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RESEARCH REPORT

Effective governance for the successful long-term operation of local scale wastewater systems

An analysis of performance data for local scale wastewater services in Indonesia

SYNTHESIS AND RECOMMENDATIONS

COMMUNITY SANITATION GOVERNANCE

COMMUNITY SANITATION GOVERNANCE

'Community Sanitation Governance' is a joint research project led by the Institute for Sustainable Futures (ISF) at the University of Technology, Sydney, which investigates effective governance for successful long-term operation of community scale wastewater systems in Indonesia. Effective governance refers to the financial, stakeholder, organizational, regulatory, and technical support necessary for successful, long-term service delivery. The research is undertaken in collaboration with BORDA Germany, the Overseas Development Institute (ODI), AKSANSI (Association for Community Based Sanitation Organisations in Indonesia) and the Center for Policy Regulation and Governance at Universitas Ibn Khaldun Bogor (UIKB). The research has been funded through a research grant under the Australian Development Research Awards Scheme (ADRAS), an Australian Aid initiative.

ABOUT THE AUTHORS

The Institute for Sustainable Futures (ISF) was established by the University of Technology Sydney (UTS) to work with industry, government and the community to develop sustainable futures through research and consultancy. ISF's mission is to create change toward sustainable futures that protect and enhance the environment, human well-being and social equity. We seek to adopt an inter-disciplinary approach to our work and engage our partner organisations in a collaborative process that emphasises strategic decision-making. Our projects foster lasting change and we aim to build independent capacity in our clients by passing on knowledge and skills. We focus on innovation and our research often extends sustainability practice and contributes to current thinking.

CITATION

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DISCLAIMER

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ASOSIASI KSM SANITASI AKSANSI SELURUH INDONESIA

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Australian Aid

Project background

Our starting point for this project is: Effluent management in dense, low-income urban areas in Indonesia is challenging. Local (community) scale systems offer an affordable way to manage the public health and environmental hazards of untreated wastewater in urban areas. However, in order to operate in the long-term, these systems need effective governance, defined as (Ross et al, 2014):

Functioning technology: Ensuring the physical system delivers the service	**Sustainable financing:** Sufficient ongoing revenue to cover all short and long-term operational cost elements	**Effective management:** Accountable and equitable administration and decision making system	**Sustaining demand:** Maintaining effective community demand for the service over time

Finding pathways towards effective governance is especially timely. Reviews of local scale systems in Indonesia found that effective governance is difficult to achieve and the service does not always last as planned (Eales et al. 2013). In addition, connection numbers are as low as half of what was planned (Mitchell et al. 2015). Nonetheless, the Government of Indonesia has committed to local scale wastewater systems as a key component of its commitment to provide 100% of its citizens with access to sanitation. To date, about 13,600 of these systems have been funded for installation, and as many as 100,000 more are needed to meet current targets for access (Mitchell et al. 2015).

In response to this situation, the Institute for Sustainable Futures (ISF) at the University of Technology Sydney (UTS) developed a three-year transdisciplinary action research project that seeks to improve the long-term governance of local scale wastewater services in Indonesia.

This project is a research partnership with the Indonesian Ministry of National Development Planning (BAPPENAS), and is conducted in collaboration with AKSANSI (Association of community based organisations for sanitation), Bremen Overseas Research and Development Association (BORDA) Germany, Center for Regulation Policy and Governance at Universitas Ibn Khaldun Bogor and the UK Overseas Development Institute (ODI). A Project Advisory Group (with members from seven Ministries and six international donors) provides guidance and validation for the research. The 2014-2016 study is supported by the Australian Development Research Awards Scheme (ADRAS).

The four enquiry areas for this project are:

Performance monitoring: What is the volume and quality of data for local scale system performance? How are systems performing?	**Legal arrangements**: What are the legal and informal arrangements for local scale system governance, and what are the implications for O&M?	**Scale and distribution of costs:** For a range of sanitation service delivery models, what are the scale and distributions of costs; and what are the implications?

Management partnerships: What are the range of structures and institutional arrangements that could deliver the responsibilities for managing local scale systems?

This document is an output of the performance data enquiry. It summarises an analysis of the quality and quantity of performance data available in Indonesia.

Executive Summary

In Indonesia the exposure risk of faecal contamination is high and the growth of investment in local scale wastewater systems is rapid. This means longitudinal, or on-going, performance monitoring of local scale systems is essential to understand the health and environmental impacts of both the initial investment and the on-going sanitation service.

A review of performance data sought to explore the extent to which longitudinal monitoring of local scale systems is undertaken, and what an analysis of existing data can show about system performance and the challenges faced by community-based organisations (KSMs) placed in charge of systems' operation and maintenance. The review investigated data available for the main funding programs for local scale systems in Indonesia:

- *SANIMAS Regular*, managed by the Ministry of Public Works (PU) and funded by the national budget (APBN);
- *SANIMAS DAK SLBM*, managed by the Ministry of Finance and funded by the national special allocation fund;
- *SANIMAS USRI (Urban Sanitation and Rural Infrastructure project) support to PNPM (National program for community empowerment)*, or SANIMAS ADB, managed by PU and funded by Asian Development Bank (ADB) loan; and,
- *SANIMAS IDB*, managed by PU and funded by the Islamic Development Bank (IDB) loan.

