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RESEARCH REPORT

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

A case study analysis of formal and informal institutional arrangements for local scale wastewater services in Indonesia

SYNTHESIS AND RECOMMENDATIONS

COMMUNITY SANITATION GOVERNANCE

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'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 Overseas Development Institute (ODI) is the UK's leading independent think tank on international development and humanitarian issues. ODI's mission is to inspire and inform policy and practice which lead to the reduction of poverty, the alleviation of suffering and the achievement of sustainable livelihoods in developing countries. ODI does this by locking together high quality applied research, practical policy advice, and policy-focused dissemination and debate. ODI works with partners in the public and private sectors, in both developing and developed countries.

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.

CITATION

Mason, N, Ross, K, and Mitchell, C, 2015. A case study analysis of formal and informal institutional arrangements for local scale wastewater services in Indonesia. Prepared by the Overseas Development Institute and the Institute for Sustainable Futures, University of Technology Sydney, as part of the Australian Development Research Award Scheme (ADRAS) Project: Effective governance for the successful long-term operation of local scale wastewater systems.

ACKNOWLEDGEMENTS

The research team would like to thank our research informants in the case study city for their contributions to this research, to AKSANSI and IUWASH for facilitating meetings, and for the generous time given by communities we visited. We gratefully acknowledge the support of BAPPENAS for their enabling partnership and support for in-country research in Indonesia.

DISCLAIMER

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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 forms part of the outputs of the legal arrangements work. It summarises an analysis of one local government in terms of their participation in local scale sanitation service delivery.

Executive summary

As part of a larger three year study, this contextual analysis of barriers to city (*kota*) local government supporting local scale wastewater systems found positive components of local government supporting the long-term sustainability of local scale systems. However, the following themes present potential challenges for local scale system governance:

- Unclear national public finance rules make it difficult to financially support the operation and maintenance (O&M) of local scale wastewater services.
- Fear of sanctions around misuse of public finance makes government hesitant to fund O&M of local scale systems.
- The information deficit around the performance of local scale systems is a symptom of weak oversight systems, leaving local government unable to a) determine which community based organisations (Kelompok Swadaya Masyarakat - *KSMs*) responsible for operating the local scale systems are performing poorly or failing and b) initiate corrective action. However, more speculatively, may the information deficit also be a disincentive for local government to improve its oversight? As long as the data remains unconsolidated, the problem of local scale system failure remains largely invisible.
- Unclear legal arrangements for ownership of the land and system make it challenging for KSMs to access funds, and potentially to retain their land after construction investment.
- The prevalence of the community empowerment norm means that local government is more likely to leave most if not all O&M responsibilities to the KSMs.

Assuming that systematically increasing local government support is necessary for effective governance of local scale services, the following recommendations could be relevant:

1. Encourage local government entities to allocate skills and functions for sanitation planning, implementation and monitoring and evaluation to particular responsibilities areas or *Bidang*. This can be done without being prescriptive - for example, by underscoring that expertise in public financial management procedures is an important capability of the funding Bidang – and needs to be available to a *Pokja Sanitasi* (sanitation working group), whether it is specifically filled by local government finance department (*BPKAD*) (or its equivalent) or not.
2. Increase the space for local government to experiment with post-construction funding for local scale systems, e.g. by providing specific guidance to counter fear of sanction for misuse of public funds.
3. Recognise the politics inherent in performance monitoring, i.e. that local government may be hesitant to expose the full extent of failure through robust outcome monitoring, evaluation and reporting, because it will increase the pressure on them to act. Where this is the case, create positive incentives for monitoring e.g. by creating an award (or financial reward) system for regencies and cities that achieve high standards of local scale system effluent.
4. There are currently challenges with legally entrusting ownership with either KSMs or local government. However, local government should explore options to reduce the risk of rent-seeking (ie using local scale systems to obtain economic gain from others without reciprocation) in relation to unclear ownership arrangements of land or technology.
5. Approach local government assumptions around community empowerment respectfully – recognising that while local government appears to be using a normative position on community empowerment (which results in side-stepping responsibility for failing local scale services), it may not be a conscious decision for many actors involved. In the face of deep-rooted norms, an open, joint discussion could be helpful about the appropriate balance of responsibility between KSMs, local government, and other actors involved in local scale service sustainability.

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This working paper summarises the findings of a two week field study in one city in Indonesia. We recognise this kind of rapid external enquiry is likely to miss details and misinterpret local nuances. We also recognise that one city can only be indicative rather than representative. However, we hope the insights presented are valuable to participants and others interested in the sector.

Purpose of legal arrangements component of the research

The legal arrangements component of this research had two areas of enquiry in order to identify additional options for improved governance and management partnerships for local scale systems:

1. A desktop review of the formal national and local legal frameworks that influence and constrain governance activities of local government and the community based organisations (KSMs) responsible for system operation and maintenance (conducted with the Center for Policy Regulation and Governance at UIKB).

2. A contextual analysis of one case study city to understand the formal and informal limits to, and prospects for, local governments in Indonesia to contribute to governance for local scale systems.

This paper concerns the second part only of the legal arrangements enquiry. The main 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.

Our accompanying report on the review of national and local legal frameworks further elucidates many of the themes highlighted here.

Key research questions of contextual analysis

The overarching question is: *Does local government struggle to support the long-term sustainability of local scale systems? If so, why?*

In attempting to answer this question, the analysis and discussion are framed against several sub-questions, providing the overall structure to this document.

RQ1: Framing/ scene setting: To what extent is the case study local government supporting the long-term sustainability of local scale services?

RQ2: Findings of the institutional arrangements in the specific case study: What are the institutional arrangements (primarily at local government level) for supporting sustainable local scale wastewater services?

RQ3: Discussion and synthesis that considers institutional arrangements for local scale systems in broader terms: What underlying dynamics could be conditioning the institutional arrangements and potential outcomes?

RQ4: Arising questions for potential ways forward: What options are available to work with and around these dynamics in favour of institutional arrangements that can support sustainable local scale services?

