LEARNING EVENT REPORT

URBAN SANITATION AND HYGIENE FOR HEALTH AND DEVELOPMENT (USHHD)

Sustainable cost recovery and equity in urban sanitation

Jakarta, Indonesia

25-28 November 2019

SNV

UTS Institute for Sustainable Futures

www.snv.org

About SNV

SNV is a not-for-profit international development organisation that makes a lasting difference in the lives of people living in poverty by helping them raise incomes and access basic services. We focus on three sectors and have a long-term, local presence in over 25 countries in Asia, Africa and Latin America. Our team of more than 1,300 staff is the backbone of SNV.

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About ISF-UTS

The Institute for Sustainable Futures (ISF) was established by the University of Technology, Sydney (UTS) in 1996 to work with industry, government and the community to develop sustainable futures through research and consultancy. Our mission is to create change toward sustainable futures that protect and enhance the environment, human well-being and social equity. We adopt an inter-disciplinary approach to our work and engage our partner organisations in a collaborative process that emphasises strategic decision-making. In international development we undertake strategic research and engagement in the areas of development effectiveness, water, sanitation and hygiene, climate change, urban development and energy policy and planning.

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Cover photo: Aerial shot of Jakarta, capital of Indonesia (by Tom Fisk)

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The following text is the unedited proceedings of the November 2019 Indonesia learning event, Sustainable cost recovery and equity in urban sanitation. It has been published to contribute to sector learning in urban sanitation.

Contents

Abbreviations and glossary

4Ts	Taxes, Tariffs, Transfers and Trade
ADB	Asian Development Bank
Bappenas	Ministry of National Development Planning
BAZNAS	The National Board of Zakat, Republic of Indonesia
BCC	Behaviour Change Communications
CAPEX	Capital Expenditure
CAPMANEX	Capital Maintenance Expenditure
CBO	Community-Based Organization
DAK	Special Allocations Funds (Indonesia Government)
DEWATS	Decentralized Wastewater Treatment System
D-group	Online discussion group
FS	Faecal Sludge
FSM	Faecal Sludge Management
FSTP	Faecal Sludge Management Plant
HH	Household
ID Poor	Government-Identified Poor Households
IEC	Information, Education and Communication
IPLT	Instalasi Pengolahan Lumpur Tinja, or Septage Treatment Plant
ISF-UTS	Institute for Sustainable Futures - University of Technology, Sydney
IUWASH PLUS	USAID Indonesia Urban WASH Penyehatan Lingkungan untuk Semua
LIC	Low-Income Communities
MoPW	Ministry of Public Works
NGO	Non-Government Organization
NL	The Netherlands
NSS	Non-sewered sanitation
NWASCO	National Water and Sanitation Council (Zambia)
OD	Open Defecation
ODF	Open Defecation Free
OHS	Occupational Health Safety
OPEX	Operation Expenditure
O&M	Operation and Maintenance
PPP	Public Private Partnership
RTA	Rapid Technical Assessment
SDGs	Sustainable Development Goals
SOPs	Standard Operations and Procedures
SFD	Shit Flow Diagram
SPM	Minimum Standard of Service (Indonesia Government)
STP	Sewage Treatment Plant
USDP	Urban Sanitation Development Programme
USHHD	Urban Sanitation and Hygiene for Health and Development (SNV)
WB	World Bank
WTP	Willingness to Pay

Introduction

This report provides a summary of the Urban Sanitation Learning Event on the theme **"Sustainable Cost Recovery and Equity in Urban Sanitation"** held in Jakarta, Indonesia from the 25-28 November 2019. The event was organised by SNV Netherlands Development organisation in partnership with the Ministry of National Development Planning/ Bappenas, in collaboration with the Ministry of Public Works, University Technology Sydney Institute for Sustainable Futures, and esteemed government partners from Bandar Lampung, Metro and Tasikmalaya, and with the support of The Netherlands Embassy in Indonesia. Nearly 50 individuals came together, including over 40 SNV staff and their national and local government partners, including representatives from Bandar Lampung, Tasik Malaya and Metro cities, alongside other counterparts from Bangladesh, Nepal, Indonesia, Tanzania and Zambia.

This report provides a reference for participants, and practitioners, managers, local government and other actors involved in SNV's Urban Sanitation and Hygiene for Health and Development (USHHD) programme. Included are summaries of all presentations, highlights of discussions, the challenges and opportunities identified and recommendations by experts. This report is written with contextual details so that it can serve as a resource for the broader WASH sector, i.e. those not in attendance to the learning event itself.

Background to USHHD

The Indonesia learning event was held as part of the USHHD programme, which aims to improve access to safe sanitation and hygiene, and promote a healthy living environment for urban populations in 20 cities Nepal, Bangladesh, Zambia, Tanzania and Indonesia. SNV also supports improved approaches to urban sanitation in Kenya, with a focus on resource recovery and in Ghana, with a focus on financial services. The USHHD is implemented in partnership with the government agencies in each country and includes the following five key components:

1. Sanitation behaviour Change Communication (BCC) and awareness
2. Safe and affordable sanitation services
3. WASH governance, regulation and enforcement
4. Smart finance and investment
5. Treatment, disposal and reuse

In addition to the above, there is also a 6th component for analysis, dissemination, and learning. This learning activity consists of a preparatory online discussion (D-group), the learning event presented in this report and in-country follow up based on the findings of the event. The learning activities are not limited to SNV programmes but intended to promote discussion about best practices in urban sanitation and hygiene globally.

This learning event on "Sustainable Cost Recovery and Equity in Urban Sanitation" and the preceding D-group on the same topic, enable the exchange of ideas and to deepen our understanding of change processes in urban sanitation. The detailed programme of the event is provided in Appendix 1 - Programme. The learning component of the USSHD programme is supported by the Institute for Sustainable Futures at the University of Technology Sydney (ISF-UTS). This event follows from previous urban sanitation learning events in:

- 2013 Lampung, Indonesia: Urban sanitation - Citywide Planning and Financing.
- 2014 Khulna, Bangladesh: Urban Upgrading and Emptying of On-site Facilities.
- 2015 Manila, Philippines: Urban Sanitation – Professionalization of sludge emptying services.
- 2017 Khulna, Bangladesh: Catalysts for change in urban sanitation
- 2018 Lusaka, Zambia: Informed Choice in Urban Sanitation Investments

Introduction to the 2018 learning event

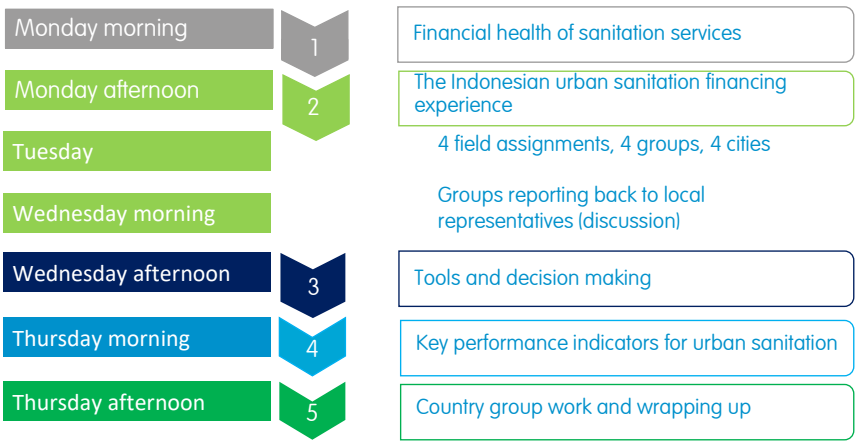
Presentation by Antoinette Kome, Learning Event Facilitator and SNV Global Sector Coordinator for WASH

The focus of this year's learning event was to understand sanitation financing sources and instruments, within the "Smart Finance and Investment" objective of the USHHD. It was important to frame the discussions with, "what is realistic in our context right now?" Participants were encouraged to balance talking about new ideas, while not losing sight of the reality of the context. The key objectives of this event were to:

- Exchange ideas and deepen our understanding of sustainable cost-recovery for city wide sanitation services .
- Reflect upon the effect of financial instruments on the financial sustainability of service and on bridging the equity gap.
- Explore tools for increasing the capacity of local authorities or utilities to promote financially sustainable services in their city.
- Discuss the development of financial key performance indicators (KPIs) for sanitation.