This review of existing performance data found that records are limited. Data collection for local scale systems differs between funding mechanisms (e.g., according to interviewees, there is no post-construction data collection for the largest funding program (DAK SLBM)). Data is limited in quantity, variable in quality, and dispersed across diverse entities. Monitoring is uncommon, and generally confined to a single post-construction check 6 – 12 months after commissioning. Very few systems are monitored longitudinally, meaning there is no quantitative evidence base of how systems are functioning in the long-term. Large-scale, cross-programmatic evaluation has not yet been undertaken.

An investigation of the limited data sets shows that data collection focuses mainly on technical factors. Annual funding for local scale systems has grown rapidly since 2003, with as many as 13,600 local scale systems funded for installation under various funding programs. Program guidelines for SANIMAS Regular and USRI, covering a quarter of funded systems, intend for effluent quality to be checked, but this appears to be challenging to implement in practice since this data generally does not exist. Health impacts of investments in sanitation are challenging to systematically monitor and attribute.

KSMs responsible for managing local scale systems face many challenges. Fee collection for financing operations and maintenance is the most commonly reported challenge, but there are many other tasks that KSMs find challenging. Even after installation of systems, faecal contamination exposure pathways remain, which KSMs may not be able to identify or rectify. For example, system capacity is often under utilized (average = 50%), and KSMs struggle to increase connections. Importantly, program designs have a critical influence on KSM roles and performance outcomes of local scale systems.

In light of this review, possible improvements for stakeholders to consider are:

- Setting targets and monitoring what matters e.g., effluent treatment rather than access,
- Improving data collection tools, support, use, and training,
- Optimising existing investments, i.e. through increasing household connections for systems with low utilisation rates,
- Comparing impacts of the four main delivery programs and adjusting program design and implementation to improve long-term outcomes.

Purpose of performance data component of research

The primary objective of sanitation is to protect people from exposure to disease-causing substances in excreta, through drinking water supplies and the environment. Local scale systems need to perform adequately to meet this objective. Adequate performance can be known only by monitoring, including the quality of effluent discharged from local scale systems to potential water sources for drinking, washing, bathing etc. to which people are exposed.

This enquiry of local scale sanitation system performance, conducted between November 2014 and February 2015, sought to shed light on two aspects:

(1) The extent and nature of performance monitoring and currently existing performance data; and
(2) The common challenges faced by KSMs with operational[1] responsibilities for ensuring adequate performance.

Local scale sanitation systems are posed to form a significant proportion of planned sanitation investment with government targets for 7.5% of the population to be served by local scale systems – requiring around 100,000 installed systems by 2019. It is critically important to gather performance data to build an evidence base for the outcomes of the investments. While several datasets are known to exist, the quality/quantity of available data is not widely known.

The intended audience for this working paper is predominantly sanitation practitioners and specialists working in Indonesia. However, the findings may also be of interest to stakeholders of local scale sanitation implementation in other countries. For this reason, we have left many Indonesian words and concepts in the text, and sought to sufficiently explain them for audiences outside Indonesia.

Research questions of performance data review

The specific questions we sought to answer were:

RQ1. What is the volume and quality of available data on local scale sanitation performance?

RQ2. What are the current challenges commonly faced by KSM, with respect to day-to-day operational responsibilities for maintaining performance?

Methodology

Our mixed methods research methodology included:

a) Semi-structured interviews with representatives from all levels of the system (*KSMs; multiple levels of government such as sub-village (RW/RT), village (kelurahan), city/regency (kabupaten/kota), national; sectoral associations (AKSANSI) and international donors/multilateral agencies and NGOs*),
b) Observations during community site visits,
c) Evaluative enquiries of the two principal databases and other datasets,
d) A focus group discussion with our national Project Advisory Group, comprising all seven Ministries with responsibility for sanitation, all four principal international donors/programs in sanitation, and the national NGO for KSMs) , and
e) Review of documents obtained from stakeholders and research participants.

[1] We use the term 'operational' to refer to the post-construction phase. Activities during this time include operation, maintenance, and asset renewal.

Findings

RQ.1 What is the volume and quality of available data on local scale sanitation performance?

Availability of performance data was limited and dispersed, and varied according to funding program or mechanism. Nearly no systems are monitored longitudinally.

Seven relevant data sets were identified by the study. We were provided with access to the four most significant. The USRI evaluation was just beginning at the time of this study. Study participants informed us of the Sleman and SANIMAS evaluation datasets, but we were unable to obtain firsthand evidence. All data sets are mapped in Figure 1 according to what is monitored (the columns) and the reasons for monitoring (the rows).

