-------------------------|---|-------------------------|-------|--|----------------------------------|
| Sustaining             | Expansion      | Private sector development       | Does the government have ongoing programs and measures to strengthen the domestic private sector for the provision of sanitation services in urban or peri-urban areas? | Yes, various components | In development, few components                  | No                      | 0.5   | There are some programs through corporate social responsibility support for small scale business. Medium and big scale business do not have any program yet. | Urban Sanitation Discussion      |
| Sustaining             | Use            | Subsector progress               | Is the subsector on track to meet the stated target?  | On-track                | Off-track but keeping up with population growth | Off-track               | 0     | Subsector is progressing, but not yet on track to meet sector targets.   | Urban Sanitation Discussion      |
| Sustaining             | Use            | Equity of use                    | What is the ratio of improved toilet access between the lowest and highest quintile in urban areas?   | Less than 2 times       | Between 2 and 5                                 | More than 5 times       | 0.5   | 2.34 (BPS)   | Urban Sanitation Discussion      |
| Sustaining             | Use            | Use of facilities                | What percentage of people living in urban areas use improved toilet facilities (excluding shared facilities)?   | More than 90% of people | More than 75% of people                         | Less than 75% of people | 0.5   | Household use (79.7%), shared (8.3%), total 88% (Riskesdas 2010); SUSENAS 2011: 72.5%  | Riskesdas (2010), Susenas (2011) |

# Annex 2:

## Key Inputs for the Required and Anticipated Capital Expenditures

This annex describes the key inputs that were used to generate estimates of the required and anticipated capital expenditures. It discusses the sources, adjustments and assumptions of the following information: exchange rates, demographic variables, sector-specific technologies and spending plans.

### Exchange Rates

Amounts in Indonesia rupiah (IDR) from 2009 to 2012 were converted into US Dollars using annual exchange rates from the World Development Indicators.<sup>49</sup> Projections for 2013 follow the assumptions used by the Ministry of Finance, which are in turn based on Law No. 15 on the State Budget for 2013.<sup>50</sup> The exchange rates for succeeding years were assumed to be the same as in 2013.

**Table A2.1 Current and target access rates**

| Region   | Population (millions) |      | Annual population growth (%) |
|----------|-----------------------|------|------------------------------|
|          | 2011                  | 2019 |                              |
| Rural    | 117                   | 112  | -0.3%                        |
| Urban    | 120                   | 146  | 2.5% <sup>b</sup>            |
| National | 236                   | 258  | not calculated               |

*a All values for this row were calculated as residuals. b This value represents the projected population growth rate for 2010-2015 of the UN (2012) World Statistics Pocketbook, Department of Economic and Social Affairs, UN, New York. c Bappenas, BPS and United Nations Population Fund (2005) Proyeksi Penduduk Indonesia (Indonesia Population Projection), Jakarta.*

### Demographic Variables

The model requires two sets of demographic variables. The first set captures rural and urban population estimates/projections for base year (2011) and target year (2019). This information is combined with existing and target access rates for water and sanitation in order to calculate the number of people that will be requiring access to improved facilities during the period of analysis. The other set of information refers to the average size of households. This is used to convert costs of facilities, which are generally expressed on a per household basis, into per capita terms.

Table A2.1 shows the key demographic variables used in the analysis. Aggregate population data for 2011 and 2019 were obtained from Bappenas et al. (2005).<sup>51</sup> Rural and urban population data were generated using proportions and growth rates from the UN.<sup>52</sup> The analysis assumes that there are 3.9 members per household.<sup>53</sup>

### Access Rates

Table A2.2 shows the baseline (2011) and target (2019) access rates for water supply and sanitation. The 2011 access rates for sanitation and water supply were calculated using data from the SUSENAS by the BPS and Bappenas, respectively.

<sup>49</sup> World Bank (2013) World Development Indicators, <http://data.worldbank.org/indicator/PA.NUS.FCRF>.