Opening Remarks by the SNV Indonesia Country Director, Ismène Stalpers

- SNV is implementing the Urban Sanitation and Hygiene for Health and Development (USHHD) programme alongside government agencies in each country as well as in coordination with the Dutch government. In Indonesia specifically, USHHD being implemented in 3 cities to achieve sustainable city-wide sanitation
- Described the story of celebrating 100% Open Defecation Free (ODF) in Sumatra recently, which demonstrated the incredible commitment and dedication of local and national government. It is the mayors, the treatment plant operators and many stakeholders including the media that partner together and all help make sure implementation is effective.
- The Government of Indonesia's goal is to achieve 20% safely treated sanitation by 2020. This is no easy task and will require deepening our understanding of investments for city-wide sanitation services. This is fundamental to achieving the SDGs.



Official opening

The learning event was officially opened by the Director of Urban Housing and Settlement, Ministry of National Development Planning/ Bappenas, in addition to the First Secretary and Water Management Expert of the Netherlands Embassy in Jakarta, who provided opening remarks.

Official Opening by the Director of Urban Housing and Settlement, Ministry of National Development Planning/ Bappenas, Tri Dewi Virgiyanti

- While the first time that the Director has been able to join the assembly, her staff have actively participated in the past and their commitment to sanitation development and supporting USHHD remains strong. They have especially appreciated SNV's work at the local level supporting local governments to have strong plans and commitments.
- Hopes that we can learn from each other, e.g., recently there are many lessons learned that can be applied to Indonesia and vice versa. Many regions of Indonesia have their own sanitation movements which make each region excited and committed to the sanitation movement.
- Nationally Indonesia has 9% Open Defecation (OD), with a population of 240 million. It is therefore a large number of people practicing OD. Progress has been made in the last 10 years, but the challenges remain. The need to move from basic sanitation to safely managed is also a big question. There are more than 500 regions that need to be worked with. Meanwhile, a lot has been done to create financing mechanisms, working with standing water resources, increasing advocacy, and improving the monitoring and evaluation systems.

Opening Remarks by the First Secretary and Water Management Expert, Netherlands Embassy in Jakarta, Carel de Groot

- This workshop is discussing a critical topic; "everything hinges on financing." A lot of the financing has historically been at the household level, but now it is time to push financing for safe management and treatment of waste. But this means financing gets more complicated.
- It is not easy for the public sector to generate revenues; it is not the most popular sector to talk about. There are a lot of challenges to find ways to finance sanitation, to get people to pay, to get organisations to finance something that is complicated but very important. Financing is not only very important for the sector, but for the country at large.
- Based on experience working in Bangladesh for 9 years, is looking forward to sharing the experience there. Bangladesh made huge jumps in the sector with a lot of government commitment, but of course there are a lot of challenges with the lowlands, groundwater pollution etc. A lot of lessons to be learned and exchanged.
- This is an opportunity to focus less on the technical challenges and more on the financing challenges.

Opening remarks by Antoinette Kome, Learning Event Facilitator and SNV's Global Sector Coordinator for WASH

- What do we mean by city-wide?
  - The entire sanitation value chain. Not just the toilet but the entire chain from the toilet to treatment, and sometimes, reuse and disposal.
  - There are a variety of cases in how it is delivered, but the essence is the safe management of human waste. We're not saying the process has to be the same or done in a specific way, but the most important part is that it is safe.
  - We need to include all parts of the city, not just the centre. In addition, we have to include all classes of people - rich, poor, ethnic groups etc.
- The USHHD programme is about working with the government, regulations and enforcement. Different users in a city have different needs and behaviours. We need to understand them and make sure the right messages go to everybody. This requires a mix of awareness, behaviour change and enforcement.
- In addition, we must consider informed choice of treatment solutions (treatment = disposal and reuse). What do we mean by informed choice? It means that when you decide on a type of facility and the size of it, you know what it is you're getting into. You know what the O&M costs are, how it will function, who owns the investment.
- The focus of this week's event is to understand sanitation finance and instruments. For example, it could be that some parts of the service chain are not achieving full cost-recovery, and some parts are.
- This event is not limited to the SNV programme but intended to promote discussion about best practices in urban sanitation and hygiene among partners. Ultimately, we hope to exchange ideas and deepen our understanding of financial sustainability.

Expectations of participants by country

Participants from each country were asked to introduce themselves and share their expectations of the learning event, as summarised in table 1, next page.

Table 1: Participant expectations

Country	Learning event expectations
Bangladesh	■ How to develop sanitation alongside local officials ■ How to make sanitation acceptable to all, at a minimum, to achieve the SDGs ■ Best practices from other countries
Indonesia - Metro area	■ Learn from everyone, from other countries in terms of how they finance sanitation development, cost-recovery, how to use and find alternative funding resources; funding resources in Indonesia are very limited ■ Refresh their motivation, effort and spirit to achieve the SDGs. Working in sanitation can be very difficult. "Sometimes you need to wipe your tears and work towards reaching your objective." ■ Whether some countries have specific innovations in financing or infrastructure access that they can learn from
Indonesia - Lampung Region	■ Knowledge of cost-recovery ■ Enhance capacity to manage sanitation financing ■ Gain more insights into financing sanitation to improve their service especially in Lampung Province
Indonesia - SNV Core Team	■ How resources could be more effectively used ■ The business angle, from a financing perspective. e.g. the World Bank recently determined that there is a 1.2 billion USD market size in Indonesia, and the emptying market alone estimated at 100 million USD per year ■ Equity: how to invest resources more effectively to achieve coverage and especially to reach the most vulnerable?
Nepal	■ Best practices of sanitation from around the world ■ How to use funds within the government ■ Cost-recovery in the sanitation sector, given inadequate funds
Tanzania	■ Learn from others, what are their plans, how do they achieve full cost-recovery and provide services for people with different incomes ■ Financing mechanisms along the finance chain, especially at the point of reuse. How can reuse achieve full cost-recovery? ■ Learning the challenges from different countries and the way forward
Zambia	■ Cost recovery and investment models: what are the sources of funding, application of subsidies? ■ How to deal with issues of equity in service provision, the 4Ts, including the trade of sanitation by products and harnessing the proceeds from reuse ■ Learn from each other and to share their experience related to Zambia
International (consultants from NL, Kenya, etc.)	■ Learn more about which types of actors can play what types of roles - who can do what? ■ What is working? Why is it working in that specific place? If someone wanted to borrow that idea, where should they start? ■ When is the right time to invest in infrastructure?