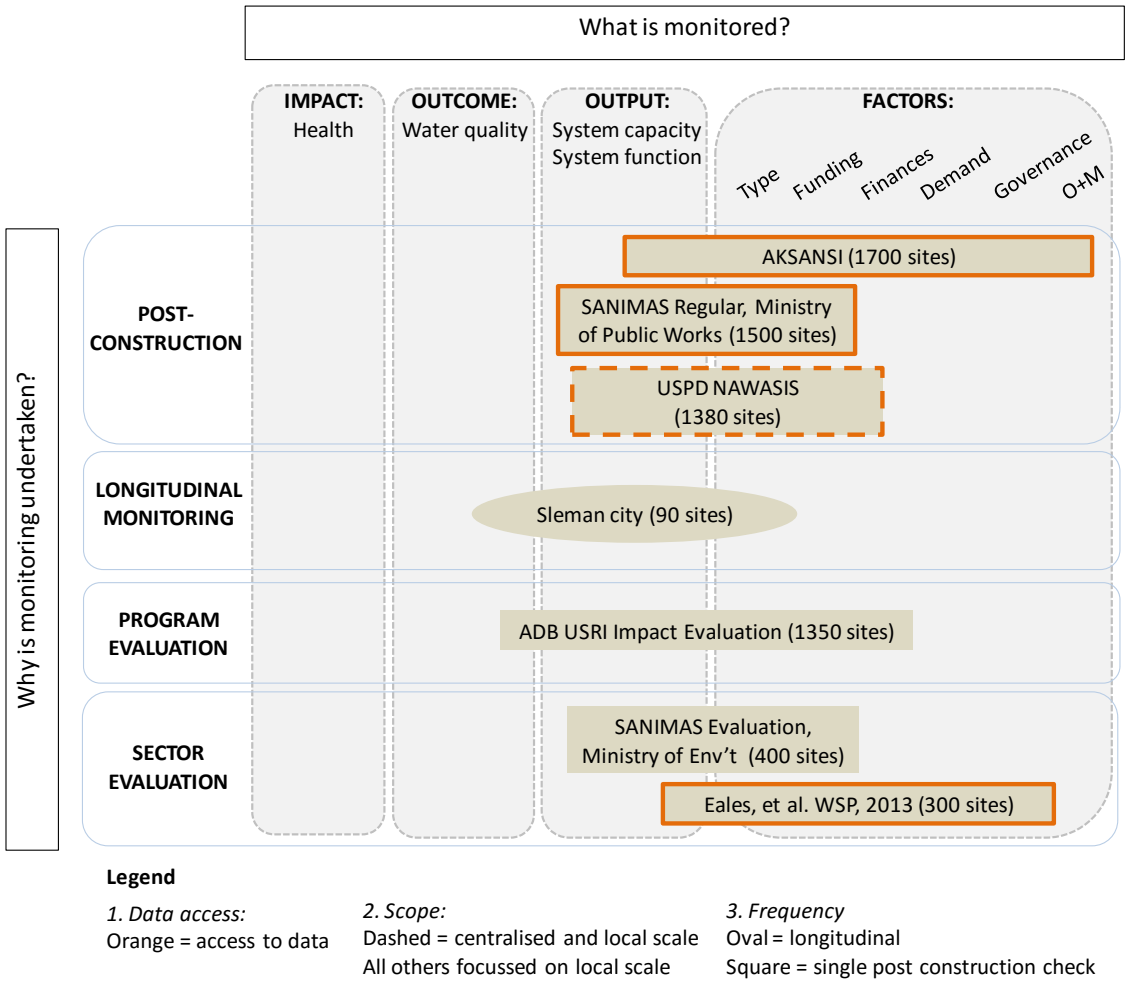

Figure 1: Map of current monitoring of sanitation systems.

Figure 1 shows:

- Examples of systematic monitoring of human health impacts in relation to local scale systems performance were not found.
- Most of the data sets (6 of 7) are comprised of single visits with no evidence of longitudinal monitoring and evaluation, except for anecdotal evidence in one city.

- Most of the data sets were focused on local scale systems, except for the national NAWASIS USDP database (the National Water and Sanitation Information System funded by the Urban Sanitation Development Programme, which had data on centralized systems as well).

The database managed by the NGO *AKSANSI* has the largest number of sites and collects data on the broadest set of factors. AKSANSI appears to be the only organisation collecting the kind of governance data necessary to evaluate and take corrective action for improved functionality in the operation phase (e.g. data on user demand, finances, management and technology). The purpose of AKSANSI monitoring is usually a single post-construction functionality test.

The USDP NAWASIS database tracks the development and implementation of city-wide sanitation strategies (incorporating solid waste, drainage, and sewage) and contains data for local scale as a subset. USDP NAWASIS has (self-reported) financial and technical capacity data from the construction and operational phases.

The Ministry of Public Works (PU) database contains information on project locations, costs and status of construction for SANIMAS Regular and some USRI sites. SANIMAS Regular intends for effluent quality to be checked post-construction.

The SANIMAS DAK SLBM, managed by the Ministry of Finance, reportedly has no data available at the central level (e.g., location, system type, operability, performance, etc). It is unclear whether individual cities/regions (kota/kabupaten) may have more data about systems installed within their jurisdiction.