Methodology

Data was gathered through key informant interviews, conducted individually and in small groups in February 2015. The majority of interviews were conducted in the case study city, with *Pemda* (local government) officials, members of KSMs, and civil society representatives. Field findings were reflected, discussed, and supplemented with a selection of interviewees in a final roundtable session. Documentary evidence was also collated and reviewed before and after fieldwork.

Two theoretical frameworks underpin the analysis. Firstly, characterisation of the institutional arrangements is informed by Institutional Analysis and Development (IAD) Framework developed by Elinor Ostrom and colleagues (Ostrom 2011). Analysis of underlying incentives, relationships and power dynamics conditioning institutional arrangements is further informed by ODI's work on The Politics of Public Goods and Services (Harris and Wild 2013) and the particular characteristics of sectors that condition service delivery outcomes (Harris et al. 2013).

Findings

RQ1: To what extent is the case study local government supporting the long-term sustainability of local scale services?

The majority position of local government stakeholders is that KSMs have the lead responsibility for all post-construction management and O&M tasks. Assumptions around community self-reliance (the ability to sustain local scale services unsupported) appear deep-rooted and widespread. Most operational tasks are left to KSMs, implicitly or explicitly.

In terms of financial and technical resources from local government in support of priority operational tasks (desludging, optimisation, and major repair): desludging and optimisation have recently received very modest financial and technical support. In addition to funds allocated for sludge hand carts, c.IDR 500M ($35K USD)[i] was allocated in 2015 to support extension of mains for local scale systems as part of an optimisation drive. The UPTD (technical unit of local government), which sits under the DKP (local government department of cleaning and landscaping), also reported undertaking post-construction social facilitation activities with four KSMs in 2014 with a focus on behaviour change and increasing connections/optimisation (a further five are planned for 2015).

RQ2+3: What are the institutional arrangements (primarily at local government level) for supporting sustainable local scale wastewater services? What underlying dynamics could be conditioning the institutional arrangements and potential outcomes?

Institutional arrangements are summarised in this section according to:

A. Actors: Which actors are involved in operating, managing, financing and utilising local scale systems in the case study city?

B. Local government relationships: What are the key positions actors can occupy, and what authority and autonomy do these positions confer? How do positions interrelate?

C. Information available: What information is available to the actors to allow them to discharge their roles? What information asymmetries exist?

D. Allowable actions: What formal and informal factors govern the ability of actors to discharge their roles in relation to local scale service?

E. Benefits and costs: What are the benefits and costs to local government from the current situation?

F. Potential outcomes: What are the potential outcomes of the current configuration of actors, positions, information, actions, and costs and benefits?

Note: insights from the third research question “What underlying dynamics could be conditioning the institutional arrangements and potential outcomes?” are interwoven into this section, next to the corresponding topic that they elaborate.

A. Actors

There are many actors involved, from national to local level government, to NGOs. The Sekda (local government secretary) is engaged, e.g. as chairman of Pokja Sanitasi. Upcoming regional by-law will be a key test of interest of local parliamentarians, or Dewan Perwakilan Rakyat Daerah (DPRD) in sanitation, and willingness to support a more conducive legislative environment. Two civil society NGOs, the Healthy City Forum or Forum Kota Sehat (FKS) and AKSANSI, are active in supporting the construction and management of, respectively, local scale systems.

B. Local government positions

Three important positions, or arrangements, for local government in relation to local scale systems are relationships between:

1. Local government work units, or Satuan Kerja Perangkat Daerah (SKPDs) (i.e. such as the:
    - Development Planning Agency, Bappeda;
    - Finance department, Badan Pengelolaan Keuangan dan Aset Daerah (BPKAD);
    - Department of building and housing supervision, Wasbangkim
2. Local government and higher levels of government
3. Local government and NGOs.

Relationship between SKPDs (local government work units)

For the case study city, it appears that the functional allocation of responsibilities (*Bidang*) for the Pokja Sanitasi according to national guidance SE660 from the Ministry of Home Affairs is being followed to some extent, including for the local scale wastewater subsector within sanitation generally.

For local scale service specifically, in practice responsibilities for several 'bidang' appear to be shared and in transition. Perhaps more importantly, **standardised procedures and criteria seem to be lacking for determining when and how each of the involved work units should intervene to support a KSM with post-construction challenges**. This is most notable in relation to Bidang Monitoring dan Evaluasi, where at least two SKPD are collecting data that could be used to assess local scale system performance, but **there does not yet appear to be a systematic approach to city-wide data analysis and use in prioritising the limited post-construction support available**. Our research spans eight cities across Java and Sulawesi, and none of these have coordinated data systems yet, but one city has recognized the need and opportunity.

UNDERLYING DYNAMIC: Uncertainty of options for routing public finance may prevent local government from supporting the sustainability of local-scale systems

In the case study city, the Pokja Sanitasi appears well-established. Capacity for collective action around locally identified problems certainly appeared to be present, exemplified by the Pokja instigating the new regional by-law on wastewater. Bappeda's leadership has been important, but the interactions observed within the Pokja did not appear unduly hierarchical – indicating that there is a willingness to collaborate that goes beyond obligations.

One particular aspect of Pokja arrangements, however, appears to inhibit local government's ability to explore financial innovation around post-construction support for local scale services: the limited involvement, to date, of BPKAD, the finance Dinas or department.

MoHA's SE660 guidance attempts to provide clarity for sanitation service planning and development by delineating clear roles, including for funding. **While BPKAD does not have authority over budget allocation decisions, BPKAD is the key Dinas for reporting on expenditure and advising on spending rules.**

BPKAD played a visible role in our final workshop, in clarifying the official rules regarding what types of expenditure local government funds (APBD) could be used for – in a manner which implied that representatives from other local government work units (SKPD) were unsure of the 'rules of the game' for public financial management and reporting.