D-group introduction, by Antoinette Kome

The D-group discussion was an online email forum running over the three weeks prior to the learning event, receiving over 30 contributions from 14 countries. It included three topics:

1. What do we see as sustainable cost recovery?
2. Strategies for greater equity in targeting public funding
3. Tools and limitations of tools

An initial summary of the discussions was presented at the outset of the workshop by Antoinette Kome, and then a more detailed summary of each topic was shared at the start of each block of the learning event.

Financial health of sanitation in the city means covering the life-cycle costs.

- Initial investment: community engagement, project prep, design, construction, commissioning etc.
- Regular day-to-day operations: O&M, administration, management, information, education and communications (IEC), etc.
- Intermittent maintenance: minor repairs and replacements (e.g., pumps)
- Major rehabilitation, replacement: asset renewal, replacement of aging infrastructure, new master plans, etc.

Understanding of the financial health of city-wide sanitation services means having an overview of life cycle costs of the entire chain.

- As people commented, that's very difficult!
- There is fragmentation of responsibilities and ownership along the chain
- The revenues are coming into different accounts, and may be intertwined with other services. It is not clear which costs/ revenues are from sanitation
- Key stakeholders, especially informal service providers, are reluctant to share information

Major differences exist between networked and non-networked sanitation services.

- Sewered, Non-Sewered Regular Service and Non-Sewered On-Demand Service
- There is fragmentation of management and unpredictability of demand
- The nature of informal services increases the difficulty; they are difficult to monitor

If this is all so complex, how do we know whether our sanitation services are financially in good shape? A couple options suggested were:

- Focus mainly on the financial health of big infrastructure
- At the very least, make sure that the type of infrastructure to be built considers the financial capacity of users and government i.e., do your homework before construction
- Use proxy indicators - such as sustained quality service - if something is continuing to operate then it must be financially viable. But we can only evaluate this in hindsight
- Focus on the sustainability and affordability of the service as a whole
  - Start first with addressing the institutional framework (roles and responsibilities), WTP and strategies for "polluter pays"

We need to start with the basics. We should avoid undue spending due to:

- Oversizing of infrastructure
- Weak institutional embedding and "software" components for large infrastructure
- Spending pressures e.g., in loans by multilateral bans. Large banks need to spend the money and have things built by certain dates, and it creates pressure, rushes things etc.

Which funding sources are there to cover the life-cycle costs?

- For this workshop, let's say we are talking about taxes, we mean taxes for the entire country. And when we talk about donor funds from governments and charities, these are effectively taxes from another country.

Who pays what to cover the cost of the service so that the service is sustained?

- Full cost recovery means everything is paid for by users
- Sustainable cost recovery means a mix of tariffs, taxes and transfers, and that it is not simply intermittent covering of costs but rather that there are consistent, planned levies (or similar) that allow for planning of costs to be covered. Otherwise it is not sustainable to fund repairs piece-meal.

And... what's fair?

Q&A

What about the money earned from sale of reuse products?
For now, the 4th T "Trade" is very small relative to the cost and so it is difficult to incorporate this into our model

Clarification on the use of the use of the word "tariff"?
It is a distinction between the word that implies a tax on imports and a user payment. For the workshop purposes, tariff refers to a user payment.

Block 1: Financial health of sanitation services

Block 1 focused on the Financial Health of Sanitation Services, and included the following sessions:

- Summary of D-group discussions answering the question, "What do we see as sustainable cost recovery?"
- Country poster activity to share the typical costs associated with the components of the value chain.

Summary of D-group topic 1, by Antoinette Kome

Sustainable cost-recovery is about matching the life cycle cost of the different services, with the revenues that exist. The D-group was asked, which types of costs should be covered, and by what (or whom)?

- It was agreed that user payments will cover the regular day-to-day operations and intermittent costs of the transport, conveyance, emptying etc. whereas the O&M costs for treatment and disposal should come from taxes or transfers.
- Most of the user interface should be covered by the owner. If someone wants a very sophisticated level of treatment, then there may be room for subsidy at the user-interface level.

But, is all this really happening?

- Only 35% of utilities cover O&M with user payments - i.e., 65% of utilities need taxes and transfers to cover their day-to-day O&M [Source: World Bank Doing More with Less, 2019]. 22% of public investment in water supply and sanitation in middle and low-income countries goes to OPEX.
- Governments pay the revenue gap, even for O&M, which is at risk when politics shift.
- Some users are not contributing at all. There is a need for setting cost-reflective tariffs, and to improve the collection of those tariffs.
- A sanitation levy on sewered users could enable a cross-subsidy for low-income users.
- Block tariffs mean that more use results in a higher price per litre, which enables a cross-subsidy to accommodate a lower rate for low-income households.

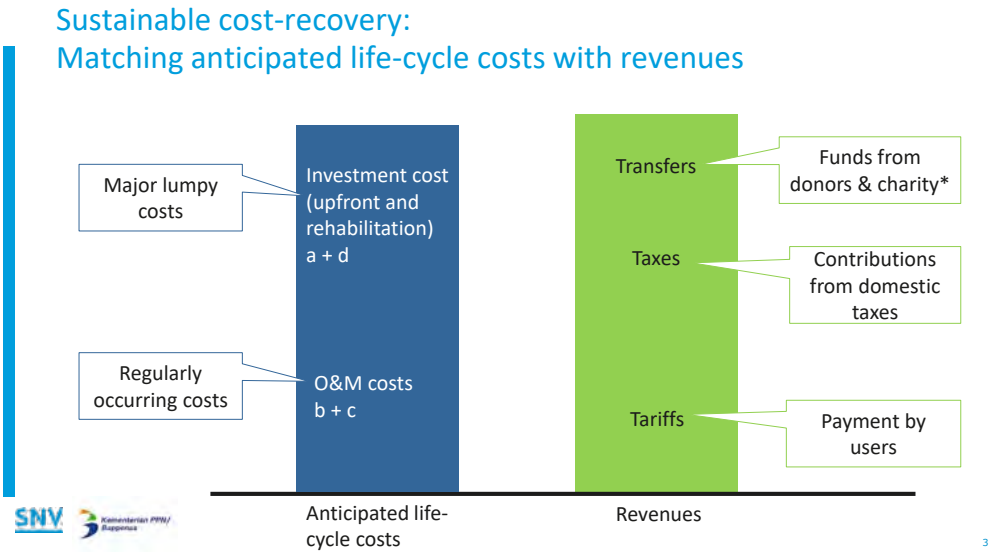


Table 2: Who pays what and do we think that's fair?