At this point there has not yet been a coordinated, cross-programmatic evaluation across the four main funding programs, although two of the larger databases (AKSANSI and USDP NAWASIS) contain data about systems installed under different funding mechanisms.

There are many complex and interacting factors that impinge on the quality of the data in the datasets and databases, including limitations in data collection tools, training for staff, technical capacity at the local level, etc, all of which is further constrained by limited resources. All of this means the quality of the observed data across the data sets was questionable in terms of consistency, completeness, clarity, and accuracy, but also in terms of validity e.g., in multiple data sets, we observed reported biological oxygen demand higher than reported chemical oxygen demand. Application of Crawford's (2005) Quality Data Cycle could help to direct better investment of scarce monitoring resources .

Analysis of these data sets above shows large numbers of local scale systems funded for installation under various funding programs.

Our first task was to identify how many systems had been installed. This proved challenging because of the dispersed and incomplete nature of the data, as outlined above. Based on available data and estimates from research participants (Table 1), over 13,600 local scale systems have been funded for installation under different programs to date. Close to 80% of the local scale systems have been funded through transfers from national to local government (Kota/Kabupaten) under the special allocation funding mechanism (DAK SLBM).

Table 1: Estimate of local scale systems funded for installation as of 2014.

Program: *funding*	**System estimates (#)**	**Program duration**
SANIMAS DAK SLBM: *Ministry of Finance DAK*	10,340	2010 -
USRI support to PNPM: *Asian Development Bank Loan*	1,350	2012 - 2014
SANIMAS IDB: *Islamic Development Bank Loan*	500 *(1800 proposed)*	2014 - 2017
SANIMAS Regular: *Ministry of Public Works APBN*	1,200	2008 -
SANIMAS: *Australian Aid (now DFAT) and World Bank*	215	2003 - 2007
Total	13,600	

There are other related investments. World Bank (PAMSIMAS) and the broad GoI PNPM program have installed up to 800 local scale sanitation systems as part of other programs. There is also anecdotal evidence of local scale wastewater systems funded through other mechanisms (i.e. Ministry of Health; Ministry of Environment; Provincial governments; 'Aspirational Funds' allocated to members of local parliaments (DPRD); and under the national Total Sanitation (STBM) program).

Annual funding for local scale systems has grown rapidly since 2003.

Pilot SANIMAS projects started in 2003 and funded less that 10 per year. Over the past decade, funding has jumped to almost 6,000 per year.

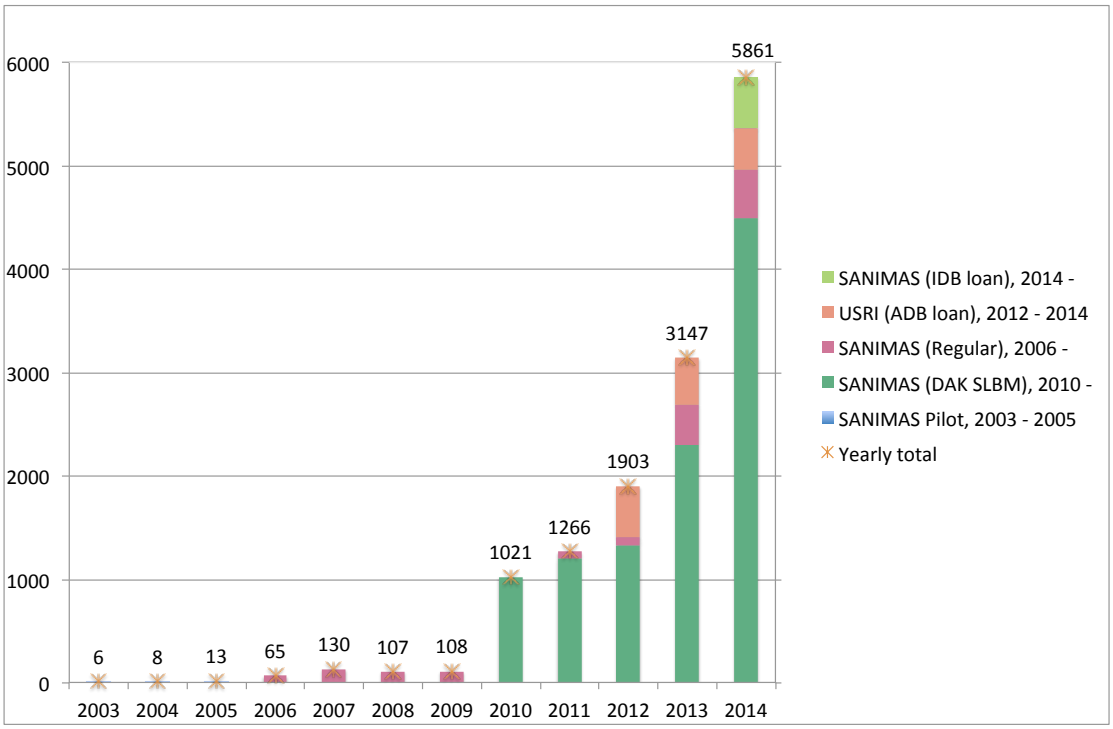

Figure 2: Exponential increase in number of local scale systems funded annually to 2014.