As such, the absence of a key Dinas from the main institutional arrangement for sector coordination (the Pokja Sanitasi) appears to be preventing a full understanding of what is permissible and possible, in terms of reforming local government approach to local scale services. **This in turn prevents the local government in the case study city from exploiting windows of opportunity to support the sustainability of local-scale systems, should they arise**.

The opportunities for improved coordination appear to be:

- **Between agencies with knowledge on financing (e.g. the city's development planning agency *Bappeda* and financing agency *BPKAD*) and other local government agencies with sanitation responsibilities** to ensure knowledge of the budgeting process and the options available for post construction support of local scale systems

- **Between agencies responsible for monitoring and evaluation (e.g. local department of health (*Dinkes)* and environment (*BPLH*) and planning (Bappeda))** to ensure data collected is evaluated and effectively linked back to decision making (particularly around which local scale facilities most urgently need support)

- **Within different agencies with technical responsibilities (e.g. the department of building and housing supervision *Wasbangkim* and the department of cleaning/hygiene and landscaping *DKP*)** to ensure support on different post-construction technical and implementation issues is joined up and recent transfers of responsibility are consolidated

- **Within different agencies responsible for communication and empowerment (e.g department of health *Dinkes* and *DKP*)** to ensure consistent and systematic post-construction support for the 'software' side. While this area of responsibility under SE660 (Bidang) was widely referenced in the course of interviews, it is still the one least understood. Current efforts do not appear to be targeted on the basis of need and involve multiple agencies in apparently ad-hoc responses to a limited number of (better performing) KSMs.

Note: This research found the case study city was using the SE660 to a certain extent to plan and implement sanitation, and thus we have captured it here. It is outside the scope of this report to comment on the broader strengths of SE660 (i.e. identifies areas for action, offers strong leadership with requiring the regional secretary, SEKDA, to lead) and challenges of SE660 (i.e. creates confusion with Pokja Sanitasi and Pokja AMPL (drinking water and environmental sanitation) (Chong et al. 2015) and how national government is considering changes to bring water and sanitation into alignment, which may bring future changes to these different Pokjas.

Relationship between local government and higher levels of government

Looking ahead, Provinsi (Provincial Government) is now rolling out the SABERMAS programme (similar to SANIMAS) funded from provincial budget. SABERMAS aims to complement kota and kabupaten-level construction of local scale facilities in response to government targets (including new 2020 '100-0-100' target[1]). The program has a sizeable budget (IDR 2.4 trillion budget in 2014 (USD 170 M), likely to rise to IDR 3 T (USD 214M) next year) but divided across many cities (kota) and regencies (kabupaten).

This increasing funding stream is likely to increase challenges in terms of coordination and authority for any kota/ kabupaten who will need to manage SABERMAS alongside other programmes (the case study city has received one SABERMAS facility to date).

Relationship between local government and NGOs

Both FKS and AKSANSI play a role in supporting local scale systems in the operation and maintenance phase. FKS is the local manifestation of a national program focused on healthy cities. AKSANSI is a national NGO whose sole purpose is to support the operational phase of local scale wastewater, and has formal branches in more than 25 kota and kabupaten, including in the case study city. There was confusion among some interviewees as to the relationship between AKSANSI and FKS, but the two organisations are independent.

[1] The '100 -0-100 target' in Indonesia refers to: 100 percent of drinkable clean water, 0 percent of slum areas and 100 percent of sanitation by the end of 2019 - See more at: http://www.thejakartapost.com/news/2014/11/25/ri-calls-more-robust-efforts-tackle-settlement-problems.html#sthash.DOkKKDT6.dpuf

A remaining question for local government is if and how to help resource, finance or partner formally with AKSANSI or other relevant organisations to perform these roles.

C. The information available

Whilst monitoring mechanisms are reportedly in place to track outcome level data (effluent quality tests by BPLH (local environment agency) and health impacts (collated by health department from clinics and hospitals) there **does not appear to be any systematic consolidation and evaluation of information for targeting support, planning and incentivising performance** (e.g. which KSMs are most urgently in need of what kinds of support).

D. The allowable actions

Three groups of formal and informal factors appear to shape the ability of actors to discharge their roles in relation to local scale services:

1. Rules and sanctions around public finance (see also our accompanying report on formal legal frameworks)
2. Legal arrangements
3. Socio-cultural norms e.g. around empowerment.

What is 'allowable' appears important here: limited local government action to date may be to do with the perceived room for manoeuvre at the local level. **Legal ownership, public financial rules and procedures, and norms like 'community empowerment' are all systemic issues that can appear implausible for a single city (Kota) to address (more so for any single local government work unit (SKPD), or individual within an SKPD).**

1. Rules and sanctions around public finance shape the ability of actors to support local scale systems.

Procedural options for increasing regional budgetary allocations for local scale system O&M appear complex, and consequently under-explored. The disincentive to 'try new things' seems to stem from the challenges of engaging with the complexities of regional budgeting rules, and the severe sanctions for non-compliance with those (uncertain) rules.

Few stakeholders except BPKAD, the Dinas with specific responsibility for budgetary processing and reporting, had clear views on the bureaucratic options for freeing public funds for post-construction support. Public financial management processes are complex, unwieldy and opaque (see also the accompanying report on formal legal frameworks) – including the local government budget (APBD) process by which regional-level budgets are determined. Discussions around options for routing regional budget (APBD) towards local scale systems in the final consultation meeting in the case study site suggest that the basic procedural/ bureaucratic options are only partially understood by most of the involved local government work units (SKPD), with the exception of finance (BPKAD) and possibly planning (Bappeda) representatives on the Pokja Sanitasi.

Financial innovation is furthermore inhibited by expectation of severe sanction for non-compliance with required procedures. Several local government officials reported that financial regulations and the drive against corruption act as a discouragement from innovating around financing arrangements for local scale systems in the post-construction phase. Allocating government funds to prohibited categories of expenditure can be treated as a criminal offence – for example, recurrent expenditure for assets not owned by government, such as local scale facilities.