<table>
<tr><th></th><th>User interface</th><th>Containment</th><th>Emptying</th><th>Transport</th><th>Treatment</th><th>Reuse/ disposal</th></tr>
<tr><td>Initial investment</td><td colspan="2" rowspan="2">Premises owner or:
Subsidised connection fee
Subsidised toilet from san levy</td><td colspan="4">Networked: transfers and national tax sources
Non-networked: private sector/transfers, levies</td></tr>
<tr><td>Regular day-to-day operations cost</td><td colspan="2" rowspan="2">Users, cross-subsidy, LG regular budget (tax)</td><td></td><td></td></tr>
<tr><td>Intermittent maintenance costs</td><td colspan="2">Premises owner</td><td colspan="2">Sanitation tax
LG regular budget</td></tr>
<tr><td>Major rehabilitation, replacement and asset renewal</td><td colspan="2">Premises owner</td><td colspan="4">Networked/non-networked: our children</td></tr>
</table>

Legend

Directly covered by owner	
Tariffs (from HH)	
Taxes or transfers	

It's fair because:

High cost, no money in tariff
Public benefit
Asset ownership
It's government duty
It will be a destruction of captal if we don't

Who pays the taxes?

- There are different options. For example, with regard to local taxes, it could be a tax based on property that affects all homeowners. Alternatively, there is a water tariff, affecting all connected to a water supply. Or it is a residence tariff, based on all formal residents of an area.
- There are other taxes too. When we are considering the use of taxes, it is important to consider what kind of tax it is, and who is paying it? These can take the form of national taxes, fees and surcharges etc.

Then the question is, who pays what, and what do we think is fair?

- Very few municipalities are saving for future costs for replacement, or major repairs.
- What are we leaving behind for our children?

Participants' responses to the D-Group Discussion that concluded "yes, it is fair" for the government to be incurring the additional costs listed the following reasons

- It is a high cost service and there is not enough money in tariffs
- There's a public benefit
- Asset ownership is public
- It is the government's duty
- It will be a destruction of capital if we don't

Country poster activity

Prior to the event, country teams were asked to prepare posters that explained the costs of sanitation across the value chain for one of their cities. During this activity, participants presented answers to the following three questions:

- Who pays what to cover the cost of the service?
- Is this sustainable cost-recovery of the sanitation services?
- Do you consider that it is fair?

Table 3: Bangladesh poster presentation

Who pays what to cover the costs of the services?	Capital investment is covered by the public sector Most O&M is covered by the service provider The household pays for the user interface and the containment Bangladesh introduced a sanitation tax in 2017, 5% to cover the capex for the treatment plant. The funds will be used for new capacity for treatment
Is this sustainable cost-recovery of the sanitation services?	It is difficult to say, the municipality is currently piloting the programme. There are some gaps that have yet to be covered. User demand remains inadequate.
Do you consider that it is fair?	Yes, it is fair that the household is responsible for the containment, but it is not fair for the low-income households. Their costs should be covered by the municipality or donor funds. It is fair that the municipality is providing a subsidy for some low-income communities for emptying. The sanitation tax is being collected but not yet being applied, so it will remain to be seen whether or not it is fair in terms of the treatment/ disposal (for which the tax is intended). It may take 4 or 5 years before a determination can be made.

Q&A - Bangladesh

Is there something you are doing to increase demand?
The municipality and the service providers are jointly trying to increase demand through awareness campaigns. They are going door-to-door with promotional materials and exploring offering a block discount.

What degree of coverage does this system have?
Currently, the logistics service covers about 20% of the population. Demand is low, and the capacity of the treatment is low, assuming that lower demand.

How is the sanitation tax collected?
It is attached to the property tax.

Is inflation included?
Currently it is at 7% and it is included here.

Table 4: Indonesia poster presentation

Who pays what to cover the costs of the services?	Containment is covered by the owner Emptying is covered by tariffs but gaps for depreciation/ rehabilitation/ asset renewal should be covered by taxes or tariffs Faecal Sludge Management Plant (FSTP)/ Disposal is covered by transfers/ municipal revenue There are currently about 54 communal waste treatment plants, this is insufficient to treat the waste being generated. Assistance has been requested from the central government as well as from NGOs such as SNV
Is this sustainable cost-recovery of the sanitation services?	No, the budget allocation is insufficient, and the amount collected in tariffs is not sufficient. There are institutional issues, regulation issues, tariff issues and inadequate private participation. For containment, it can be sustainable if the owner takes responsibility. For the FSTP, the sanitation tax and transfers seem to be sustainable
Do you consider that it is fair?	No, the government does not cover the entire area of metro city. Poor people cannot build septic tanks. People are paying for services and yet cannot get the service from the government For emptying, it is covered by the tariff, which is fair but different tariffs might be more appropriate for different income levels For the FSTP, the tax and transfer approach is sustainable, which is fair

Table 5: Nepal poster presentation

Who pays what to cover the costs of the services?	Community, households and municipality pay for their respective sanitation facilities and containment infrastructure, including for the initial investment and the asset replacement cost Public toilets are primarily paid for by the city or INGOs, with some revenue generated by the public toilet users Manual emptying and transport capital investment is paid for by the service provider, whereas for mechanical emptying the capital is sometimes provided by the municipal government. Tipping fees are paid by the service provider, but some revenues are generated from the service seeker (e.g., households, institutions) Disposal is paid for by the federal government, there do not seem to be any reuse options

Table 5: Nepal poster presentation (continued)

Is this sustainable cost-recovery of the sanitation services?	No, at the community level it is not sustainable Public toilets are on track to achieve sustainability
Do you consider that it is fair?	No, should enforce a model where the polluter pays

Table 6: Tanzania poster presentation

Who pays what to cover the costs of the services?	Households pay for the user interface, containment, emptying fee, O&M, sewerage tariff Government pays for public toilets, emptying trucks, sewer and treatment plants (often paid for with loans) Donors pay for public toilets, some subsidies for emptying trucks and household toilets, awareness building, treatment plants Private sector pays for emptying and transportation, dumping fees, registration fees and construction of public toilets
Is this sustainable cost-recovery of the sanitation services?	Yes, in terms of O&M for the private trucks and partly on the user interface and containment No, because public emptying services are not fully paid for by the tariff. And not clear whether treatment plants will be able to repay the loan received from the AfDB.
Do you consider that it is fair?	No, because the tariffs are not sustainable Yes, the private sector could contribute more and then get profit

Q&A - Tanzania

Who covers the maintenance costs of the treatment plant?
It is covered by the water utility. Although the tariffs do not fully cover the O&M costs, which is why the water tariff subsidizes it somewhat.

How much of the different investments are being covered by the tariffs?
How will the investments be recovered? Some funding is going towards maintenance and expansion of the sewers, but some went towards new trucks, as well as construction of public toilets. Most emptying is done by the private sector in Arusha. Also hoping to reduce costs for water treatment through better containment.

Table 7: Zambia poster presentation

Who pays what to cover the costs of the services?	User Interface is paid for by the household via a sanitation levy Containment is paid for by the household via a sanitation levy Emptying & Conveyance: Mechanical is paid for by donors, the government or private users. Manual is paid for by private users. Treatment: The capital investment is by the government or donors. O&M is paid for by users/ tariff/ tipping fee If you are a septic tank emptier, your service is subsidized, through the sewerage customers that pay for treatment
Is this sustainable cost-recovery of the sanitation services?	No, we need to make the price cost-reflective and address equity. Need to avoid over-dependence on debt. Donor funding is often a "debt trap" in the long run If we can introduce more sustainable measures at "the source" or early on in the chain, we can reduce the long-term costs. For example, preventing the tossing of garbage into pits, which reduces the lifetime of the pit
Do you consider that it is fair?	No, for onsite sanitation users, they are expected to pay for almost everything in the service chain. Non-sewered sanitation (NSS) accounts for approximately 90% of low-income communities (LICs)

Session recap by Juliet Willets, ISF-UTS

Who pays?

