

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)**ScienceDirect**

Aquatic Procedia 6 (2016) 64 – 73

---

---

**Aquatic  
Procedia**

---

---

[www.elsevier.com/locate/procedia](http://www.elsevier.com/locate/procedia)

World Water Week 2015, WWW 2015

## Strengthening local governance arrangements for sanitation: case studies of small cities in Indonesia

Joanne Chong <sup>a\*</sup>, Kumi Abeysuriya <sup>a</sup>, Lenny Hidayat <sup>b</sup>, Hery Sulistio <sup>b</sup> and Juliet Willetts <sup>a</sup><sup>a</sup>*Institute for Sustainable Futures, University of Technology Sydney, P.O. Box 123, Broadway, NSW 2007, Australia*<sup>b</sup>*Kemitraan Partnership for Governance Reform, Jakarta, Indonesia*

---

### Abstract

Local governments in Indonesia have the primary responsibility for delivering sanitation (wastewater) services. However, in large part due to governance factors, local governments invest little in sanitation services and delivery of services is weak. This research adopted a participatory, case study approach to investigate governance and institutional arrangements for planning, budgeting and implementing sanitation services in small cities and towns in Sumatra, Indonesia. The research focused on the effectiveness of city/regency planning for sanitation, the effectiveness of *pokja sanitasi* (sanitation committees), the links between planning and investment, and local government roles and responsibilities. This paper presents the findings of three case studies. Barriers to effective delivery of sanitation services include: prescriptive local budgeting and approval systems; lack of local government ownership of assets; and policy, funding and technical arrangements that are biased against strategic delivery.

© 2016 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of the Stockholm International Water Institute

*Keywords: Indonesia; sanitation; decentralization; governance; local government*

---

### 1. Introduction

In Indonesia, since administrative, fiscal and political decentralization in 2001, local governments have had primary responsibility for delivering various services, including *air limbah* sanitation (management of domestic wastewater).

---

\* Corresponding author. E-mail address: [joanne.chong@uts.edu.au](mailto:joanne.chong@uts.edu.au)

However, investment by local governments in sanitation services and infrastructure remains low: only 1 per cent of urban wastewater and 4 per cent of septage is treated, while 14 per cent of urban populations practice open defecation due to low sanitation coverage (World Bank and AusAID, 2013). Poor sanitation affects public health and the environment. In many locations the target of universal access to sanitation by 2019, set in the Government of Indonesia National Long-Term Development Plan (*RPJPN 2005-2025*), will not be met.

It is widely recognized that institutional and governance arrangements for planning, budgeting, financing and making decisions about the delivery of sanitation services – within and across levels of government – play a major role in inhibiting effective delivery of sanitation services by local governments. Weak governance may have a greater influence on low investment than the lack of access to finance (World Bank and AusAID, 2013). This research sought to deepen understanding of this observation by investigating how the mechanics of sanitation planning, funding, budgeting, approvals and administration affect and constrain service delivery at the local level. In recognition of the multi-sector nature of sanitation, cross-departmental sanitation working groups (*pokja sanitasi*) are expected to lead, coordinate and oversee a unique, national model for sanitation planning in local governments. Conducted in six small cities in Sumatra from October 2014 to April 2015, the participatory research sought to generate evidence and findings to help local governments, central government and donor partners to strengthen local governance arrangements for sanitation. This paper outlines the findings of three of these case studies (table 1).

## 2. Scope of research

There is no single definition of the term ‘governance’. For the purposes of our research, we adopted the Australian Department of Foreign Affairs and Trade definition of ‘good governance’, which is “competent management of a country’s resources and affairs in a manner that is open, transparent, accountable, equitable and responsive to people’s needs” (Ray *et al.*, 2013). The key governance factors identified from theoretical and analytical frameworks for governance and institutional analysis (Scott, 2014; Harris *et al.*, 2011; Ostrom, 2005) are: context (structural/exogenous factors); institutions (rules of the game); actors/stakeholders and incentives; and drivers and barriers (Chong *et al.*, 2016). In considering these governance factors in the context of the delivery of sanitation services, the primary focus of the research was the actions of *actors* in *pokja sanitasi* and other local government staff in planning, budgeting and implementing *air limbah* (sewage) activities. According to the Minister of Public Works (Kirmanto, 2014), the greatest challenges in financing the sanitation sector lie in building competent, efficient, business-like and service-oriented institutions.