<sup>50</sup> Ministry of Finance website, <http://www.depkeu.go.id/Eng/?menu=english>.

<sup>51</sup> Bappenas, BPS and United Nations Population Fund (2005) Proyeksi Penduduk Indonesia (Indonesia Population Projection), Jakarta.

<sup>52</sup> UN (2012) World Statistics Pocketbook, Department of Economic and Social Affairs, UN, New York.

<sup>53</sup> The estimate is for 2010. Badan Pusat Statistik [Statistics Indonesia] (2013) Perkembangan Beberapa Indikator Utama Sosial-Ekonomi Indonesia [Trends of Selected Socio-Economic Indicators of Indonesia], Jakarta, May.

## Sector-specific Technologies: Water

Information on sector-specific technologies, unit costs, and expected life are necessary for the calculation of investment requirements. Table A2.3 presents data on the variables mentioned above for water supply.

The options included and shares for 2011 were based on the technologies reported in SUSENAS 2010, which was presented in JMP. However, given the absence of documents, the distribution of water supply technologies for 2020 was based on the informed judgment of stakeholders at the SDA validation workshop in Jakarta on June 2013.<sup>54</sup>

Unit capital costs represent expenditures for materials and labor used in the construction of the different facilities while lifespan refers to the projected number of years before a facility is fully replaced. For urban water supply, the information in Table A2.2 was based on the project experience of participants at the SDA validation workshop in Jakarta on June 2013. On the other hand, unit costs for rural water supply were based on estimates from the Domestic Private Sector Project (DPSP) and the Third Water Supply and Sanitation for Low Income Communities Project (PAMSIMAS).

## Sector-specific Technologies: Sanitation

**Table A2.2 Current and target access rates**

| Sector             | 2011 | 2019 |
|--------------------|------|------|
| Rural water supply | 58%  | 100% |
| Urban water supply | 52%  | 100% |
| Rural sanitation   | 39%  | 100% |
| Urban sanitation   | 73%  | 100% |

Table A2.4 presents information on the expected household distribution, costs and lifespans of key sanitation technologies.

Improved sanitation facilities are defined by Indonesian authorities as a household that has its own latrine, gooseneck latrine and/or pit latrine, and uses a septic tank as the final disposal facility.<sup>55</sup>

An Urban Sanitation Development Program (USDP)<sup>56</sup> report identifies improved facilities as private or shared facility that has access to a gooseneck as a type of barrier and either a septic tank, pit latrine or sewerage system as a type of treatment.<sup>57</sup> The 2011 distribution of facilities in Table A2.4 were apportioned across facilities using information from the JMP.<sup>58</sup> Given the absence of documents, the distribution of sanitation options for rural areas in 2019 was based on the opinions that stakeholders provided at the SDA validation workshop in Jakarta on June 2013. For urban households, the projected distribution was obtained as follows. Information from Bappenas indicates that national targets for communal facilities (which represents SANIMAS in the analysis) rise by about one percentage point per year between 2010 (1%) to 2014 (5%). If this trend continues, then about 9% of the national population will have access to such facilities by 2019. Confining the use of such facilities to urban areas suggests that about 16% of the urban population in 2019 will have access to communal facilities. However, using 16% for SANIMAS facilities will be difficult to employ in the analysis because it means that proportion of the urban population with access to private facilities will fall from 86% in 2011 to 84% in 2019. Hence, the decision adopted for the analysis is to assume that access to private facilities in 2019 will be the same as in 2011 and that all the remaining urban households (14%) will have access to SANIMAS.

<sup>54</sup> JMP (2012) Estimates for the Use of Improved Drinking Water Sources: Indonesia. Downloaded from wss.info.org.

<sup>55</sup> Ministry of Health (2013), Main Findings of Indonesia Basic Health Survey 2013.

<sup>56</sup> Urban Sanitation Development Program (2012) National Sanitation Demand Assessment 2012, Draft report, November.