UNDERLYING DYNAMIC: The credibility of political commitments around corruption appear to be trumping those relating to sanitation.

The rise in power and visibility of Indonesia's Anti-Corruption Commission (KPK) over the last decade is emblematic of a broad political commitment made by the country's leaders to tackle endemic government corruption.

For local government stakeholders in the case study city, the credibility of this political commitment is also very real – the threat of severe penalties, including custodial sentences, if found misusing public funds. Several respondents identified this as strongly dis-incentivising all spending on assets that are not clearly government-owned, including local scale facilities.

Four further challenges can be highlighted in relation to the challenge of freeing up public finance for local scale systems at the regional level:

Firstly, as a multi-sectoral issue, local scale systems would require significant coordination between the local government work units (SKPD) involved if it is to receive spending prioritisation. The local government budget (APBD) formulation involves the planning agency, Bappeda, preparing budget ceilings for each local government work unit (SKPD) (Cahyat 2011) (see also the accompanying report on formal legal frameworks). This implies an environment in which sectors that are not governed by a single SKPD (of which sanitation is a prime example) may lose out to the more direct sectoral priorities of the SKPD involved. For example, curative healthcare is likely to be a greater priority for Dinkes, in considering spending options within its specified budget ceiling, as compared to sanitation (note: this issue was not discussed with stakeholders and is surmised from the literature).

Secondly, locally articulated spending priorities do not currently appear to emphasise sanitation, even if they can translate into the APBD. The *Musrenbang*, or multi stakeholder development planning consultation process, is meant to feed into the selection and prioritisation of SKPD work-plans and thence the Annual Local Government Work Plan (*Rencana Kerja Pemerintah Daera - RKPD*) from which the APBD is developed. A number of case study stakeholders argued that sectors such as roads were more likely to receive budgetary and political attention than sanitation – it is not clear therefore that increasing KSM mobilisation around the Musrenbang process would secure more financial resources for post-construction support. Cahyat (2011) is also sceptical of the transparency of the process following the Musrenbang, and indeed of the ability of Musrenbang-identified priorities to make it through to the APBD at all.

Thirdly, information regarding transfers for central government tends to come late in the regional budgeting process, and can result in a two stage process where the initial outline for the RKPD is substantially revised.[ii] Where there is expectation of allocations from the central level it may further reduce the incentives for regional-level stakeholders to mobilise themselves to secure resources from the APBD. This issue was not discussed with stakeholders in the case study city, but given the prominence of central government funds in meeting the construction costs of local scale facilities - under DAK (national budget's special allocation fund) - and PU-funded programmes - it may be worth investigating further.

Finally, the APBD is a fairly static and linear instrument, once approved. Revisions to SKPD budget implementation lists (Daftar Pelaksanaan Anggaran – DPA) require the entire APBD to be revised and should be approved by the regional legislature (Dewan Perwakilan Rakyat Daerah DPRD), although changes within the same expenditure category can be approved by the Sekda (Cahyat 2011). The accompanying work on formal legal frameworks will shed more light on this.

2. Legal arrangements shape the ability of actors to support local scale systems.

Land and asset ownership concerning local scale facilities remains unclear in law; reliance on grants made by owners and witnessed by various officials including kelurahan (urban village) head are likely to be legally contestable. Although interviewees did not highlight any examples of where legal challenges to asset or land ownership had been made, an upcoming test-case will be critical - concerning whether the original land owner or KSM should be paid in compensation for a local scale facility that is to be demolished to make way for a road.

Formal legal documentation of ownership (e.g. *acta hibah*) requires KSM to be registered as a legal entity and can be expensive (our research in other cities suggests around IDR 5M ($350 USD)).

Legal transfer of ownership to the KSM could further restrict ability of government funds to be allocated to post-construction capital maintenance expenditure, under current rules.

UNDERLYING DYNAMIC: Current ad-hoc legal ownership arrangements are open to *rent seeking* behaviours.

The issue of legal ownership was only cursorily explored in this study, partly because of the range of other factors that seemed to be important. However, some observations can be made. The current approach makes communities the *de facto* owners of land for the specific purpose of local scale wastewater services (and therefore also the *de facto* owners of local scale assets built upon the land). Without a notary letter and formal *acta hibah*, however, communities are not owners in law ('*de iure*'). At first sight, there seem to be sound reasons for this: the relatively informal arrangements are cheaper (avoiding notary fees for an *acta hibah*) and may be more palatable to land-owners than fully relinquishing title under law. However, two significant risks arise. Firstly, the risk that the whole system can be lost if, for example, the land-owners (or perhaps their heirs) change their mind. Secondly, they also leave the potential for rent-seeking behaviour, where the productive value of the land increases due to the presence of the local scale facility and can be captured by the original owner. There were no confirmed instances of this happening, but the question marks over whether an original landowner might be compensated for both land and local scale assets demolished to make way for a road, suggest the potential for the issue to arise. This said, entrusting *de iure* ownership for local scale system land and facilities to government was not viewed as an attractive proposition for land-owners; the option of formalising *de iure* ownership with KSMs or communities is also likely to constrain funding options, as long as regulations on public finance prohibit local government spending on O&M for assets it does not own. The accompanying work on legal frameworks will shed more light on this issue.

3. Socio-cultural norms shape the ability of actors to support local scale systems.

Local scale service development was frequently associated with the ideal of 'community empowerment'. This concept appears to be embedded in a set of norms around what the state should and should not support.

The 'community empowerment' concept can be interpreted in a number of different ways – as a means to build sustainability of facilities by enhancing community ownership; as a way to reduce public costs; as way to strengthen social/ community structures.

Associating a programme or investment with 'community empowerment' has important practical ramifications. In particular, like the expenditure category, it appears to discourage routine public spending on post-construction capital costs, such as major repairs for local scale facilities. At the feedback workshop, there was general agreement among attending SKPD that it was appropriate for communities to seek funds for major repairs on an ad-hoc basis through social assistance grants (*bantung sosial*) – requiring communities to identify and articulate their own needs. There was, however, some recognition that this can be challenging especially given bantung sosial are requested and issued in separate financial years, which could leave a community without a functioning sewage management system for a year or more.