The research focused on the City Sanitation Planning (*Strategi Sanitasi Kota/Kabupaten*, [SSK]) process, which is intended to produce comprehensive city- or regency-wide strategic plans for sanitation and is at the core of the Government of Indonesia’s sanitation programme, Accelerated Sanitation Development for Human Settlements (*Percepatan Pembangunan Sanitasi Perkotaan*, [PPSP]). A Circular from the Minister of Home Affairs in 2012, No. 660/4919/SJ Guidelines for PPSP Management (SE660), describes roles and responsibilities in developing and implementing SSK. The SE600 is intended to guide the *pokja sanitasi* to function as a collegial collaboration between key *dinas* (local representatives of national ministries) in leading local sanitation planning processes. Community-based total sanitation (*Sanitasi Total Berbasis Masyarakat*, [STBM]), aimed at changing household behaviour in hygiene, a programme implemented in parallel with the city-level SSK process, was not a focus of this study.

The case studies were ‘small cities or towns’, *kota* or *kabupaten*, and the local governments with jurisdiction over the *kota* or *kabupaten*. Small towns with a population of up to 150,000 were chosen for the study as the sanitation requirements and governance capacities of small cities differ from the requirements and capacities of both large cities and rural areas.

We examined the following governance dimensions influencing the delivery of sanitation services:

- Influence of SSK in guiding strategic and long-term delivery of sanitation services,
- The function and effectiveness of *pokja sanitasi* in coordinating the development and implementation of SSK,
- Links between planning and investment, and the reasons for gaps,
- Roles and responsibilities in delivery of sanitation services.

### 3. Participatory, case study approach

We used consultative, participatory engagement techniques to collect and analyze qualitative data. Participatory engagement is a powerful approach used in change-oriented research to help instigate changes that endure beyond the end of the research project. Case studies were selected as the preferred approach for empirical inquiry because they enable in-depth, detailed investigation of ‘how’ and ‘why’ (Yin, 2014) local sanitation governance practices work or do not work in the complex context of decentralization in Indonesia. Across all six case studies, the participatory approach involved workshops and semi-structured interviews with 135 local, provincial and national stakeholders.

Engaging with *pokja sanitasi* was central to our approach. We shared preliminary findings from interviews in a participatory workshop to gain feedback from *pokja sanitasi* and to discuss ideas for strengthening governance. BAPPEDA (the local representative of BAPPENAS, the National Ministry of Development Planning) the usual convener of the *pokja*, coordinated engagement, which included key representatives of local public works and health departments, as well as from other departments. Representatives of civil society organizations (including non-governmental organizations and the media) who had input or influence on the process or outcomes were also included.

Table 1. Case study location details

|   | Payakumbuh<br>(kota) | Lampung Selatan<br>(kabupaten) | Sawahlunto (kota) |
|---|----------------------|--------------------------------|-------------------|
| Province                                  | West Sumatra         | Lampung                        | West Sumatra      |
| Population (approximate)                  | 117,000              | 84,000 (Kalianda)              | 60,000            |
| Population density (per square kilometre) | 1500                 | 520                            | 200               |

### 4. Case study: Payakumbuh

#### 4.1. Payakumbuh in brief

Payakumbuh is an inland city in West Sumatra (Sumatra Barat) with relatively flat topography. The indigenous Minangkabau people maintain strong cultural traditions, strongly influenced by *Adat* (traditional) leaders. The last decade has seen a rapid increase in population resulting from an influx of refugees following the Padang earthquake in 2009 and the 2004 tsunami.

Sanitation in Payakumbuh largely comprises onsite infrastructure, with some communal public toilets (*mandi, cuci, and kakus*, [MCK]). The local government had also set up arrangements for operating a sludge treatment plant (*Instalasi Pengolahan Limbah Tinja*, [IPLT]), charging households a fee for desludging services.