<sup>57</sup> The USDP report identifies the following facilities as not improved: (a) public facility, (b) public/private/shared facilities that do not have access to a gooseneck and/or septic tank/pit latrine/sewer system, (c) no toilets.

<sup>58</sup> JMP (2012) Estimates for the Use of Improved Sanitation: Indonesia. Downloaded from wss.info.org.

**Table A2.3 Selected information on sanitation technologies**

| Option                   | Distribution of facilities<br>(base year, %) <sup>a</sup> |       | Projected distribution of<br>facilities<br>(2020, %) <sup>a,b</sup> |       | Unit capital cost<br>(per capita at 2012 prices) |       | Lifespan<br>(in years) |
|--------------------------|---|-------|---|-------|--|-------|------------------------|
|                          | Rural   | Urban | Rural   | Urban | Rural  | Urban |                        |
| Piped into dwelling/yard | 9%  | 26%   | 58%   | 90%   | 40   | 181   | 30                     |
| Public tap               | 5%  | 9%    | 5%  | 5%    | 4  | 91    | 30                     |
| Tubewell/Borehole        | 26%   | 28%   | 5%  | 0%    | 40   | 160   | 5                      |
| Protected well           | 23%   | 32%   | 25%   | 5%    | 20   | 64    | 5                      |
| Protected spring         | 28%   | 5%    | 4%  | 0%    | 24   | 3     | 5                      |
| Rainwater                | 9%  | 0%    | 3%  | 0%    | 40   | 21    | 4                      |
| Total                    | 100%  | 100%  | 100%  | 100%  | nc   | nc    | nc                     |

<sup>a</sup> As a share of the population that have access to improved facilities. <sup>b</sup> Based on informed judgments of participants in a stakeholder workshop in Jakarta on June 2013.

Unit capital costs in urban areas, which exclude the costs of sewers, and the lifespan of private and shared facilities were based on the informed judgment of the participants in the SDA validation workshop in Jakarta on June 2013. Furthermore, it is also assumed that three households share a facility; which translates to unit costs of shared facilities that are a third of private facilities. The cost of a private facility in rural areas (\$31 per person or \$120 per facility) is based on the curriculum for the STBM entrepreneur training of 2013 of the Ministry of Health). This cost is conservative relative to the median price of permanent pit latrines (at \$44 per person or \$173 per facility at 2010 prices) found by Giltner and Arianto<sup>59</sup> for rural areas in Indonesia. It is also way below the costs of a toilet with septic tank (\$140 per person) used in the Economics of Sanitation Initiative (ESI).<sup>60</sup> The per capita cost of SANIMAS facilities, which includes treatment facilities, represents investments for Community Sanitation Centers. The value represents median capital costs as calculated by Eales et al. (2013) using survey data.<sup>61</sup> The per capita estimates here, which are much higher than estimated per capita costs of \$152 per person under optimal

conditions, reflects the under-utilization of the Community Sanitation Centers.

## Sewerage Systems

Sewerage systems in urban areas, which are also covered in the analysis, are treated separately from on-site treatment facilities. The assumptions used in the analysis are as follows:

- Access: In the base period (2011), it is assumed that 1% of the urban population had access to sewerage systems. While there seems to be no solid evidence on access rates, studies by the World Bank and AusAID<sup>62</sup>, USDP<sup>63</sup> and Eales et. al.<sup>64</sup> suggest values close to this assumption. Access to sewerage systems is assumed to increase to 6% by the target year (2019).
- Unit costs: The analysis assumes unit costs of \$372 per person (at 2012 prices). This represents the lower end of per capita CAPEX costs (US\$ 350 per person at 2010 prices) estimates presented in a study by the

<sup>59</sup> Giltner, S and I. Arianto (2011) Rural Latrine Costs in Indonesia, UNICEF, Plan Indonesia, ADB and WSP, World Bank.

<sup>60</sup> Winara, A., G. Hutton, Oktarinda, E. Purnomo, K. Hadiwardoyo, I. Merdykasari, T. Nurmadi, B. Bruinsma, D. Gunawan, D. Fadilah and M. Albrecht (2011) Economic Assessment of Sanitation Interventions in Indonesia, Water and Sanitation Program, World Bank.