Households are paying the most. They're paying for containment, and also emptying services. For private provider emptiers, they're typically buying their own trucks, although we also heard examples of the government or donors providing that initial asset cost. We heard that public toilets are being provided by the municipality and that the government and donors are covering treatment. There was one mention that the Indonesian government is providing some costs of containment.

Is it sustainable?

"A lot of yes's and nos." People are not thinking ahead to asset renewal and therefore not budgeting for it. For treatment, there was a mixture of responses. A lot of these are donor funded but it is not very clear how everyone has the costs (a, b, c, d)[1] covered. There were some good innovations with ideas of how to make things more sustainable, such as in Zambia the cost-reflective approach. As well as in Bangladesh the sanitation tax that is looking ahead to future costs for treatment. In Tanzania there are new innovations to support sustainable cost recovery, such as a surcharge for when the quality of the sludge is poor.

Is it fair?

Again, a mix of yes and no, but the majority found that no, it is not fair. This is due to the high burden being paid by onsite sanitation users, as well as the many instances of individuals paying for the service but not receiving it, e.g., via a tariff on their water bill used for sewerage, to which they're not connected.

[1] Refer to figure titled, 'The the question is who pays what and do we think that's fair?' on p 13.

Block 2: The Indonesian urban sanitation financing experience

Block 2 focuses on the Indonesian Urban Sanitation Financing Experience, and includes the following sessions:

- Introductory presentation by the Ministry of Urban Planning (Bappenas)
- Presentation by the Head of the Sub-Directorate of Technical Planning, of Ministry of Public Works
- Presentation by the Urban Sanitation Development Programme (USDP)

Introductory presentation by the Ministry of Urban Planning (Bappenas)

Indonesia has made a lot of progress in sanitation in recent years, however, there remains a large gap between what's needed and what is currently available. Growth rate of access to improved sanitation was about 2,5% per year between 2015 and 2018. The rate of increase for safely managed sanitation, however, was less at about 1.4% per year.

Considering the Wastewater National Mid-Term Development Plan (2015-2019), the national budget required was approximately IDR 106,5 trillion (US$ 7,6 billion), and yet only IDR 16,2 trillion (US$ 1,1 billion), or 15%, has been spent through the national budget. There is an issue of inadequate funding, but also a lack of quality spending.

Despite efforts to improve access, there are still high rates of open defecation, and a high number of facilities with direct discharge into the environment. Indonesia has been formally working towards ODF since 2014 but they are still struggling to achieve this status.

There are a variety of grants and subsidies available, including output-based grants. Provincial governments apply to the national government for transfers. Another example is the collaboration with the National Islamic Scholars, the Zakat National Agency, to establish instruction (faqua) that it is possible to consider the 2.5% contribution as eligible for water and sanitation development. They are also in discussion with partners, such as the with the Toilet Board Coalition, which is interested in bringing private sector investment to Indonesia.

They are working to optimize transfer funds to local governments, such as The Special Allocation Funds (DAK). Within WASH there is a "menu" of investments that can be made, such as septic tanks in post-ODF villages, etc.

With regard to municipalities meeting the Readiness Criteria to access funds from the central government, land availability is a major challenge. There is budget allocated, but only 20% is fully spent. This is an important note, because it is often said that it is always lack of budget, but in this case it is also the implementation of that budget. Based on the law of local governance, however, the national government cannot fund the O&M of assets of local governments.

Recently as of 2018, they have government regulations on minimum standard of service, and one of the six standards is the treatment of wastewater. Now, they're trying to get all of the standards aligned through the SPM (Minimum Standard of Service). The current data in the monitoring and governance system is not representative for cities and districts -- the national government only monitors to the provincial level. The government has the Environmental Health and Risk Assessment set of survey tools, which they share with local governments.

Presentation by the Head of the Sub-Directorate of Technical Planning, of Ministry of Public Works

Indonesia currently has approximately 75% of its population having improved access to sanitation, with 70% using onsite systems. There are 25 million people relying on open defecation, and another 19 million with facilities that directly discharge into the environment. In order to achieve the SDGs, to reach 0% OD, Indonesia will have to decrease the rate of OD by 4,2 million people per year.

The challenge now is to see how can the government accelerate coverage for the remaining 25% of the population. There is low commitment from local governments, and sanitation is still not a "sexy" challenge. Local government budgets represent less than 2% for sanitation. Almost 90% of local governments don't have any particular regulations for sanitation.

The challenges are not limited to infrastructure, but they affect other ministries as well. But the purpose of the Ministry of Public Works is to consider the challenge from the perspective of infrastructure. Indonesia hopes to achieve 100% coverage by 2030 in line with the SDGs and this is supported by the President. It is not only the national government's role, but the local government's as well. They see weak regulations at local level. To encourage the local government, the national government has introduced the minimum service standards.

There are a variety of incentives being provided to compel local government to act, but this is not sufficient at this stage given the lack of progress. Through their field work, they have found that the reason this sanitation sector is not interesting is because local government actors are not able to implement any sanitation programmes. They are confused by the complexity of the issue, so how can they apply for funding? Therefore, the Ministry came up with the initiative to help local governments to develop their sanitation plans. They also provide assistance to help local actors to develop an agenda for regular desludging without having to wait for the household to make the request.

They will need an investment of IDR 155,4 trillion to achieve the 90% target of 2024 of the government for domestic wastewater treatment. IDR 70,4 trillion for on-site system/ septage treatment, IDR 49 trillion for medium centralized WWTP and IDR 36 trillion for centralized WWTP. For the on-site example (IDR 79.4 trillion), worth noting that only 10% will be funded by the national budget.

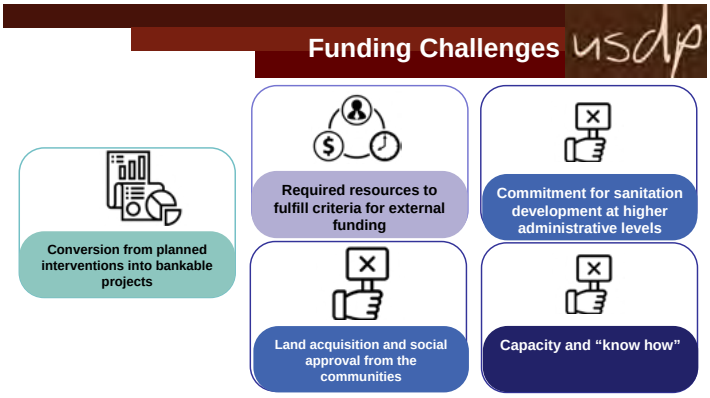
LOAN ON SANITATION SECTOR

No	Project	Location	Lender	Allocation
1	Metropolitan Sanitation Management and Health Project (MSMHP)	Medan & Yogyakarta	ADB	USD 35.000.000
2	Metropolitan Sanitation Management Investment Program (MSMIP)	Pekanbaru, Jambi & Makassar	ADB	USD 120.000.000
3	Engineering Services for Sewerage System Development in DKI Jakarta	DKI Jakarta	JICA	¥EN 1.968.000.000
4	Jakarta Sewerage Development Project ((JSDP) zone 1 & zone 6	DKI Jakarta	JICA	USD 1.950.000.000
5	Engineering Services Project (ESP)	Bekasi, Semarang, Pontianak, Mataram	ADB	USD 5.054.890
6	Community Based Sanitation Program	National	IDB	USD 250.000.000

Presentation by the Urban Sanitation Development programme (USDP), Mees van Krimpen

A lot of planning occurs in Indonesia, at all levels, but the issue is to convert all of these plans into action. There is a strong focus on process, guidelines, etc. but not as much on results.