#### 4.2. Sanitation planning, the *pokja sanitasi* and local government coordination

Payakumbuh local government has a comparatively long history of involvement in sanitation planning, as its SSK was developed during the pilot phase of the Indonesia Sanitation Sector Development Program (ISSDP), the Dutch government-supported programme that was the precursor to the PPSP. The pilot phase SSK, covering the period 2008

to 2012, focused on reducing open defecation through onsite and community-based sanitation. Local government respondents reported that open defecation rates fell from 74 per cent in 2006 to 14 per cent in 2013 as a consequence of innovative incentive schemes to engage the community, such as inter-village competitions, awards, mayoral visits to areas that achieved open defecation free (ODF) status and frequent inspections. However, the offsite sewerage services planned in the first SSK had not been implemented. Payakumbuh local government respondents reported that this was because onsite sanitation is best suited to the culture, as well as the geography of the area.

The *pokja sanitasi* considered that the process for revising and updating their SSK under the PPSP stage 2 was comparatively challenging. In contrast, during the pilot, they received strong support throughout the process of risk assessment and preparation of the SSK from ‘first principles’. However, in stage 2 they felt that the focus was on software tools rather than hands-on facilitation.

The previous mayor of Payakumbuh was a highly motivated and motivating force behind the focus on achieving ODF status in Payakumbuh. Although he had since left, the *pokja* had largely retained enthusiasm and momentum, strongly coordinated by the BAPPEDA head of physical infrastructure planning. Compared to other locations, the *pokja* did not restrict membership to designation-based positions identified in the SE660 (Circular of the Minister of Home Affairs No. 660/4919/SJ on Guidelines for PPSP Management), but saw the value of including members of local non-government organizations, as well as other local government staff who were passionate about sanitation.

Despite the previous success in reducing open defecation, and the commitment of local government bureaucrats in driving these achievements in Payakumbuh, planning and investment for sanitation was not strategic. Participants in the research reported that the sanitation activities that were undertaken were defined by the rules and criteria of the many funding programmes, rather than by strategic drivers such as alleviating risk. They also noted that sanitation planning is not integrated across local government agencies (*Satuan Kerja Perangkat Daerah*, [SKPD]) – health, public works and planning – but that each SKPD undertakes its own planning, priority-setting and decision-making separately. Sanitation activities, therefore, focus at the household level with little investment in city-level sanitation.

#### 4.3. Budgeting and financing

In Payakumbuh, it was evident that while the local government sought to comply with instructions from central government, effective sanitation planning was constrained because of the centrally driven budgeting nomenclature defined by the Ministry of Home Affairs. The wording and categorization of these ‘line items’ were poorly aligned with the sanitation activities to be delivered under the PPSP specified in SE660, making the task of budgeting difficult. Analysis of budget realization data provided by Payakumbuh showed that in at least one recent year (2012) expenditure on wastewater management activities was virtually zero, although some of the promotion work by the Health Agency may have been for sanitation. It appears that ‘sanitation’ budgets were spent predominantly on solid waste management and drainage infrastructure, and that less allocation for wastewater-related activity was identified in the SSK.

#### 4.4. Community

Payakumbuh local government had built a good relationship with the community during the ODF campaign. While public knowledge, awareness and valuation of sanitation was relatively low, the local government considered that the community would be receptive to further communication and promotion programmes that leveraged local culture and creative arts through religious and traditional leaders. Although formal channels for community input to sanitation planning are not specified in the SE660, community views were represented informally through the involvement of local non-governmental organizations with the *pokja sanitasi*.

The local government noted the challenges in funding the costs of operation and maintenance (O&M). In particular, while communities were largely willing to contribute efforts, and even donate land *gratis* for public purposes, they

could not be expected to pay tariffs to cover O&M costs. This resulted in a gap for financing O&M, as observed by one participant:

*“The central government gives grants through local government to build facilities for the public. However, to run and maintain it, central government gives 100 per cent responsibility to local government and society. Society does not have funding; they only have responsibility. So there is a missing link there.”*

## 5. Case study: Lampung Selatan

### 5.1. Lampung Selatan in brief

Kalianda is the capital of Lampung Selatan *kabupaten*, in the province of Lampung. The coastal terrain of Lampung Selatan is relatively flat. The district has a multi-ethnic population, with a high proportion of migrants from Bali, Java and Sumatran cities.

