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Lessons from scaling up urban sanitation development in Indonesia and Mozambique

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Indonesia and Mozambique are very different in terms of geography, culture, income, population and the type of sanitation used – and other aspects of development. This paper looks at urban sanitation development over the last 10 years in both countries – and the similar aspects of their development. In particular it looks at what lead to achieving national leadership: the role played by gating solid data and evidence; sanitation development models and how the critical role of effective advocacy. It ends with an overview of unresolved shared challenges and asks if these important issues provide lessons learned for other countries too?

Different contexts – similar progress

Indonesia in South East Asia and Mozambique in Southern Africa are different in many ways, including the urban sanitation context – and yet there are common lessons that can be learned. As an example of the differences is that urban dwelling Indonesians tend to use water based sanitation (pour flush squatting gooseneck pans) and Mozambicans are more likely to have a pit latrine – although that is changing. Other similarities and differences are summarized in Table 1.

Table 1: Sanitation similarities and differences		
	Indonesia	Mozambique
Population	257 million (INSB,2015)	27.1 million (INE, 2017)
Urbanization (%)	54%	32% (INE, 2017)
Annual GDP/Capita	USD 3,379 (2015)	USD 601 (INE, 2017)
Population of capital city	12 million – Jakarta	1.2 Million –Maputo City
Proportion of faecal sludge and sewage safely stored or treated in capital city	14% (Hutton et al, 2016)	40% (Muximpua and Hawkins, 2017)
Main type of faecal sludge waste	Septage (low solids)	Faecal sludge and septage (high and low solids)
Percentage of improved sanitation (urban)	62%	42%
Sewerage connections in capital city	2%	9%

As recently as the mid 2000's neither country had yet developed comprehensive strategies for urban sanitation. Like many other countries, the sanitation policy and practice focused on increasing access to household toilets – as monitored by the Joint Monitoring project (JMP) of the Millennium Development

Goals. However, in both countries by the late 2000's a broader approach was evolving, and by 2012 there was a clear urban focus on faecal sludge and septage management (FSM). This paper sets out some of the changes which contributed to changing the focus from access to toilets to an entire safe sanitation chain.

Strong leadership is necessary –but not sufficient

In both countries a critical point was reached when the national leadership began to see the need for, and commit to the urban sanitation agenda. This enabled the start of a national programme, scaling up, local and development budgets and real action.

In Indonesia, the Vice President launched the National program for the *Acceleration of Sanitation Development in Human Settlements* (PPSP) in November 2009. This event included financial commitments and was held at the Vice-Presidential Palace attended by six ministers (Planning, Finance, Public Works, Health, Home Affairs and Environment), The Governor of Jakarta and more than 250 key people from the sanitation sector, central and local governments and local media. The launch was the culmination of over 4 years' work between Government and its development partners, led by an inspired Director from Ministry of National Development Planning). It had included developing community-based sanitation models in both urban and rural settings, and strategic city sanitation planning pilots; the economics of sanitation analysis; and political advocacy and strategic communication work with the media. The *Acceleration of Sanitation Development in Human Settlements* approach brought together sectoral strategies from conferences held by the Ministry of Health on rural sanitation in 2008 and the Ministry of Public Works on urban sanitation in mid-2009. Since 2009 most of the commitments made have been kept and budgets have risen by 800 % (2006 to 2012).



Photograph 1. Vice President of Indonesia launches the sanitation program watched by Minister of Planning



Photograph 2. Five National Directors and five Mayors, at the National Sanitation Conference

(Source: Blackett)

In Mozambique, it was the Deputy Minister for Public Works and Housing who took up the issue with his fellow Ministers in 2012 after being exposed to estimates of the economic costs of poor sanitation in Mozambique. He charged his Ministry, through the National Directorate of Water (DNA in its Portuguese acronym), to come up with an approach to the urban sanitation challenge. Previous efforts had foundered because a single lead Ministry had been chosen, whilst sanitation itself touches many sectors, and in a highly resource-constrained environment (Mozambique is one of the world's poorest countries) the other sector agencies were not prepared to commit any part of their budget to an endeavour for which they were not directly responsible. Recognizing this, the DNA convened a meeting of 12 agencies at the National Director level where it was agreed that the only feasible way forward would be a coordinated plan, with each agency playing its part. At this point, a second champion came into the picture in the form of a senior planning officer at the Ministry of Planning. Convinced by a national Faecal Waste Flow Diagram (see below) she took it upon herself to make a reality of the concept of coordinated action by promoting the use of a little-known instrument for creating a multi-sectoral budget line. A technical committee of senior officials from seven key national agencies then worked to develop a coordinated plan, which was adopted at the *First National Sanitation Conference* in 2014.