Effluent quality monitoring is not common and results can be inaccurate.

Program guidelines for USRI ADB, SANIMAS IDB and SANIMAS Regular (about 20% of installed systems) state that effluent quality should be checked, post-construction. . These checks are focused on the chemical constituents of the effluent, and are intended to include Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), pH, Total Suspended Solids, and fats and grease. The microbiological quality of the effluent (i.e. testing of pathogen presence or levels) is not mentioned in any of the guidelines. It is not clear how often these checks occur in practice, or who holds the data. Data for SANIMAS Regular systems is sometimes provided to the national level, and this makes up the database we reviewed.

Effluent quality results were reviewed for some systems in AKSANSI and SANIMAS Regular databases, and briefly viewed for USRI ADB. Taken together, these databases have about 200 organic effluent quality records (BOD or COD) representing about 2% of the systems funded for installation. Taking the results at face value, one database showed 55% compliance and another showed 80% compliance with the national environmental discharge standards of 100mg/L BOD.

Longitudinal performance monitoring of effluent quality (i.e. more than one test at a given location) is very rare. There was anecdotal evidence of longitudinal monitoring in one city in Java (Sleman), but no records could be obtained.

Figure 3 represents a synthesis of the status of all monitoring across all installed local scale wastewater systems as ascertained by this research project, current for 2015.

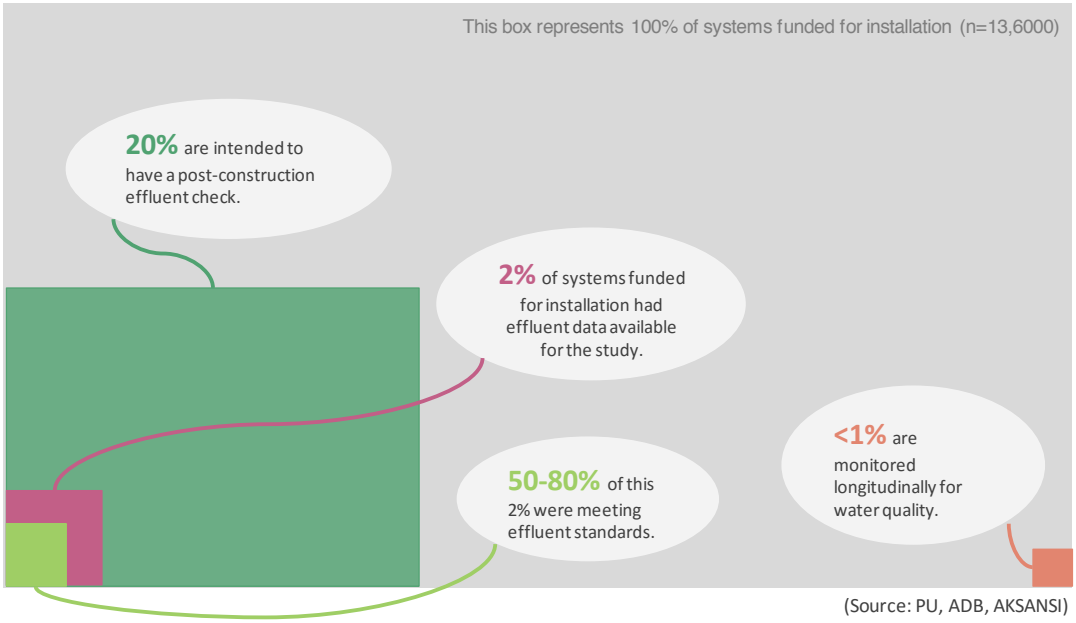

Figure 3: Effluent monitoring status of existing local scale systems.

Human health outcomes are not assessed.

The potential for faecal contamination of drinking water sources remains high in Indonesia (Eales, 2013). Only a very small amount of septage is safely disposed of. Current estimates put urban septic tank/cess pit ('cupluk') coverage at 64%, whilst centralized sewerage is at just 200,000 connections and local scale systems at less than 1% nationally (World Bank 2013). Safe collection and disposal of septage is 4% across the country (World Bank 2013). Recent studies of septic tank performance put septic performance at around 20%, i.e. 80% of septic tanks do not contain the wastewater (Mills 2013).

The majority of people source water from ground wells. About 50% of urban and peri-urban Indonesians take their household water supply from groundwater wells. In several large cities, up to 70% of water need for household is obtained from groundwater sources (nationally PDAMs cover 25%, local scale water supply covers 15%).