UNDERLYING DYNAMIC: Prevalence of the community empowerment norm. Part 1.

The community empowerment concept may persist around local scale services because of perceptions concerning the *nature of the good* that are common in the sanitation sector.

Local scale services, like sanitation services everywhere, are nominally rival (e.g. they have a fixed design capacity, and one person's use diminishes the availability of the service for others) and excludable (e.g. it is difficult/ impossible to connect without approval of KSM). In this pure economic sense it is legitimate to perceive local scale services as a private good, which should in turn permit KSMs to successfully meet their O&M costs through user fees. This perception of course chooses to ignore the merit qualities of local scale services, the fact that they rarely operate at design capacity (and so are not rivalrous) and most importantly, the fact that adequate sanitation in densely populated areas is fundamental to protecting the whole community's health – that is, there are high externalities associated with failing local scale services. All these factors could be used to justify public intervention. These rarified technical economic concepts are not used in practice to articulate the idea that communities should be responsible for managing local scale services.

It is, however, important to recognise that there is a school of thought in the international development sector, particularly at the first steps on the sanitation ladder, that treats sanitation as a private good that should not be subsidised – evident in CLTS policies including Indonesia's STBM programme.

UNDERLYING DYNAMIC: Prevalence of the community empowerment norm. Part 2.

The community empowerment concept may persist because of *task-related* and demand *characteristics*, which in principle might be expected to allow for self-organisation.

The persistence of the community empowerment norm can also plausibly be attributed to the ways in which users experience the service, and the prestige involved in fulfilling tasks around the service. The strength and persistence of the community empowerment norm also provides local government with something of a justification for inaction on local scale service sustainability issues.

Firstly, local scale services exhibit high territoriality: they are experienced in common by a defined group of users living near to one another, and the facility. This means that problems, where they are noticed, may be experienced in common by all users (for example, most households in the relatively small area served by the local scale system will be affected by smell or backed up mains pipework). A contrast can be made with healthcare, which often involves users with diverse needs and limited common cause, who may have travelled from some distance to use a clinic or hospital, often on an ad-hoc basis. Where users experience problems in common and regularly interact, there might be expected to be higher chance of collaboration to find ways to address those problems.

The second characteristic is (local) visibility. This varies greatly, depending on the type of system, and its operational status. Shared public toilets and washing buildings (*MCKs*) can be highly visible at community scale – where they function well, KSMs and local elites may gain prestige from their successful ongoing operation. Again, this might be expected to be conducive to community-based management. However, where they fall into disrepair, a vicious cycle may ensue. For local sewerage systems, there is no visibility, so no trigger for a need for community management.

These factors begin to demonstrate the complexity of the socio-technical system that is local scale sanitation, and show why the default assumption within local government, that KSMs should meet all (or nearly all) post-construction costs, is problematic when applied as a general approach.

E. Benefits and costs

Currently, local government appears to be able to ignore the externalised costs (health and environmental impacts of ineffective treatment), which arise from not investing in local scale services. The scale of system failure is as yet un-quantified and largely invisible – limited sanctions from above or complaints from below. **Consequently, there are not many personal or corporate incentives to invest in addressing a problem that hasn't yet been widely noticed.** In this context, local government may perceive that deferring the vast majority of post-construction responsibilities for local scale services to KSMs is a 'low-cost' option. Addressing the factors mentioned above ('allowable actions, control over choice') would require significant individual effort, and in most cases collective action involving several local government administrations working with civil society organisations, to make a strong case to national level government for regulatory reform and additional budget allocations.

In the short term (see Figure 1), local government avoids the 'pinch-point' of Indonesia's sanitation targets on the one hand, and the ability of communities to manage the local scale systems once built, by deferring the vast majority of post-construction responsibilities and costs to KSMs. Local government's avoidance of the 'pinch', by deferring responsibility for local scale service sustainability onto KSMs (and NGOs) may not be part of a conscious strategy for individuals within the system.

This works so long as the inability of communities to manage local scale services remains invisible – which it does, while performance monitoring remains weak and systems are relatively young.

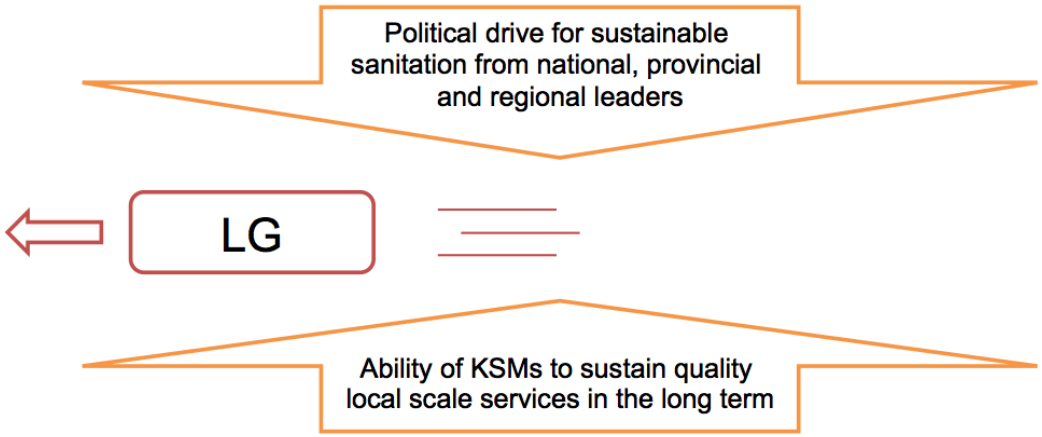

Figure 1 Local government may avoid the short term pinch point

Long term, however, local government may be caught in the pinch of broader expectations (see Figure 2): decentralisation policies which leave them as perceived guarantor of local service delivery, and their visible role in local scale service construction. This means that local government may struggle to avoid blame for system failure, and needs to think strategically about how it can support systems in the long-term.