Sanitation services are community-managed, comprising onsite systems, communal septic tanks and communal toilet facilities (*mandi, cuci kakus* [MCK]).

### 5.2. Sanitation planning, the *pokja sanitasi* and local government

In contrast to Payakumbuh, in Lampung Selatan the *pokja sanitasi* and local government overall had little involvement in the development of the SSK (2013-2017); the SSK was prepared by an external consultant in 2012. The local government did not have strong ownership of or familiarity with the SSK and considered that the environmental and health risk assessment (EHRA) undertaken to inform the SSK was flawed and unreliable:

*“SSK has not been optimally used to guide the planning process. Our SSK was prepared by a consultant and when the [local government] official kept changing, no one was checking on the quality [of the SSK document].”*

The SSK was incomplete, and did not provide details of how the 19 communal septic tanks (2013/14) and fecal waste treatment plant (IPLT) construction (2016/17) were selected.

The capacity of the *pokja sanitasi* to oversee sanitation planning and implementation was significantly constrained by staff rotations in the local government that happened approximately every quarter. There was also a lack of clarity about who was responsible for leading the *pokja*. The *pokja* met infrequently, and comprised relatively low level *Kabid* or *Kasi* (Echelon 3 or 4) staff who lacked authority to make implementation decisions. Research participants reported that sanitation planning and budgeting involved collating sanitation-related items from each individual SKPD work plan, but did not involve coordinating more substantive sanitation issues around SSK implementation.

Local decision-makers (parliamentarians and heads of SKPD) with the greatest political influence had limited engagement with or interest in sanitation. As a result, they often did not approve proposed local government budget (*Anggaran Pendapatan dan Belanja Daerah*, [APBD]) funding for activities related to *air limbah*.

### 5.3. Budgeting and financing

In Lampung Selatan, the local amount budgeted for and spent on sanitation-related activities in 2013 and 2014 was a tiny fraction of the overall annual local government budget – about 0.1 per cent. All of the *air limbah* funds were sourced from the ‘Community-based Sanitation and Environment’ special allocation fund from the central government (*Dana Alokasi Khusus – Sanitasi Lingkungan berbasis Masyarakat*, [DAK SLBM]) and were directed to community-based sanitation projects and communal septic tanks.

#### 5.4. Community

Lampung Selatan local government observed that there is virtually no demand for sanitation from the community, and that if sanitation coverage were to improve, it would need to be driven entirely by the local government. The Health Agency's advocacy around community-based total sanitation (STBM), focusing on toilets to stop open defecation, had generated some interest in household toilets, but supply chains to meet this demand were lacking. There was little scope for the local media to support the local government in communicating sanitation messages, as the media interviewed for this research mainly focused on reporting local social conflict issues.

Local government *air limbah* activities had focused on community-managed systems, which did not ostensibly involve local governments in operation or maintenance. However, many of these systems were not successful. For example, local governments had constructed several communal toilets, but weak community management had left many of these facilities neglected and non-functional after one or two years.

Beyond households, the sanitation service chain appeared to have significant gaps. An IPLT, recycling and composting centre, reportedly built in 2011 by the Provincial Department of Public Works some distance from Kalianda as a regional facility, was not in use at the time of the research. As noted by a local participant:

*"The IPLT is incorrectly built in terms of the location, it is too far, remote and hard to access. So it has less economic value because the transport is costly... In terms of the incorrect design... [local government] cannot do anything because it's a provincial facility."*

### 6. Case study: Sawahlunto

#### 6.1. Sawahlunto in brief

Sawahlunto, in West Sumatra (Sumatra Barat) Province, is a small *kota* in the inland hills area, characterized by steep topography. Landslides are a common occurrence given its history as a coal mining town for over 100 years. Around 2003, the mining industry shut down and since that time, the local government has pursued a vision to renew the city as a tourist destination. The *kota* was nominated for listing as a UNESCO World Heritage City, in line with a strategy to conserve its heritage and develop a culture-based tourism industry.

At the time of the research there were 20 locations serviced by community-based sanitation; communal wastewater treatment facilities (*Instalasi Pengelolaan Air Limbah*, IPAL *Kommunal*) each connecting around 50 households. Onsite sanitation is also in place. The local government reported that onsite and small communal systems are best suited to the hilly, unstable topography, which is not suitable for extensive pipe networks.