<sup>61</sup> Eales K., R. Siregar, E. Febriani and I. Blackett (2013) Review of Community Managed Decentralized Wastewater Treatment Systems in Indonesia, WSP, February.

<sup>62</sup> World Bank and AusAID (2013) East Asia Urban Sanitation Flagship Study: Indonesia Country Study, Main Report, February.

<sup>63</sup> Urban Sanitation Development Program (2012) National Sanitation Demand Assessment 2012, Draft report, November.

<sup>64</sup> Eales K., R. Siregar, E. Febriani and I. Blackett (2013) Review of Community Managed Decentralized Wastewater Treatment Systems in Indonesia, WSP, February.

**Table A2.4 Selected information on sanitation technologies**

| Option           | Distribution of facilities<br>(base year, %) <sup>a</sup> |       | Projected distribution of facilities<br>(2020, %) <sup>a,b</sup> |       | Unit capital cost<br>(per capita at 2012 prices) |       | Lifespan<br>(in years) |
|------------------|---|-------|--|-------|--|-------|------------------------|
|                  | Rural   | Urban | Rural  | Urban | Rural  | Urban |                        |
| Private facility | 69%   | 86%   | 80%  | 86%   | 31   | 55    | 20                     |
| Shared facility  | 31%   | 13%   | 20%  | 0%    | 10   | 18    | 20                     |
| SANIMAS          | na  | 1%    | na   | 14%   | na   | 294   | 20                     |
| Total            | 100%  | 100%  | 100%   | 100%  | nc   | nc    | nc                     |

<sup>a</sup> As a share of households with access to improved facilities.

**Table A2.5 Public investments (million US\$, annual average)**

| Sector                         | Central government | Local government | Development partners | Total |
|--------------------------------|--------------------|------------------|----------------------|-------|
| <b>Anticipated (2012-2014)</b> |                    |                  |                      |       |
| Rural water supply             | 254                | 480              | 58                   | 791   |
| Urban water supply             | 265                | 481              | 25                   | 771   |
| Rural sanitation               | 37                 | 2                | 29                   | 69    |
| Urban sanitation               | 48                 | 352              | 28                   | 427   |
| Total                          | 604                | 1,315            | 140                  | 2,059 |
| <b>Recent (2009-2014)</b>      |                    |                  |                      |       |
| <b>Rural water supply</b>      | 111                | 369              | 43                   | 524   |
| Urban water supply             | 121                | 370              | 19                   | 510   |
| Rural sanitation               | 23                 | 2                | 22                   | 47    |
| Urban sanitation               | 32                 | 271              | 21                   | 324   |
| Total                          | 287                | 1,013            | 105                  | 1,405 |

<sup>a</sup> Anticipated investments of the government only represent expenditures for 2012 and 2013.

World Bank and AusAID<sup>65, 66</sup>. The value used in the analysis is much higher than the average capital costs at optimal use of simplified sewerage systems (\$136 per person at 2012 prices) and combined systems (\$186 per person at 2012 prices) of SANIMAS projects. However, it is closer to the median costs at actual use of simplified sewerage systems (\$228 per person at 2012 prices) and combined systems (\$251 per person at 2012 prices) of SANIMAS projects.<sup>67</sup> The costs are also higher than the unit costs of centralized sewerage and treatment systems (\$130 per person at 2012 prices) reported in the ESI.<sup>68</sup>

- Lifespan: Sewerage systems are assumed to have a lifespan of 20 years. This value was taken from the ESI.<sup>69</sup>

## Spending Plans

Collecting information on recent and anticipated investments and comparing the results to CAPEX requirements allows the costing tool to generate estimates of financing gaps (or surpluses). As discussed in the text, investments for water and sanitation were obtained/derived from documents and websites of various stakeholders.