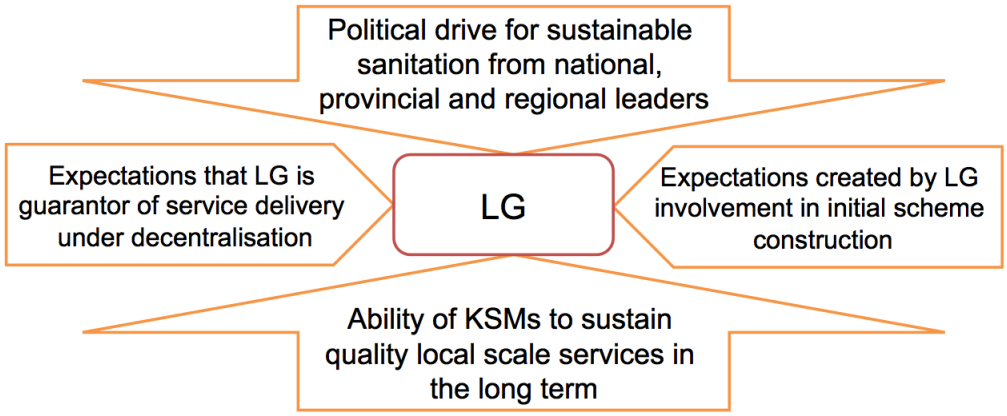

Figure 2 Local government may be caught in the pinch of broader expectations

UNDERLYING DYNAMIC: The information deficit can be a disincentive for oversight. Unconsolidated information on performance is not only a symptom, but also a cause, of weak *oversight systems* from local government to operational levels.

On the face of it, the information deficit around the rate of local scale service failure is a symptom of weak oversight systems, leaving local government unable to determine which KSMs are failing, and to take supportive corrective action. However, more cynically, the information deficit can also be viewed as a cause of weak oversight systems, or at least a disincentive for local government to overhaul its oversight. As long as the data remains unconsolidated – and effectively 'lost' within the local government bureaucratic machinery – the problem of local scale service failure remains largely invisible. A strong oversight system based on regularly collected performance data would likely increase the 'pinch' on local government to act to actively support KSMs, while in the short term, the information deficit allows them to continue with the status-quo. As such, there is little incentive for local government to collect and use performance monitoring data more systematically.

F. Potential outcomes

As discussed above, what is 'allowable' appears important here: limited local government action to date may be to do with the perceived room for manoeuvre at the local level because of perception and implications of legal ownership, public financial rules and procedures, and norms like 'community empowerment'. In view of this, **plausible outcomes include**:

- Local government provides no/ minimal support to local scale service sustainability: Continuation of low-level equilibrium/ deterioration of local scale systems until failure becomes visible (e.g. through disease outbreak) and higher level of government intervenes. Our research suggests this is the most likely situation.

- Local government provides modest support on those issues which currently seem 'allowable': Tinkering with status quo, with a focus on specific operational responsibilities. Our research would suggest this is the likely outcome in regencies (kabupaten) and cities (kota) that are recipients of support from IUWASH or the Australia-funded sanitation programme SAIIG.

- Local government takes the initiative to rethink what is 'allowable': Seizing windows of opportunity at the local level to tackle more systemic issues in the institutional arrangements. Our research has revealed one city in Sulawesi that is already moving in this direction.

RQ4: What options are available to work with and around these dynamics, in favour of institutional arrangements that can support sustainable local scale services?

Key challenges within the institutional arrangements for local scale systems could be summarised as:

- Unclear rules around public finance
- Fear of sanctions around misuse of public finance
- Information deficit and disincentive for oversight
- Unclear legal arrangements for ownership
- Prevalence of the community empowerment norm

The investigation of underlying factors suggests that the following recommendations could be relevant, assuming that systematically increasing local government support to local scale services is viewed as prerequisite for the proposed management arrangements.

1. Encourage local government entities to consider the allocation of skills and functions implied by MoHA SE660 guidance (across Bidang). This can be done without being prescriptive – for example, by underscoring that expertise in public financial management procedures is an important capability of the funding Bidang – and needs to be available to a Pokja Sanitasi, whether it is specifically filled by BPKAD (or its equivalent) or not.

2. Increase the space for local government to experiment with funding post-construction services, e.g. by providing specific guidance to counter fear of sanction for misuse of public funds. A relevant comparison here may be the water supply and sanitation sector in Sri Lanka[iii], where similar tendencies to focus on new capital works in place of O&M and rehabilitation have been exhibited. Here, sector technocrats and engineers have nonetheless been able to push back and convince political actors to adopt less politically visible but more sensible strategies (Mcloughlin and Harris 2013).

3. Recognise the politics inherent in performance monitoring – that local government may be unwilling to expose the full extent of failure through robust outcome monitoring, evaluation and reporting, because it will increase the pressure on them to act. Where this is the case, create positive incentives for monitoring e.g. by creating an award (or financial reward) system for regencies and cities that achieve high standards of local scale system effluent.

4. Explore options to reduce the risk of rent-seeking in relation to unclear ownership arrangements, while recognising that there are currently challenges with legally entrusting ownership with either KSMs or local government.

5. Approach local government assumptions around community empowerment gently – recognising that while local government appears to be using a normative position on community empowerment to side-step responsibility for failing local scale services, it may not be a conscious decision for many actors involved. **In the face of deep-rooted norms, an open debate is needed about the appropriate balance of responsibility between KSMs, local government, and other actors involved in local scale service sustainability.** In initiating this process, it will be important to ensure consideration of the size and distribution of externalised costs of failing services. ODI's experience in working on difficult WASH policy areas in Ethiopia, through facilitated exchanges of researchers and policy makers, suggests that change can be achieved even in relatively hierarchical bureaucracies, by working transparently and with a strong evidence base at multiple levels. Achievements include unlocking significantly increased budgets to local resources for O&M for water points. These approaches nonetheless require a significant investment of time and resources, and strong facilitation (ODI et al. 2011).