Faecal contamination of groundwater is rarely considered or monitored in Indonesia, despite representing a significant health risk. Occasionally, individual communities have groundwater quality tested e.g., as a trigger for successfully attracting funding for system installation, such as at a KSM in Sleman. Health impact assessments were reportedly undertaken for a small sample of sites – sanitation system users were surveyed about their perceptions of changes in health and medical costs for water-related diseases. We did not find examples of independent health data linked to sanitation (e.g., data from village level health clinics). One forthcoming exception is the Indonesia Infrastructure Initiative's (INDII) S-AIIG program which supports wastewater systems serving 200-400 households (i.e. larger than those systems which are the focus of this research). S-AIIG plans to monitor groundwater quality before and after program implementation, as well as frequency of doctor visits for sanitation-linked illness, to measure on-ground health impacts of improved sanitation.

What are possible implications for next steps?

Target and monitor what matters

The fundamental outcome of sanitation is to protect human health by separating excreta-pathogens from people while protecting the environment. While current Indonesian targets for sanitation focus on providing 100% access to toilets (in the spirit of the Millennium Development Goals), by shifting towards 100% of excreta to be captured and treated (in the spirit of the Sustainable Development Goals), this might ensure that greater impact of investment is achieved by 'monitoring what matters'.

Monitoring systems to ensure separation outcomes means ensuring:

- Local capacity and funding are available
- All systems have longitudinal post-construction audits i.e., at regular frequency, for example, at 1 year; 5 years; 10 years; 20 years.
- Data is collected and stored where it can be analysed, and provided to those who can take corrective action
- Groundwater quality is monitored more frequently (e.g. annually) where it is the principal source of drinking water (or has high risk of exposure pathways) and cross-tabulated with sanitation service, and remedial actions are taken
- Water quality of environments receiving effluent from local scale systems is monitored (even if drinking water is supplied by PDAM).

Questions for consideration:

- How could program managers influence monitoring and influence monitoring of what matters?
- Who could be responsible for longitudinal performance monitoring and evaluation?
- How could programs link with or leverage existing monitoring by AKSANSI, NAWASIS, Ministry of Health and Ministry of Environment?
- How could data quality be improved?
- How could existing data be used to improve the situation?
- How can local capacity be built (e.g. laboratories, clinicians, training)?

RQ2: What are the current challenges commonly faced by KSM, with respect to day-to-day operational responsibilities? Which challenges are within the capacities of KSMs to deal with, and which are beyond their capacity?

Fee collection for financing operations and maintenance is the most commonly reported challenge for KSMs.

Interviews with stakeholders and analysis of AKSANSI's database identified the most common challenge for KSMs is collecting adequate fees for sustaining operations. This is arguably the outcome of two issues:

- *Lack of perceived value among users*: Average monthly fees for local scale services are Indonesia Rupiah (IDR) 3,000-5,000 per household (0.20 – 0.35 USD)[i]. KSMs reported that it was generally difficult to increase fees once set. In one exceptional case, the community had agreed to a more sustainable monthly household fee of IDR 35,000 (2.50 USD).
- *Lack of legitimacy for wastewater fees*: This lack of legitimacy arises from two root causes. Firstly, operators are often people of low social status, and KSMs are often not directly linked to local power systems. Secondly, the mechanism for setting sanitation fees is not embedded in local governance arrangements at the village and sub-village levels, whereas other community service fees are. For example, in some circumstances, fees for water supply are set by Mayoral decree at the city/region (kota/kabupaten) level – this kind of political endorsement is a driver for the village head (kelurahan/desa) to take responsibility for fee collection.

There is a range of other tasks that different KSMs find challenging at different times.

When designated as the responsible entity for local scale systems, KSMs must undertake operational activities. Several necessary tasks are difficult within their skill, time or budget constraints (Table 2).

Table 2: Operational tasks that some KSMs find challenging (Source: AKSANSI)

	Challenging tasks for the KSM
Functioning technology	❑ Monitoring of effluent ❑ Repairing facilities (MCK) ❑ Conducting biogas maintenance ❑ Deodorising the methane ❑ Unused facilities (MCK & unconnected SSS) ❑ De-scumming monthly ❑ De-sludging every 2-4 years
Sustainable financing	❑ Managing the treasury book & bank account ❑ Preparing financial accountability report ❑ Collecting user fees ❑ Forecasting recurrent costs ❑ Planning & budgeting for major expenses, emergencies ❑ Sourcing supplementary income streams
Sustained demand	❑ Educating about the benefits of the system
Effective management	❑ Paying operator ❑ Ensuring operator legitimacy in community

Even after installation of systems there are many opportunities for contamination that KSMs may not be able to identify and rectify.

As shown in Figure 4, direct contamination can still happen after system construction through effluent of unconnected households and improperly disconnected septic tanks, or leaking pipes. In additional, these scenarios may compound contamination indirectly because they reduce the volume of effluent in the system and thus reduce treatment efficiency.