#### 6.2. Sanitation planning, the pokja sanitasi and local government

The SSK (2013–2017) was originally developed by a few individuals, mainly as a formality to access funds for sanitation. As a result, Sawahlunto has a sanitation programme memorandum for implementation (*Memorandum Program Sektor Sanitasi* [MPS]) that identifies a number of sanitation options for implementation in 2013–2017 that had not been specified in the SSK. Options include extensive ODF campaigning, construction of household toilets for the poor, communal sanitation facilities, sludge treatment plants and sludge transport vehicles.

The local government recognized the shortcomings of the current SSK and that it was not implementable, because the case had not been made to key decision-makers – the SKPD heads and local parliamentarians. The local government, on their own initiative, have budgeted for a revision of the SSK to rectify its shortcomings so that it can be used as a strategic sanitation investment guidance document as intended by the PPSP programme.

The most active members of the *pokja* were from local government agencies BAPPEDA (the local planning agency), DPU (public works, *Dinas Pekerjaan Umum*) and Dinkes (the Health Agency). As in Lampung Selatan, members of the *pokja* typically had *Kasi* or *Kabid* level designations. However, while the research participants considered that it would have been beneficial to have greater involvement by decision-makers, overall, despite the low echelon status, the *pokja sanitasi* in Sawahlunto was functioning relatively effectively as a planning and coordination unit for sanitation within local government.

Key to the success of the *pokja* was support from local decision-makers, who were united by a vision to transform the city into a tourism-based, ‘healthy, unforgettable, clean city’, and a recognition that sanitation is important to achieving these goals. Local government participants noted that while it would be valuable if decision-makers had an understanding of what activities sanitation needs to include, these decision-makers were nevertheless generally supportive of and approved proposed budgets for sanitation.

*“Sawahlunto local government is really committed to pursuing better sanitation as part of the long-term vision to be a cultural mining tourism industry.”*

Another factor influencing the effectiveness of the *pokja* is that they obtained regular, if indirect, input from the community through the involvement of representatives of the Association of BPP-SPAM (*Badan Pendukung Pengembangan Sistem Penyediaan Air Minum*, community-based water supply schemes) in *pokja* meetings and mini-focus group discussions that were held to address issues. As a result, the *pokja* were in a relatively good position to be responsive to community needs.

The budget allocation for the operations of the *pokja* (meetings and honorariums), at IDR 30 million, was the lowest *pokja* operational budget of the six case studies. However, this did not constrain the *pokja*’s willingness or ability to meet to continue its functions. Like other *pokjas* within the local government, the *pokja sanitasi* had agreed to forego the usual honorariums and travel reimbursements, as part of an arrangement for an annual bonus equivalent to one month’s salary for all civil servants in local government.

### 6.3. Budgeting and financing

The link between budgeting and financing investment was strongest in Sawahlunto, among this project’s case studies. Sawahlunto allocated the greatest sum, about IDR 27 billion, for sanitation activities 2013–2017. Budget realization (actual expenditure) data also showed that *air limbah* expenditure in 2014 was at least IDR 5 billion (and likely to be more, as this figure does not include combined drinking water and sanitation investments). At almost 1 per cent of the total APBD, this demonstrated a significant financial commitment towards *air limbah* sanitation. Funding was obtained from multiple sources for different types of sanitation infrastructure that seemed to be effective in leading to sanitation outcomes. The funding sources for sanitation included central government special allocations (DAK) and donor-supported programmes.

Sawahlunto was the only city in the study that was investing in a significant sewerage system – a 340-connection IPAL *Kommunal*, located in the market area, supported by the Australian Aid ‘Australia - Indonesia Infrastructure Grant for Sanitation (sAIIG)’ programme. Sawahlunto local government noted that the reimbursements from the output-based sAIIG programme were a fixed payment per functional service connection that purportedly was to cover 60 per cent of the total cost to the local government. However, because of topography and density the payments only covered a much smaller proportion of costs. Nevertheless, local government expressed appreciation for the contribution from the sAIIG programme for improving sanitation in the city, and were willing to fund the greater proportion of the costs.