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Appendix 1. Summary of responsibility areas (*Bidang*)

Planning (*Bidang perencanaan*): Responsibilities for planning in the case study city clearly fall to Bappeda. Interviewees either endorsed or did not question Bappeda's *de facto* authority within the Pokja Sanitasi. The influential position occupied by Bappeda appears to flow from its general coordinating role for SKPD, as highlighted by Cahyat (2011).

Funding (*Bidang Pendanaan*): For funding responsibility, the SE660 guidance stipulates roles including inputting on policies and regulations and financial reporting in relation to sanitation (see also our accompanying report on formal legal frameworks). In practice in the case study city, it appears that Bappeda (local planning department) and BPKAD (local finance and asset management agency) share the related roles– the former is leading the process to draft a new regional bylaw regulation on sanitation, while the latter fulfils its generic responsibilities with regards to managing financial disbursements and reporting.

BPKAD does not, however, appear to be a regular member of the Pokja Sanitasi. For example, the final workshop organised for the field trip was regarded as a rare opportunity for the core SKPD working on sanitation to consult BPKAD on budgeting restrictions - e.g. prohibition on allocating regional budget (APBD) to upkeep of facilities not owned by government. Their involvement in the final feedback meeting for the field study suggested that they are viewed as an important stakeholder, particularly by Bappeda representatives. **BPKAD's understanding of financial systems, including the budgeting process, disbursement and reporting rules, is likely to be instrumental in determining viable options for public funds in support of local scale service.**

Technical (Bidang Teknis): Technical responsibilities for sanitation planning and development have shifted recently in the case study city, with the establishment of the dedicated technical office within the local government department of building and housing supervision, Wasbangkim, with responsibility and budget for water and sanitation, including local scale services. This follows the SE660 guidance, which recommends the bidang is headed by the SKPD (local government work unit) responsible for 'settlements or public works' (usually Dinas *cipta karya or DPU*).

Representatives from the technical implementation unit for wastewater treatment (UPTD-PAL) under DKP (local government department of cleanliness) implied that they were previously the responsible entity for technical aspects of post-construction support for local scale facilities, which would fall under SE600's Communication and empowerment area of responsibility ('*Bidang Penyehatah, Komunikasi dan Pemberdayaan'*). The majority of interviewees explicitly or implicitly endorsed the new arrangement and viewed the establishment of the technical office within Wasbangkim as a positive step. IUWASH, a US-funded development project, has provided substantial support to UPTD-PAL, yielding slow but steady progress in institutional form and capacity, particularly in relation to the central sewerage system and septic tanks.

Given the recent flux around the Bidang Teknis 'position' (and reportedly has since continued since the conduct of this case study), coordination and a positive working relationship between Wasbangkim and UPTD-PAL will be important. Technical responsibilities for different aspects of sanitation are now effectively split. For example, UPTD-PAL manages the optimisation process for the IPAL, **while Wasbangkim are now mandated and have a limited budget for optimisation of local scale facilities**. More critically, the city's sludge treatment facility (IPLT), under UPTD-PAL, remains the likely destination for septage from local scale facilities.

Following a capacity building trip to a nearby city, UPTD-PAL purchased several desludging carts. The intention expressed by UPTD-PAL respondents was for these carts to be provided to KSMs free of charge. The main challenge is that the nearby city was on a floodplain, and therefore quite flat, whereas the case study city is in the hills, with high rainfall and quite steep terrain. The desludging carts are of very sturdy construction (steel), with a large tank for the sludge, and a pump to suck it out. The carts are therefore very heavy when empty, let alone when full, and will likely be quite challenging to manoeuvre. The physical, technical, and financial arrangements around the use of the carts were unclear at the time of study.

Communication and empowerment (Bidang Penyehatan, Komunikasi dan Pemberdayaan): According to MoHA SE660, lead responsibility for Communication and empowerment should reside with the SKPD in charge of health. Dinkes (local department of health) representatives confirmed that their role in relation to local scale services extended to mobilisation and behaviour change, which they related to a broader leadership for promotion aspects across sanitation (e.g. via sanitarians under the community based total sanitation programme, STBM – *Sanitasi Total Berbasis Masyarakat*) and social and environmental health more generally (e.g. via the 10 point behaviour change programme PHBS - *Perilaku Hidup Bersih dan Sehat*). Several other interviewees nonetheless also claimed a major a role in relation to the software aspects of *SANIMAS* (community-based sanitation), including with existing KSMs, e.g. UPTD-PAL representatives reported undertaking post-construction 'sosialisasi' (socialisation) activities with 4 KSMs in 2014, with the same planned for a further 5 in 2015. When asked how KSMs were selected for such activities, UPTD-PAL representatives suggested that they targeted well-functioning KSMs on the basis of 'readiness', rather than those in greatest need. It should be noted that the implementation and underlying norms for this Bidang (and indeed for the term 'sosialisasi' which seems widely associated with this area) were insufficiently interrogated in the course of the study. NGOs including AKSANSI, BEST and FKS also appear to play a role, though we were not able to establish whether coordination between each of the parties involved was ad-hoc or pre-arranged and under the leadership of a single agency. **Certainly, Dinkes did not claim this leadership role nor did representatives of other organisations allude to this**.