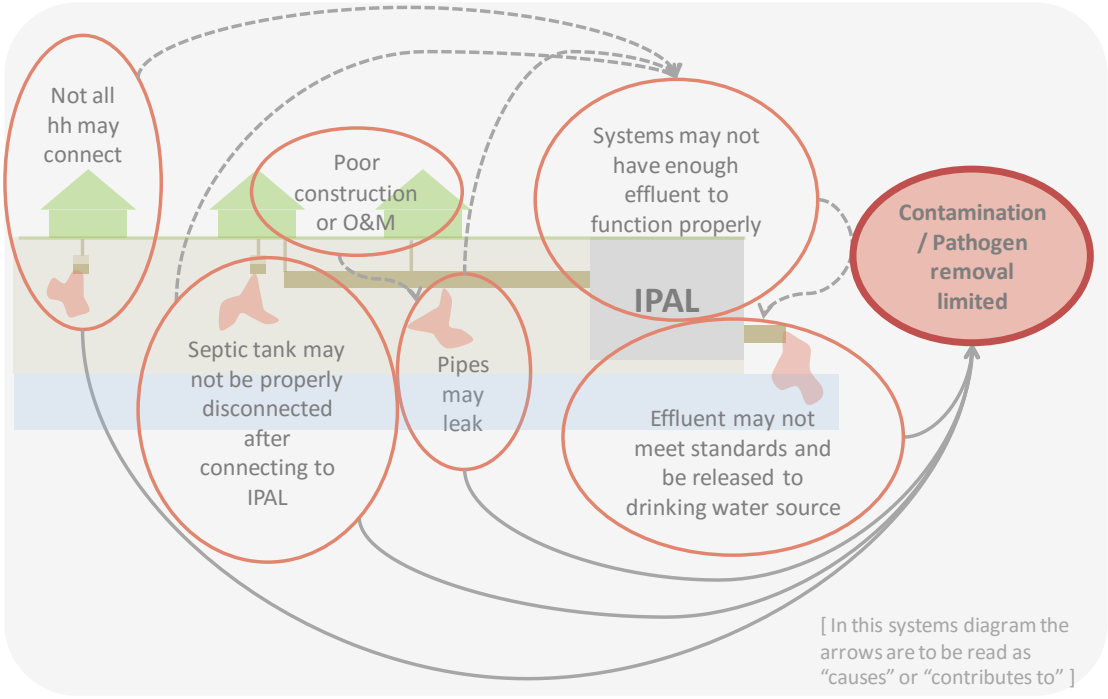

Figure 4: Direct and indirect opportunities for contamination after system construction.

As noted above, local scale system capacity is often under-utilised, and it is challenging for KSMs to increase connections, which means systems may not function as planned, coverage is not as great as it could be, and KSMs have fewer users so a smaller fee base, exacerbating the financial situation.

Monitoring during the operational phase (i.e. post-construction) suggests the number of actual users of local scale systems varies widely compared to the design. Sectoral reviews and stakeholder interviews have identified that utilised capacity is often less than 80% and typically around 50% (Figure 5). KSMs may struggle to extend connections to households after system construction for a variety of reasons, including lack of funding.

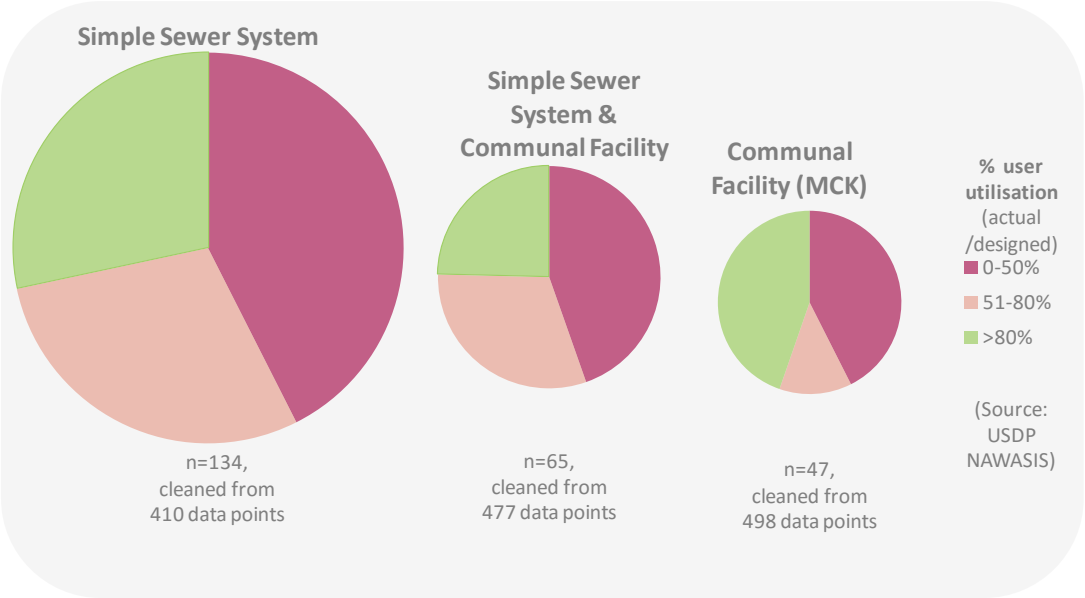

Figure 5: Utlisation rates of local scale systems (actual users verses designed users).