Sometimes statistics can be very misleading, and are used by local governments and administrators. 31% say they have no access, and 18% of that is using public facilities. But the vast majority of waste is not safely managed. About 1% of the waste is in sewerage, 6% septic tanks with fecal sludge management (FSM) and about 55% are septic tanks without FSM.



The use of shit flow diagrams is an effective approach to get local officials motivated.

Based on the 2020-2024 projected investment, the government has demonstrated that on-site sanitation represents the majority of sanitation, hence it receives the largest portion of the budget (IDR 5.3 billion of 13.1 billion).

FSM only came onto the agenda in 2015, at which point 40 Indonesian delegates went to the FSM conference in Vietnam. There was an "aha moment" at which point it really took off. It was not considered at all before that point, but now it is very much mainstreamed. The importance of international conferences and seminars should not be underestimated and governments should make funds available for government staff to attend these conferences.

Panel discussion Q&A with the Ministry of Urban Planning (Bappenas), Ministry of Public Works, USDP

We are at around 7% safely managed waste and we want to achieve 20% within 5 years. Of the 3 cities, two are at 0% or 3% - so it is important to acknowledge that the rate of increased coverage is much more challenging than the national figure suggests.

The Ministry of Public Works is working with local governments to help them think through their needs to meet their goals. The national government then collects data to understand the situation on the ground. With regard to the 20% target nationally - they consider several targets, including fiscal capacity, the percentage of people living in urban areas, etc. There are more than 50 cities starting or establishing FSM systems, so they are aware of this issue.

There is a lot emphasis on OD and then there is emphasis on the treatment, but then there is a large group of people that do have septic tanks (they're not the poorest), but for most of those, their sludge does not reach the treatment plant. What is the government doing to reach that big group of people?

It is true that there's "something missing in the middle" which is why Indonesia is working to develop guidance on FSM, emptying, how to set up a database, how to improve the service itself, tariff setting, promotions, technicalities (e.g., number of desludging trucks needed, how to fix septic tanks), and so they are supporting these cities to do whatever they need to do. They will support the cities if they need desludging trucks, septage treatment plants, or through development partners, they're also guiding them to have partnerships with major stakeholders e.g., private sector actors providing services.

What happens to those who don't meet the readiness criteria? Is there capacity building for the next time?

Answer A: If they do not meet these requirements, then they will not receive assistance. But does that mean we will not be involved at all? No. We will evaluate which requirements are not met, and will provide assistance to help them meet the remaining requirements. The goal is to meet all of the required criteria.

Answer B: "Bad luck." Maybe the government should consider relaxing the criteria, or partially finance the provision of the detailed designs that are required. Land availability is a stumbling block all over the country. It is not only insufficient resources to buy land, but sometimes people need to be resettled, compensated etc. This may help to explain the low utilization rate of the funds. It isn't so much a challenge of money but a challenge of local governments accessing the funds.

Explanation of the field assignments

On the second day of the learning event, participants conducted full-day field assignments in various locations of Indonesia. The objectives of the field assignment were to:

- See and learn from the experience in Indonesia
- Reflect on whether the finances are resulting sustainable services and greater equity
- Provide feedback and recommendations

Participants were divided into four mixed country groups, visiting the following sites:

- Jakarta
- Karanganyar (Central Java)
- Surakarta (Central Java)
- Tangerang (next to Jakarta)

Participants conducted the field visits in groups and worked together to report back on their field visits by preparing: a PowerPoint presentation, a photo diary, a testimony from someone they interviewed during the field visit and a summary 2-page case study. A summary of the case study and presentation is provided below. Groups were given time to prepare their approach to the assignment and how they would go about interviewing stakeholders to then make recommendations. Several suggested questions were provided for groups to consider:

- What type of finance instruments have you seen and how do they work?
- What type of behaviour and systems' change is expected from this finance instrument?
- To what extent does it contribute to sustainable cost recovery?
- To what extent does it contribute to greater equity?

Field visit report: Jakarta

Background and sanitation context

Jakarta is a densely populated city with 10 million population. Sewerage covers about 12% of the population.

There are two types of onsite sanitation; individual treatment plants for businesses, and septic tanks. 48% of containment is safely managed, OD is 4% and 48% of containment is unsafely managed.

There are a mix of funding sources to cover on-site costs. For the user interface, almost everything is covered by the household. In total there are 300 trucks, 31 paid by the government and 270 paid for by private desludgers. The tariff is insufficient to cover the replacement cost. The on-site treatment costs are generating losses; e.g., cost of treatment is IDR 42.000 per meter cubed but they are only making IDR 25.000 in fees per meter cubed. On-site reuse is only in a pilot scale. Customers pay IDR 5 million for a connection fee.

Sites visited

The participants visited Jakarta Wastewater Company – PD PAL Jaya where they were given a presentation by the Director. PD PAL Jaya is a Regional Company owned by DKI Jakarta Local Government that provides services for wastewater management in Jakarta City, established in 1991. It is the only regional company in Jakarta with the purpose of providing sewerage and sludge services at community and household level. It manages the sewerage treatment plant, sludge treatment plant, provides regular and on call desludging for on-site systems, and also other services such as reuse the treated sludge, laboratory testing, and maintenance of the pipes and the treatment plant. Approximately 11,81% or 1,225 million people use the off-site system services and 9,4% or 975.000 people use the on-site system services, for a total of 21,21% coverage by PD PAL Jaya as a proportion of Jakarta's population.

Participants then visited the Duri Kosambi FSTP with a presentation by the Manager. This FSTP produces sludge briquettes and has a bio septic tank. Both conventional and mechanical processes are being used at this facility, and participants were given a tour by the Assistant Manager.

Lastly, the group conducted visits and interviews with households in the PD PAL Jaya coverage area.

Key findings/ observations

Onsite containment costs

- Install septic tank – national budget for 1 million septic tanks. Covers IDR 3 million (of a total 10million IDR cost to install a septic tank). Remaining 7 million IDR paid by household. Subsidy from DKI Jakarta, starting from 2020, to upgrade to modified (sealed) septic tank with effluent that complies with regulations.