The process of the collecting and compiling the information for capital expenditures was difficult and the subject to the following issues and limitations. First, expenditures of the central government for 2014 are not yet available. Hence, anticipated expenditures of the government only represent the average over two years (2012 and 2013). Second, there is also some uncertainty surrounding the sub-sectoral data used in the analysis. In some instances, information was only available for water supply and sanitation as a whole but not separately. Quite often, the data also do not make

a clear distinction by location (rural or urban), annual disbursements for multi-year projects, actual expenditures and allocations, and nature (hardware and software). In all these cases, the approach used in the analysis was to ask the concerned stakeholders for their best guess of how the data might be suitably disaggregated.

Given the available information, estimates of anticipated (2012-2014) and recent (2009-2011) CAPEX from the government and development partners are shown in Table A2.5. To ensure comparability with the investment requirements, estimates of anticipated and recent CAPEX are limited to hardware expenditures only.

Given the available information, estimates of anticipated (2012-2014) and recent (2009-2011) CAPEX which come from government and development partners are shown in Table A2.4. To ensure comparability with the investment requirements, estimates of anticipated and recent CAPEX are limited to hardware expenditures only.

The planned spending of users is computed by specifying the proportion of investments that the authorities are expecting households to contribute. Table A2.5 shows the proportion of investments that households are expected to contribute. In the absence of an expressed policy, all the proportions used for urban areas were based on the informed judgment of the stakeholders who participated in the June 2013 workshop in Jakarta. Users are expected to finance 15% of piped water into dwellings. The amount represents household payments for the connection pipe and meter. The only exception is the contribution of households in SANIMAS projects which is the midpoint of the estimated contribution of the community that was estimated in the literature.<sup>70</sup>

<sup>65</sup> World Bank and AusAID (2013) East Asia Urban Sanitation Flagship Study: Indonesia Country Study, Main Report, February.

<sup>66</sup> The value used in the analysis, which is at 2012 prices, accounts for changes in the general price level and exchange rate.

<sup>67</sup> Eales K., R. Siregar, E. Febriani and I. Blackett (2013) Review of Community Managed Decentralized Wastewater Treatment Systems in Indonesia, WSP, February.

<sup>68</sup> Winara, A., G. Hutton, Oktarinda, E. Purnomo, K. Hadiwardoyo, I. Merdykasari, T. Nurmadi, B. Bruinsma, D. Gunawan, D. Fadilah and M. Albrecht (2011) Economic Assessment of Sanitation Interventions in Indonesia, Water and Sanitation Program, World Bank.

<sup>69</sup> Winara, A., G. Hutton, Oktarinda, E. Purnomo, K. Hadiwardoyo, I. Merdykasari, T. Nurmadi, B. Bruinsma, D. Gunawan, D. Fadilah and M. Albrecht (2011) Economic Assessment of Sanitation Interventions in Indonesia, Water and Sanitation Program, World Bank.

<sup>70</sup> Eales K., R. Siregar, E. Febriani and I. Blackett (2013) Review of Community Managed Decentralized Wastewater Treatment Systems in Indonesia, WSP, February.

**Table A2.6 Share of users in capital/development costs, %**

| Option                                    | Rural | Urban           |
|---|-------|-----------------|
| <b>Water Supply</b>                       |       |                 |
| Public tap                                | 0%    | 0%              |
| Piped into dwelling/yard                  | 15%   | 15%             |
| Tubewell/Borehole                         | 99%   | n.a.            |
| Improved dug well                         | 99%   | 99%             |
| Protected spring                          | 99%   | n.a.            |
| Rainwater                                 | 99%   | n.a.            |
| <b>Sanitation<sup>a</sup></b>             |       |                 |
| Private facility-gooseneck-with treatment | 99%   | 99%             |
| Shared facility-gooseneck-with treatment  | 99%   | 99%             |
| SANIMAS                                   | na    | 3% <sup>b</sup> |

*a* Sewerage systems in urban areas are not included in the table. Such facilities are expected to be initially financed entirely by government/donors/utilities and not by households. *b* Eales K., R. Siregar, E. Febriani and I. Blackett (2013) *Review of Community Managed Decentralized Wastewater Treatment Systems in Indonesia*, WSP, February.