Sawahlunto local government also noted the major constraint posed by the lack of a link between local and national processes for sanitation, resulting in a disjointed planning process. As in Payakumbuh, they particularly noted that

when agencies were proposing budgets to implement their plans, they were required to describe budget lines in accordance with the ‘nomenclature’ of a prescribed list of activities set at the central level. This made it difficult to include new activities, so annual work plans for sanitation could not be changed from year to year.

#### 6.4. Community

As in Lampung Selatan, the Sawahlunto community reportedly had limited interest in sanitation, and open defecation levels were still relatively high. The local government noted that the Health Agency was constrained in its role in sanitation advocacy, as it was focused on promoting the national health insurance scheme. While the local government recognized the potential for community co-management (modelled on successful community water systems), the passive or non-engaged community in the sanitation sector remained an ongoing obstacle.

While communal septic tanks (IPAL *Kommunal*) were considered as best suited to the hilly, unstable topography, the local government noted that land acquisition was the greatest challenge in implementing community-based sanitation. Most land was customary (*ulayat*) land, owned by the community, and the sale of land required consent from ‘all’ community members. Sometimes, two to three years of consultation with customary owners was required to secure land: “one should consult and wait for all members, elders and descendants to approve the price and agreement”.

Although the community itself had a low level of interest in sanitation, the local government recognized the impact of poor sanitation on river quality. They observed that rivers with high levels of *E. coli* contamination often received wastewater diversions. As a result of *E. coli* monitoring information, local government officers recognized that technologies other than, or in addition to, onsite are needed to deal with the problem.

The local government also noted the need to sustainably finance O&M and the potential barriers arising from former mining workers (many in the community) accustomed to receive utilities at no cost. The local government recognized the need for tariffs to cover O&M, but that these would need to be introduced gradually.

### 7. Summary of findings and conclusions

Using a qualitative case study approach, this paper contributes evidence and insight to governance issues that affect the quality and effectiveness of sanitation planning and investment in Sumatra, Indonesia. In short, it was found that sanitation planning processes were not systematically used to guide strategic, long-term sanitation delivery. Additionally, it was found that the *pokja sanitasi* cross-sector sanitation committees had the potential to be constrained in their authority to effectively coordinate sanitation planning and implementation processes, and that planning and investment were not sufficiently linked or aligned.

Among the diversity of local government governance contexts, drivers and capacities investigated by this research, a number of themes emerged that illustrate how and why local planning for sanitation is not undertaken strategically and does not align well with investment. A summary of findings across case studies is presented in table 2 below.

Table 2. Case studies – summary of governance issues

| Dimension        | Payakumbuh ( <i>kota</i> )   | Lampung Selatan ( <i>kabupaten</i> )   | Sawahlunto ( <i>kota</i> )  |
|------------------|--|--|---|
| SSK and planning | 2008-2012 SSK was developed within the ISSDP support phase and focused on reducing open defecation. Local government positive about support for planning received in this earlier phase, but had some reservations about the | SSK prepared by external consultant and not used in practice to guide <i>air limbah</i> implementation | SSK originally developed to enable access to funds. However, on own initiative, local government was revising the SSK to improve its usability as a strategic planning document |



|                            |   |   |   |
|----------------------------|---|---|---|
|                            | tools and process for the second (current) phase  |   |   |
| <i>Pokja sanitasi</i>      | Key leaders committed to sanitation had since left government. However, the <i>pokja</i> remained active with strong engagement with the community, civil society and media on sanitation | Quarterly staff rotations limited capacity of the <i>pokja</i> to coordinate sanitation implementation  | Decision-makers in local government are united by a shared vision to transform the city to a tourism-based economy and recognize the importance of sanitation in achieving this vision, and as a result strongly support the <i>pokja</i> |
| Budgeting and financing    | Funding mostly directed to solid waste and drainage subsectors, with negligible investment in <i>air limbah</i>   | Investment in <i>air limbah</i> directed by funding sources towards community-based sanitation, although the local government recognized that this model was largely unsuccessful | Decision-makers generally approve local government proposed sanitation budgets  |
| Roles and responsibilities | Previous success in open defecation contributed local government's lack of urgency about <i>air limbah</i> , beyond toilets   | Because of staff rotations, members could not develop the knowledge, skills and capacity required to coordinate sanitation service planning and delivery                          | Sanitation activities and decisions take place largely under SKPD mandates  |