Onsite emptying/ transport costs

- 31 trucks (10% of all trucks) paid by PD-PAL
- 270 trucks (90% of all trucks) paid by private desludgers/ emptiers
- Replacement of truck/ vacuum by PD-PAL
- Private trucks - not clear whether tariffs cover replacement cost for truck/ vacuum

Table 8: Financial sources to cover on-site costs, Jakarta

Cost category		User interface	Containment	Emptying and transport		Treatment		Reuse/ disposal
CAPEX	Initial investment	HH	HH	private emptier trucks	PD-PAL trucks			Bricket?
OPEX	Regular day-to-day operations cost	HH	HH				From offsite	Payment for sludge disposal
	Intermittent maintenance costs	HH	HH				From offsite	
CAPMAN-EX	Major rehabilitation, replacement and asset renewal	HH		private emptier trucks (depending on tariff)	PD-PAL trucks		From offsite	

Legend

Directly covered by owner (HH)	Directly covered by owner (private)	Tariffs (from HH)	Tariffs (DKI Jakarta) then invested as equity in PD-PAL	Transfers (national government-PU)

Table 9: Financial sources to cover off-site costs, Jakarta

Cost category		User interface	Containment	Emptying	Transport/ conveyance		Treatment		Reuse/ disposal
CAPEX	Initial investment	HH							? Income/ recycled water?
OPEX	Regular day-to-day operations cost	HH			HH	Commercial	HH	Commercial	
	Intermittent maintenance costs	HH			HH	Commerical	HH	Commerical	
CAPMAN-EX	Major rehabilitation, replacement and asset renewal	HH			HH	Commerical	HH	Commerical	

Legend

Directly covered by owner (HH/ private)	Tariffs	Tariffs (DKI Jakarta) then invested as equity in PD-PAL	Transfers (national government-PU)

Onsite treatment costs

- Treatment capacity is 1,800m3/ d, but only 300-400m3/ d is being used. Reason is lack of demand due to seepage/ improper containment
- Capital for treatment plant is almost all from DKI Jakarta
- Some costs are covered from offsite tariffs
- Tariff for dumping/ tipping is 25.000 IDR/ m3
- Cost of treatment is 42.000 IDR/ m3
- New treatment process will have lower cost
- The replacement costs are covered through the offsite business

Onsite reuse costs

- Currently paying for disposal, likely subsidised by offsite business. Future plan to sell briquettes

Off-site conveyance costs

- Commercial Customers pay IDR 5 million for connection fee, covering tertiary pipes to the property
- PD-PAL pays for pipes for conveyance, minimal connection fee for households
- All OPEX and capital maintenance covered by tariffs-mostly commercial tariffs.
- Tariff is structured based on floor area (m2)
- Tariff is 800 IDR/ m2 for commercial, and 300 IDR/ m2 area for households (approximately USD 2/ month)

Off-site treatment costs

- PD-PAL/ DKI Jakarta paid almost 100% of the capital costs
- All OPEX and capital maintenance covered by tariffs-mostly commercial tariffs

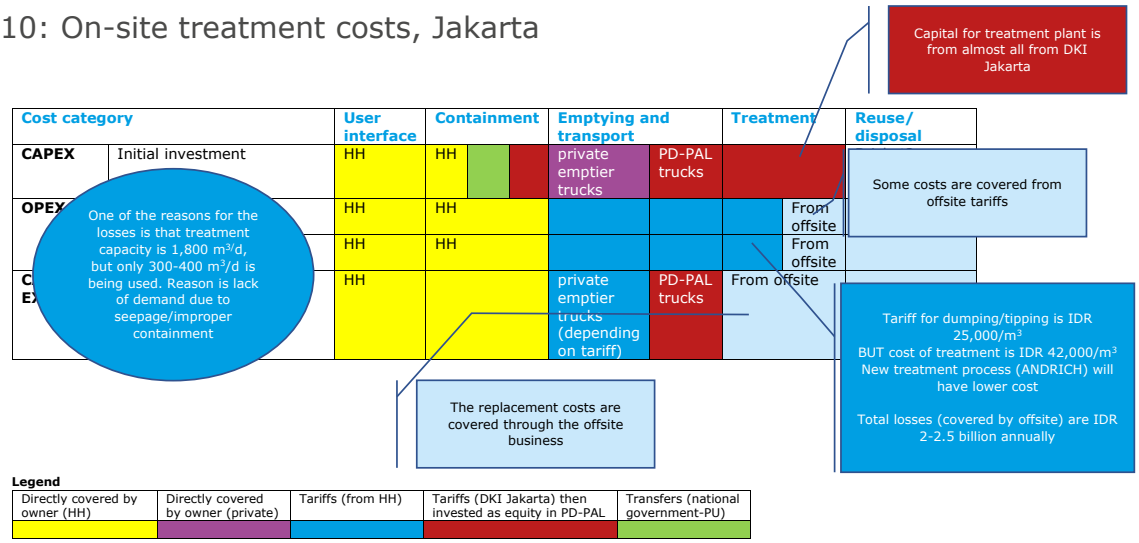
Off-site disposal/ reuse costs

- In future may be able to sell recycled water (at Setiabudi WWTP)

Is it sustainable?

- Currently viable business by cross-

Table 10: On-site treatment costs, Jakarta



subsidising parts of the business
- Offsite business subsidises the onsite
- Commercial offsite (600 customers, but each could be many large high-rise) subsidises the residential offsite (2.000 customers)
- Future plans to start asset management to better understand future costs

Is it fair?
- Subsidies for containment for LIC (individual septic tank, communal tank and interceptor for where there isn't space)
- Segmented tariff (commercial/ household) makes household tariff low
- No subsidy/ reduced tariff for LIC for emptying

Recommendations
- Ensure onsite services (and their financial requirements to function well through sufficient maintenance/asset renewal activities) are not marginalised because revenue is more difficult for onsite than offsite. Current cross-subsidy arrangements support this and must continue.
- As a wastewater utility, continue to shift thinking from linear to circular thinking – for water, for nutrients, etc. (e.g. focusing on recycling, building on opportunities such as potential to provide water of different qualities for different uses, opportunities for co-composting to recover nutrient value in sludge).
- Strengthened focus on raising demand to increase sludge input and therefore revenue –further additional partnerships, strategies to increase the sludge input to the plant, any possibility of scheduled desludging for any (e.g. larger, apartment buildings) customers.
- Consider if/how PD-PAL (or DKI Jakarta) could licence existing private emptiers and bring them in to being part of a wider managed system. In other parts of the world (eg Zambia) the utilities are responsible for the onsite 'system' in full, and outsource emptying to private providers.
- Potentially capitalise on the idle mechanised treatment components. For instance to rent (or even sell!) them to places with high demand and need for such equipment (eg Bandar Lampung and Surakarta).
- Ensure coliform, oil and grease are being measured as part of effluent testing.

Q & A
What is the rate of tariff collection?
The operator said that it is 100%. They have 600 customers, and one customer is 14 high-rise buildings. So, in fact they only have to reach one person to collect for multiple buildings.

Field visit report: Karanganyar

Background and sanitation context
Karanganyar District is located in Central Java Province with an area of 77.379 acres. There are 17 districts in Karanganyar Regency. Total population in Karanganyar District is 871.596 persons. The population density is 11,17 persons/ km2.

Most citizens' occupation is in the manufacturing sector followed by the agriculture sector. Karanganyar District is well-known for its tourism potential, mainly nature tourism, highlands and mountains, and historical sites.