# Annex 3:

## Comparison with Alternative Estimates of Investment Requirements

This annex compares the estimates and key assumptions of the SDA costing tool with two studies in the water and sanitation sector in Indonesia. The first study, which presents estimated investment requirements for the water supply sector, provides an investment roadmap for Indonesia (WIRA study team, 2012). The second study, which was conducted by USDP (2012), examines, among others, sanitation investments. Table A3.1 summarizes the key information from the current analysis and the two studies.

The WIRA study team (2012) presents an estimated investment requirement of Rp64 trillion from 2011 to 2014. The study asserts that this estimate will lead to 56 million people (41 million with access to piped systems and 15 million with access to non-piped systems) having access to improved water supply services by 2014. It was derived by adding up on the costs of various activities in rural and urban areas.<sup>71</sup>

Converted into US Dollar and expressed on an annual basis, the costs presented by the WIRA study team (\$1.7 billion per year) are much lower than the estimates presented in the current analysis (\$4.8 billion per year). There are two factors that might explain this. First, the target adopted in the current analysis suggests that about 29 million people a year will gain access to improved water supply facilities. This is more than twice as many as the estimate of the WIRA study team (56 million in 4 years equals 13.3 million

people per year). Second, the analysis presented by the WIRA study team does not appear to include replacement costs. Removing this item from the estimates of the current analysis reduces the investment requirement to \$1.8 billion per year, a figure that is not very different from the values presented by the WIRA study team.

The USDP (2012) calculations assume universal access to improved sanitation by 2035. It estimates costs to be in the order of Rp472 trillion (about \$2.5 billion per year) from 2015 to 2035. Estimates in the current analysis (\$2.4 billion/year) seem very close to the USDP estimate but this should be viewed with care. The reason is that the USDP investment requirements do not appear to include expenditures for replacing worn-out facilities. Removing these replacement costs from the current analysis leads to investments requirements (\$1.9 billion per year) that are noticeably lower than USDP estimates. The resulting difference between the two estimates may then be explained in part by examining the technology distribution at the target year. In the current analysis, it is assumed that only about 3.4% of the total population in 2019 (or 8.8 million people) will have access to offsite wastewater treatment facilities by the target year. In contrast, the USDP analysis assumes that about 32% of the 2035 population (95.2 million people) will have access to medium scale decentralized wastewater treatment facilities.

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<sup>71</sup> Table 2 of the WIRA report provides the details.

**Table A3.1 Comparison among three studies**

| Item  | Current SDA analysis   | WIRA Study team (2012)                                       | USDP analysis (2012) <sup>b</sup>    |
|---|--|--|--------------------------------------|
| Sector of interest  | Water supply and sanitation  | Water supply   | Sanitation                           |
| Period of analysis  | 2011-2019  | 2011-2014  | 2015-2035                            |
| Access to improved facilities at target year                  | Water supply: 100%<br>Sanitation: 100%   | 56 million people or about 68% of the population by end 2014 | 2035: 100%                           |
| Estimated costs (as presented in study)                       | Water supply: \$4.75bn/ year (\$1.79bn/ year excluding replacement costs)<br>Sanitation: \$2.42bn/ year (\$1.86bn/ year) | Rp65 trillion for the entire period                          | Rp472 trillion for the entire period |
| Estimated cost (converted to billion US\$/ year) <sup>a</sup> | Water supply: \$4.75bn/ year (\$1.79bn/ year excluding replacement costs)<br>Sanitation: \$2.42bn/ year (\$1.86bn/ year) | \$1.73bn/year  | \$2.5bn/year                         |

*a* Estimates from WIRA and USDP were converted to US\$ using the 2012 exchange rate of Rp9386/US\$. *b* USDP estimates are not yet final.

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