Program designs have a critical influence on KSM roles and performance outcomes.

Program design differs markedly for the four main government and donor-funded mechanisms for implementing local scale sanitation. Analysis of these different design features reveals unintended negative influences on long-term outcomes for some programs. Program design features with a significant influence on long-term outcomes include:

- degree and quality of socialization, which has upfront outcomes (e.g., household's willingness to connect) and ongoing impacts (e.g., legitimacy and authority around fee setting and fee collection);
- how household connection costs are covered, which impacts poorer households' capacity to connect;
- who owns the asset (i.e. the land and the physical infrastructure of pipes, buildings, tanks, etc) after construction, which determines whether local government is legally able to provide financial support;
- design assumptions e.g., systems are located wherever land is available but gravity-only design means households at lower elevations cannot connect.
- rules regarding KSMs (e.g. if one KSM oversees design and construction, and a different KSM needs to be formed according to the program guidelines to oversee operation, it can lead to discontinuity and loss of knowledge in the transfer. In contrast, a single KSM has stronger institutional memory).

What are possible implications for next steps?

Make the most of existing investments

There are significant technical resources that are currently under-utilised. These resources could be more fully optimized to progress towards the 2019 sanitation target and health impacts. Access to existing local scale systems can be significantly improved through simple interventions, such as:

- Enabling use of spare capacity in systems by providing connection subsidies to households that had not connected, and/or introducing pumps to connect households at lower elevation than the treatment system (IPAL);
- Enabling more sustainable financing by providing legitimacy and authority to KSMs and/or other local institutions for tariff setting and fee collection.

Update designs of local scale programs towards achievement of sanitation goals

The outcomes of local scale systems could potentially be improved by including the following within government and donor program designs:

- Program financing that ensures all/more households connect, so design capacity of local scale systems is utilised
- Mechanisms to formalise tariff setting at levels for sustainable operations
- Mechanisms to formalise fee collection, to improve user payment rates
- Procedures to maximise capacity of KSM to deliver, such as improving KSM's standing in the community by including powerful local champions, and succession planning and hand over processes for knowledge transfer.
- Institutional arrangements for responsible management partnerships with local government, to ensure all operational responsibilities are successfully undertaken.

Future programs could also benefit by a larger scale cross-program evaluation in terms of understanding the success factors for local scale wastewater service; especially in light of the above implications of varying program approaches to the use of funds, community engagement and KSM structures.

Note: These ideas are preliminary, and are explored further in the final outputs of this research project.

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Appendix 1. Glossary

ABPD	Local Government budget (Anggaran Pendapatan dan Belanja Daerah)
ADB	Asian Development Bank
APBN	National Government budget (Anggaran Pendapatan dan Belanja Nasional)
AKSANSI	Indonesia NGO supporting community scale systems in post-construction phase
Bappenas	National Development Planning Agency (Badan Perencanaan Pembangunan Nasional)
CBO	Community-Based Organization
Cipta Karya	Directorate General of Human Settlements at Ministry of Public Works
DAK	Special allocation fund (Dana Alokasi Khusus)
Desa	Rural village
DFAT	Department of Foreign Affairs and Trade
Dinas	Local government department
Dinas PU	Local Government Department of Public Works (Dinas Pekerjaan Umum)
Dinkes	Local Government Health Agency (Dinas Kesehatan)
IDB	Islamic Development Bank
IUWASH	Indonesia Urban Water Sanitation and Hygiene Program, funded by USAID
Kabupaten	Regency local government
Kelurahan	Urban village
KSM	Kelompok Swadaya Masyarakat (Community-based organisation, CBO)
Kota	City local government
MCK	Public Washing & Sanitation Facilities (Mandi, Cuci, Kakus)
MCK++	MCK with wastewater treatment (and possibly biogas plant)
MDG	Millennium Development Goal
MoHA	Ministry of Home Affairs
NAWASIS	National Water and Sanitation Information System
NGO	Non-Government Organization
O&M	Operation & Maintenance
PAMSIMAS	Community based water supply and sanitation program by GoI and World Bank for rural and periurban services to the underserved
PDAM	Local government owned water utility
PNPM	National program for community empowerment (Program Nasional Pemberdayaan Masyarakat)
Provinsi	Provincial government
PU	Ministry of Public Works (Menteri Pekerjaan Umum)
RW / RW	Sub-village levels of organisation: community groups (Rukun Warga) are further divided into neighborhood groups (Rukun Tetangga)
SAIIG	Australia-Indonesia Infrastructure Grants for Municipal Sanitation Programme
Sanimas	Community-Based Sanitation (Sanitasi Berbasis Masyarakat)
SKPD	Local Government Work Unit (Satuan Kerja Perangkat Daerah)
SLBM	Community-based sanitation program (Sanitasi lingkungan berbasis masyarakat)
USDP	Urban Sanitation Development Programme
USRI	Urban Sanitation and Rural Infrastructure Project, funded by ADB

[i] USD conversions of IDR are based on average exchange rates in September 2015.