Evidence, models and effective advocacy

While numerous stakeholders, much funding and many steps were needed to reach the points described above, some specific actions stand out as common to both programs. These include:

Evidence based decision making

In both countries, evidence and data from surveys, research and analysis were used to advocate for change. Decision makers were asked to act based on incontrovertible evidence of what was wrong. While multiple datasets were involved, two different sets of evidence were critical in spurring action. In 2008 Indonesia data from the *Economics of Sanitation Initiative* concluded that the economic loss from poor sanitation totalled Rp58 Trillion (USD 6.3 billion) annually. This information was used in many ways with the media, politicians and high level decision makers – and it worked!



Figure 1. Flyer with high level results from the Indonesia Economics of Sanitation Study

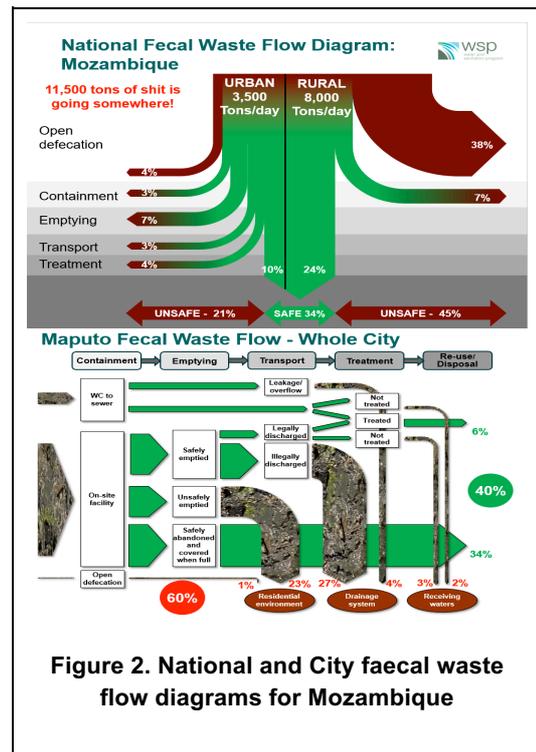


Figure 2. National and City faecal waste flow diagrams for Mozambique

In Mozambique a National Faecal Waste Flow Diagram (SFD) had a similar effect – as well as the same economics of sanitation initiative which triggered the whole process. The SFD for Maputo (and later for the country's second city, Beira) showed that faecal sludge management – unsafe manual emptying and illegal discharge of faecal sludge – was the overwhelming sanitation issue in the major urban centres.

Models to scale up sanitation development

Before mobilizing decision makers, there must be something for them to invest in when they understand that there is a need. Politicians are impatient for big announcements and developments they can point to, and learning of a problem to which there is no solution immediately available does not interest them.

Indonesia

In Indonesia the piloting and testing of models for city sanitation development had been underway since 2005. They were based on the following principles (Colin et al, 2011):

- local planning should begin with a detailed investigation of the infrastructure and services that already exist, avoiding gross assumptions or a 'blueprint' approach that treats the city as a blank sheet;
- the way forward probably lies in incremental steps rather than massive, one-off investments (the 'small steps' approach); and
- plans should respond to user demand, but this demand should be investigated, not assumed, and service users should be empowered to make informed decisions.

The city sanitation model which had emerged included the following key steps:

- preparation through the formation of a city based inter-departmental sanitation working group (*pokja*) and an annual budget for the *pokja*;
- city sanitation assessments (a White Book) which includes environmental health risk assessment to identify the priority areas for investment;
- strategic planning (City Sanitation Strategy) based on secondary data, primary data collection and professional judgement, which, as it is prepared by the *pokja* rather than an external party such as a consultant, reflects a consensus and is owned by the city authorities;
- investment based on the city sanitation plans using local and national government funding windows, development partner or NGO funding.

The most commonly applied technical options are the continued use of on-site sanitation and faecal sludge management, and a mix of communal facilities and small networked systems with decentralised wastewater treatment. Cities with sewerage systems also plan to increase house connection rates, so as to make full use of the systems, which often have low connection rates.

The model had been tested a six 'keen' cities then replicated and refined in another six. In eleven of the twelve it worked well, and even the twelfth caught up following a change of senior staff in a vital key local government department. In 2009 the *Acceleration of Sanitation Development in Human Settlements, (PPSP)* placed the scaling up of this model as central to its budgeting, staffing and investment plans. Currently, PPSP is in its second cycle (2015-2019) and more than 465 cities have prepared a city sanitation strategy.

The increased awareness of key decision makers, including politicians, translated into a better strategy and approach to investment in sanitation, and led to a significant increase in the number of households with access to improved sanitation, which approximately doubled over 10 years, from 35% in 2006 to 62% now.

Mozambique

In Mozambique, the central mechanism established to move the urban sanitation agenda was the national Integrated Sanitation Plan (PIS, in its Portuguese acronym), developed and managed by a technical committee comprising six ministries. The PIS has three pillars: leadership, legislation and monitoring, under the ministries of State Administration & Civil Service, and Finance & Economic Planning; infrastructure and services, under the ministries of Public Works, Housing & Water Resources, and Land, Environment & Rural Development; and sanitation and hygiene promotion, under the ministries of Health, and Education & Human Development. The first of these is of particular importance, as it creates a system of accountability and a budget mechanism (although budgetary resources are severely limited). The country's Provincial Governors were identified as critical nodes in the accountability framework, as they have direct influence over the Municipal and District administrations responsible for delivering sanitation.