Monitoring and evaluation (Bidang Monitoring dan Evaluasi): MoHA SE660 states that leadership for Monitoring and Evaluation should reside with the SKPD in charge of environmental issues – which in the case study city would imply a lead role for BPLH (local government department of environment). Interviews confirmed that BPLH undertakes annual monitoring of effluent quality from local scale facilities, with a focus on those with functioning KSMs. **Responsibility for follow-up on the results of the monitoring was, however, unclear even for BPLH.** According to the BPLH representative, effluent quality data are passed to Bappeda after which it may fall to Wasbangkim to follow-up on any KSMs falling below the required standard. In her view, this **mirrored a wider gap in the institutional framework, in understanding where responsibility for addressing failure of local scale systems lies: Under regulation 54/2010 from MoHA (regulating obligatory and non-obligatory tasks at local government level) performance of wastewater is reportedly specified as the responsibility of PU or its equivalent SKPD, while environmental pollution is the responsibility of the environment Dinas. The implication for BPLH was that they could be sanctioned for local scale system failure but did not have the authority to address those failures by directly engaging KSMs**.

Dinkes representatives also emphasised that they had an important role to play in terms of monitoring, both for Reverse Osmosis (RO) water (which is provided by some KSMs and can be an important income generating opportunity) and collecting data on health status via community health centres. This was apparently analysed and shared with Bappeda but **we found no evidence that it was being used to inform prioritisation of post-construction support to KSMs**.

Appendix 2. Glossary

ABPD	Local Government budget (Anggaran Pendapatan dan Belanja Daerah)
APBN	National Government budget (Anggaran Pendapatan dan Belanja Nasional)
BPKAD	Local government finance department (Badan Pengelolaan Keuangan dan Aset Daerah)
Bappeda	Local Government Development Planning Agency (Badan Perencanaan dan Pembangunan Daerah)
Bappenas	National Development Planning Agency (Badan Perencanaan Pembangunan Nasional)
Bidang	Responsibility areas (usually in this report in respect to SE660 guidance for sanitation planning
BPLH	Local Environmental Management Agency (Badan Pengelolaan Lingkungan Hidup)

CBO	Community-Based Organization
Cipta Karya	Directorate General of Human Settlements at Ministry of Public Works
DAK	Special allocation fund (Dana Alokasi Khusus)
Dinas	Local government department
DKP	Local Government Department of Cleaning/Hygiene and Landscaping (Dinas Kebersihan dan Pertamanan)
Dinas PU/ DPU	Local Government Department of Public Works (Dinas Pekerjaan Umum)
Dinkes	Local Government Health Agency (Dinas Kesehatan)
DPRD	Local Legislative/Parliament (Dewan Perwakilan Rakyat Daerah)
FKS	Healthy City Forum (Forum Kota Sehat)
GoI	Government of Indonesia
IPAL	Wastewater Treatment Plant (Instalasi Pengelolahan Air Limbah)
IPLT	Faecal Sludge Treatment Plant (Instalasi Pengolahan Limbah Tinja)
IUWASH	Indonesia Urban Water Sanitation and Hygiene Program, funded by USAID
Kabupaten	Regency local government
KSM	Kelompok Swadaya Masyarakat (Community-based organisation, CBO)
Kota	City local government
MoHA	Ministry of Home Affairs
NGO	Non-Government Organization
O&M	Operation & Maintenance
PD-PAL	Local Government Wastewater Management Enterprise (Perusahaan Daerah Pengelolaan Air Limbah)
PDAM	Local Government Drinking Water Enterprise (Perusahaan Daerah Air Minum)
Pemda	Local Government (Pemerintah Daerah)
Perda	Local Government Regulation/Decree (Peraturan Daerah)
Pokja Sanitasi	Working Group (Kelompok Kerja) for Sanitation
PU	Ministry of Public Works (Menteri Pekerjaan Umum)
Provinsi	Provincial government
RKPD	Annual Local Government Work Plan (Rencana Kerja Pemerintah Daerah)
SAIIG	Australia-Indonesia Infrastructure Grants for Municipal Sanitation Programme
Sanimas	Community-Based Sanitation (Sanitasi Berbasis Masyarakat)
SE660	Circular of the Minister of Home Affairs No. 660/4919/SJ on Guidelines for PPSP Management.
Sekda	Regional Secretary (Sekretaris Daerah)
SKPD	Local Government Work Unit (Satuan Kerja Perangkat Daerah)
STBM	Community-Based Total Sanitation (Sanitasi Total Berbasis Masyarakat)
UPTD	Local Government Technical Implementation Unit (Unit Pelaksanaan Teknis Daerah)
UPTD-PAL	Local Government Technical Implementation Unit for wastewater treatment (Unit Pelaksanaan Teknis Daerah - Pengelolaan Air Limbah)
USDP	Urban Sanitation Development Programme
Wasbangkim	Local government department of building and housing supervision (Dinas Pengawasan Bangunan dan Permukiman)

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

[ii] http://journals.sfu.ca/ipmr/index.php/ipmr/article/viewFile/64/64

[iii] http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8174.pdf

Findings from an ODI case study of the water supply and sanitation sectors of Colombo indicate that:

"Water and sanitation provision in Colombo are characterised by a low-level 'settlement', whereby arrangements for delivery sufficiently balance the incentives (economic, personal, professional) of users, politicians and bureaucrats, so the system becomes relatively stable and self-reinforcing.... Crucially, however, no actor is free from limitations on their behaviour: users face threats of disconnection or community-level sanction where CSOs are involved in mobilisation or monitoring (thus limiting free riding in water and negative externalities in sanitation); providers face the threat of emergent private sector competition (thus limiting petty corruption) and top-down performance pressures (thus limiting shirking of duties); and government (and the relatively strong, centralised ruling party) faces real threats to its legitimacy (thus limiting high-level corruption). Hence, the sectors 'work' as a whole because there is a relatively stable equilibrium in place, whereby the needs of each of the key groups of actors are sufficiently served by the system for it to be able to sustain itself, while threats to this equilibrium have been controlled to avoid undermining it entirely." (Mcloughlin and Harris 2013, p18). How far the example is comparable to Indonesia's local scale service sector would need to be considered in the round. It is nonetheless apparent that in Colombo, the room for manoeuvre for technical staff to push back against politicians and superiors (who may have any eye to the political advantage of visible new infrastructure) is in part assisted by having robust monitoring arrangements, supported by civil society, that can highlight the externalised costs incurred by society and environment.