Other key findings of the research concerned leadership, budgeting processes, community demand and engagement, and land availability and the influence of these on the effectiveness of the sanitation planning process. Unsurprisingly, local leadership was key – a motivated *pokja* also needed the engagement and support of local decision-makers (parliamentarians and senior officials in local government) to approve proposed sanitation budgets. The mechanics of sanitation budgeting was itself a problematic barrier, because of the limiting nature of central government specified nomenclature. The largest proportion of *air limbah* funding was from various DAK programmes, which in turn drove which sanitation technologies were funded, rather than being strategically determined by an SSK. Low community demand for sanitation also constrained the feasibility of raising funds through tariffs and community engagement in planning processes was often minimal. Finally, land availability was another major constraint to strategically locating sanitation infrastructure. However, despite the myriad local governance constraints, the case of Sawahlunto illustrates how a motivated *pokja sanitasi* and committed local leadership can progress sanitation outcomes, and the situation in the other two case study locations could be improved by addressing the constraints identified in this research.

These findings have implications for Indonesia, in terms of actions to improve the effectiveness of SSKs which are intended to be the local planning process at the centre of improving sanitation outcomes across the country. The findings also have wider implications, in other developing country contexts where efforts are underway to promote improved sanitation planning and investment processes for urban areas, leading towards better service delivery, public health and environmental outcomes.

## Acknowledgements

This paper is based on research undertaken by a collaborative partnership led by the Institute for Sustainable Futures, University of Technology Sydney, with Kemitraan Partnership for Governance Reform, SNV Netherlands Development Organisation, and Government of Indonesia partner BAPPENAS. This research was supported by an Australian Aid Indonesia Infrastructure Initiative (IndII) research grant awarded under the Australia Indonesia Infrastructure Research Awards Programme.

We gratefully acknowledge the support provided by: SNV staff Pak Nyoman Suartana, Maria Carreiro, Ibu Yefri Heriani, Pak Irfan Aryanto, Ibu Christina Dameria and Ibu Saniya Niska; Pak Nugroho Tri Utomo and Pak Fany

Wedahuditama from Bappenas; Pak Mees van Krimpen, Pak Hendra Gupta and staff at the Urban Sanitation Development Program; and Ibu Inda Loekman from Kemitraan. Jim Coucouvinis, Ibu Nur Fadrina Mourbas, Pak Ikabul Arianto and Pak Titus Kantur from IndII provided helpful support and advice.

We would especially like to extend our gratitude to the many research participants for generously sharing with us their time, reflections and insights.

## References

- Chong, J., Abeysuriya, K., Hidayat, L., Sulistio, H., Ross, K. and Willetts, J. 2016. *Strengthening Governance Arrangements for Small City and Town Sanitation*. Report prepared by the Institute for Sustainable Futures, University of Technology Sydney, Kemitraan Partnership for Governance Reform and SNV Indonesia for the Australian Aid Indonesia Infrastructure Initiative (IndII).
- Harris, D., Kooy, M. and Jones, L. 2011. *Analysing the Governance and Political Economy of Water and Sanitation Service Delivery*. Working Paper 334. London: Overseas Development Institute.
- Kirmanto, D. 2014. "Keynote Speech and Opening Address by the Minister of Public Works." in *The Indonesia International Water Week Stakeholders Forum*. Surabaya.
- Ostrom, E. 2005. *Understanding Institutional Diversity*. Princeton: Princeton University Press.
- Ray, D, Lee, J., Dikun, S., Coucouvinis, J. and Friedman, J. 2013. *Indonesian Infrastructure – Five Years and Beyond. Key Themes and Priorities for the 2015-19 Development Plan*. Jakarta, Indonesia: Indonesia Infrastructure Initiative (IndII), Australian Aid.
- Scott, W.R. 2014. *Institutions and Organizations: Ideas, Interests and Identities*: SAGE Publications.
- World Bank and AusAID. 2013. *East Asia Pacific Region Urban Sanitation Review: Indonesia Country Study*. Washington, DC: World Bank Group.
- Yin, R.K. 2014. *Case Study Research Design and Methods*. London: SAGE Publications.