Focusing on the major issue identified, of inadequate FSM, grants totalling about \$1M were obtained to develop FSM enterprises in Maputo on a scale large enough to be replicable, so as to understand the market and how to develop viable enterprises to serve it. Seven of the eight enterprises survived and are now working independently, after a period of developing the business model and the technology (Hawkins and Muximpua, 2015). Some of them have registered formally as companies and obtained bank loans to expand their equipment base. Other development partners are now helping to develop similar enterprises in other parts of the city, and the Municipal Council has approved a new byelaw that recognises FSM, giving a much firmer legal status to the operators and regulating service quality. The Municipal Council of Beira has also enacted new byelaws that allow private operators into the FSM market, and grant finance is being sought to catalyse the development of small FSM enterprises. A similar model is being incorporated into the design of a World Bank financed project currently under preparation, which aims to support the establishment of basic sanitation services in six major cities, also including faecal sludge treatment facilities.

Effective advocacy

Good data and good models were not going to be of much use unless the media could convey them; high level decision makers internalised them and the same messages were given to decision makers by all role-players in the sector.

Indonesia ensured that the advocacy and communications were high quality by using communications professionals. Promotional campaigns were carefully timed and advocacy efforts focused on government, rather than service users. In addition to using various media to raise the knowledge and awareness of

decision makers, the government maintained the level of awareness by using peer pressure to increase motivation and Mayors' commitment by creating competition between cities. Thus, in 2009, the Mayors and Heads of districts of the pilot cities established the Alliance of Major Cities for Better Sanitation (AKKOPSI), with the support of central government. AKKOPSI is a strategic vehicle for both central and local governments in advocating strategic approaches, such as improving faecal sludge management rather than focusing exclusively on increasing the number of households with on-site sanitation systems.

In Mozambique, senior political figures, notably the Provincial Governors, were deliberately targeted in an effort to mainstream sanitation into governance and accountability frameworks, which is essential if all of the many sectors involved are to provide their input. At the local level, TV advertising was a key factor in promoting improved FSM services in unplanned parts of Maputo.



Shared challenges

There have been some common aspects of the story so far, and there are also similar challenges that lie ahead. These include:

- **Fragmented institutional arrangements and gaps in responsibilities** for on-site sanitation, faecal sludge management, sewerage and drainage. This has a major impact on investment by central government, and on the ability of local governments to deliver effective sanitation..
- **A lack of adequate local capacity** to implement plans and spend available funds for both investment and operation and maintenance.
- **Inadequate regulation and poor enforcement**, especially at local level that may not recognize on-site sanitation systems and FSM, thus impeding the provision of such services, especially in informal settlements, and even in some cases, rendering them illegal.
- **Challenging and difficult environments**: Sanitation options are very limited for areas prone to flooding or with high water table, and high density unplanned urban settlements.
- **Low-cost rental housing** where owners are often absent and see sanitation as a cost rather than a benefit.
- **Ensuring that all on-site sanitation facilities can be hygienically emptied** requires public investment in toilets in informal dwellings occupied by poor people unable to afford the necessary improvements, which has in the past been considered an area exclusively for private investment by owners and occupiers.

Conclusion

Indonesia and Mozambique are very different in terms of geography, culture, income, population and many other aspects of development. And yet despite some common experiences join the two emerging urban sanitation programmes. Is this a coincidence? Or can use them as examples of what other countries would do well to focus on too? At the issues outlined in this paper common to other getting urban sanitation moving in other countries too?

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References

- COLIN, J, UTOMO, N. T., Van Der VELDEN, J., OOMEN, J., DIERX, R., SINARKO, B., WEITZ, A. and BLACKETT, I, (2011) *Lessons in Urban Sanitation Development Indonesia Sanitation Sector Development Program 2006-2010*, World Bank, Jakarta
- HAWKINS, P., and MUXIMPUIA, O., 2015, *Developing Business Models for Fecal Sludge Management in Maputo*, World Bank
- HUTTON, G., LISTYASARI, M., RODRIGUEZ, U and MILLS, F. May 2016, *Poor Sanitation Costs Jakarta about IDR 16.2 Trillion (USD 1.4 billion) per Year*. World Bank, Jakarta
- INE, 2017 <http://www.ine.gov.mz/> (website of the Mozambican National Institute of Statistics)
- MARDIKANTO, A.K., INDIYANI, A., M. LISTYASARI, M., AND YUWONO, R *Moving Towards Improved Urban Septage Management at Scale in Indonesia*
- MUXIMPUIA, O., and HAWKINS, P., STRICKER, J., MUGABE, Z., MATENDJUA, O., and MADADAMUGE A. 2017 *Emerging Lessons on FSM from Maputo, Mozambique* FSM4, India.

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