Regular desludging is initiated at household (HH) and institutional levels
- Supported by Local Govt -Dept of Environmental Health and the BAZNAS (Zakat National Agency Muslim pay levy to support low income HHs)
- Support to 2,000 households and mosques to desludge free of charge
- Subsequent desludging to be paid for by households
- Introduction of payment by instalments

Households place a sticker after their scheduled desludging
- Rich and civil servants get discount voucher to encourage desludging
- Subsidy for construction of septic tank, IDR

2 million/ HH for sub structure
- Desludging fee for households: IDR 250,000 - subsidized as should be at least IDR 350,000
- Scheduled desludging being initiated as after first desludge next expected in 3 years' time
- Desludging social institutions (mosques, schools) based on volume i.e., 60,000/ m3 and also on distance, increases after 10 km

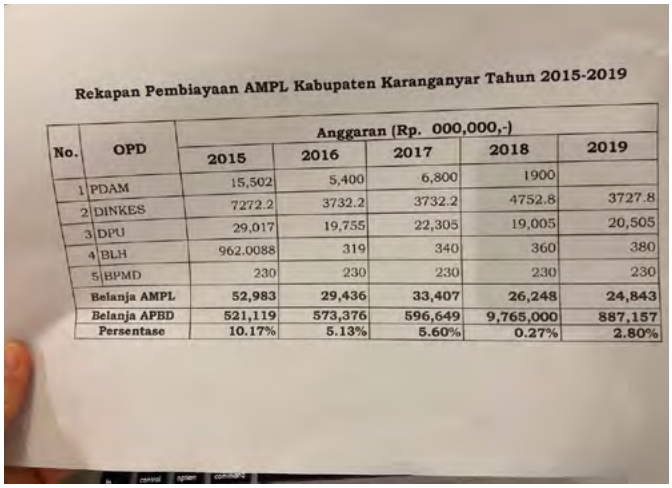
Private sector is charged voluntarily (most IDR 25,000) to dispose at the FSTP
- Common practice is for Local Govt to provide desludging services as private sector is expensive
- Limited reuse options: so far only limited to manure for the city park and not yet sold as not yet tested
- Plan to collaborate with agriculture to assess and test for crops

Budget support for WASH comes from the national and local government level
- District budget shows inconsistencies in allocations over the years ranging from 0.27% of total District budget in 2018 to 10.7% in 2015
- It is a composite WASH budget i.e., for both water and sanitation
- Budget support also received through non govt actors such as BAZNAS

Sites visited

Participants travelled to the Karanganyar Local Government Office, where the Karanganyar Sanitation Working Group met with the participants, to include a panel presentation from the District Head. Karanganyar District has attained the status of Open Defecation Free district in 2017. In 2018, 95% had access to improved access and 5% had basic access and it was largely due to the push by this District Head. In addition, participants visited a household that receives aid from the Zakat National Agency, in addition to a local mosque and well plus the accompanying water tower.

Stakeholders interviewed:
- Head of the District or "BUPATI"
- Head of Development Planning or Bappenas
- Head of City Health Agency or Dinas Kesehatan
- Head of Public Works Agency or PU



Rekapan Pembiayaan AMPL Kabupaten Karanganyar Tahun 2015-2019

No.	OPD	Anggaran (Rp. 000,000,-)				
		2015	2016	2017	2018	2019
1	PDAM	15,502	5,400	6,800	1900	
2	DINKES	7272.2	3732.2	3732.2	4752.8	3727.8
3	DPU	29,017	19,755	22,305	19,005	20,505
4	BLH	962.0088	319	340	360	380
5	BPMD	230	230	230	230	230
Belanja AMPL		**52,983**	**29,436**	**33,407**	**26,248**	**24,843**
Belanja APBD		**521,119**	**573,376**	**596,649**	**9,765,000**	**887,157**
Persentase		**10.17%**	**5.13%**	**5.60%**	**0.27%**	**2.80%**

- Head of Environmental Office or DLH
- Head of District Zakat Management or BAZNAS
- Local Government Officials
- Household recipient of a latrine in 2019
- Community organisation managing the water supply

Key findings/ observations

Complicated processes, delays due to paperwork
- In 2017, Karanganyar District built 3,000 septic tanks, worth IDR 9 billion (US$ 641,000)
- But, after the verification process, only IDR 4 billion was reimbursed by the national government (US$ 285,000)
- The national government required all contracts to be completed October, but the District had work through December
- They were delayed in completing the paperwork for the verification process

Households interviewed are satisfied with the District Government Sanitation programme
- There seems to be acceptance that poor households are deserving of support, there is trust in the verification process
- The household we met said they would be happy to contribute their own money towards the maintenance of their facility, they consider it their contribution

The district is very committed to sanitation
- Direct support and enforcement not only to government and community.
- Decree from Government to accelerate for ODF

Tourism is a strong motivator
- Keeping bodies of water clean was a driver for the government to end ODF
- Karanganyar has a lot of potential for increased eco-tourism, e.g., hiking in the mountains and highlands, visits to historical sites

Cost-recovery is unlikely currently; information was not readily shared
- District officials avoid admitting directly that they are not achieving cost-recovery
- The district wishes to focus on the success of its programme
- The complicated finances make it difficult for the officials to comment on the issue

Finances are mixed, complicated
- There are many different sources of funding towards sanitation, including the role of the Zakat National Agency and CSR
- The reimbursement process is complicated
- It was difficult to get clarity on the overall budget
- Cost-recovery cannot be determined without having a clear understanding of the amounts

Inadequate regulation of treatment, private sector
- The treatment plant is managed and regulated by the department Environmental Health
- There is a conflict of interest with regard to ensuring treatment standards
- Private sector desludging is not yet regulated, fees for non-compliance with dumping are low

Scheduled desludging has many benefits
- Creates a database and enabled HHs and local government to enter into an agreement for future desludging
- Set up instalment plan to help HH pay for future service, help government budget
- Create demand and awareness of service
- Gives insights into latrine use, amount of waste being generated

Recommendations

Develop a holistic view of the district finances
- Bring in a trusted expert to evaluate the finances, understand where money is coming from, and where it is going
- Disaggregation of the budget
- Determine what exactly is the gap between the cost of the programme and the funding available

Develop standard processes for successful reimbursement
- Create a schedule to ensure timely submission of paperwork, start early
- Conduct training to make sure everyone understands the timeline, processes
- Document best practices, create tools and templates for submission

Support private sector and strengthen regulation and enforcement
- Create a good environment for private sector to participate fully in the desludging scheme through PPP agreement by support of SNV through engaging a consultant
- Create bylaws and regulations which shows what the private sector emptiers should adhere to or how much should they pay at the treatment plants

Q&A

How does the government conduct this BAZNAS scheme, and what is the sustainability if it? The nature of relying on the Zakat National Agency creates sustainability, given the large Muslim population and efforts to have the 2,5% contribution used towards sanitation.

How long exactly did they need to achieve their ODF? The program began in 2015 and achieved ODF in 2019.

The WASH budget went up and down, but it depends on the top leaders, right? This is a group that is using national level funding to support household-level toilets, and after building the toilets the local government is receiving the funding. They are entitled for national level funding, they do the investment first, and then they get it reimbursed.

Does Karanganyar have a treatment plant? Is the desludging process going well? What about the end process? The sewage treatment plant (STP) was built in 1999, renovated in 2018, and at the moment capacity is about 20m

per day, it is currently at about 80% capacity. There is funding for a new one to be built.

Field visit report: Surakarta

Background and sanitation context

Surakarta City is located in Central Java Province with area of 44.04 km2 and is divided into 5 districts and 51 sub-districts. The total population is 562.801 persons and the population density is 11.718 persons/ km2. The people of Surakarta City work mostly as entrepreneurs, or in the commercial sector followed by the service and industrial sectors.

Surakarta City is one of the preferred tourism destinations in Central Java given its historic sites, food heritage and Javanese culture events. Surakarta City was declared as Open Defecation Free in 2018.

Initiatives in Solo

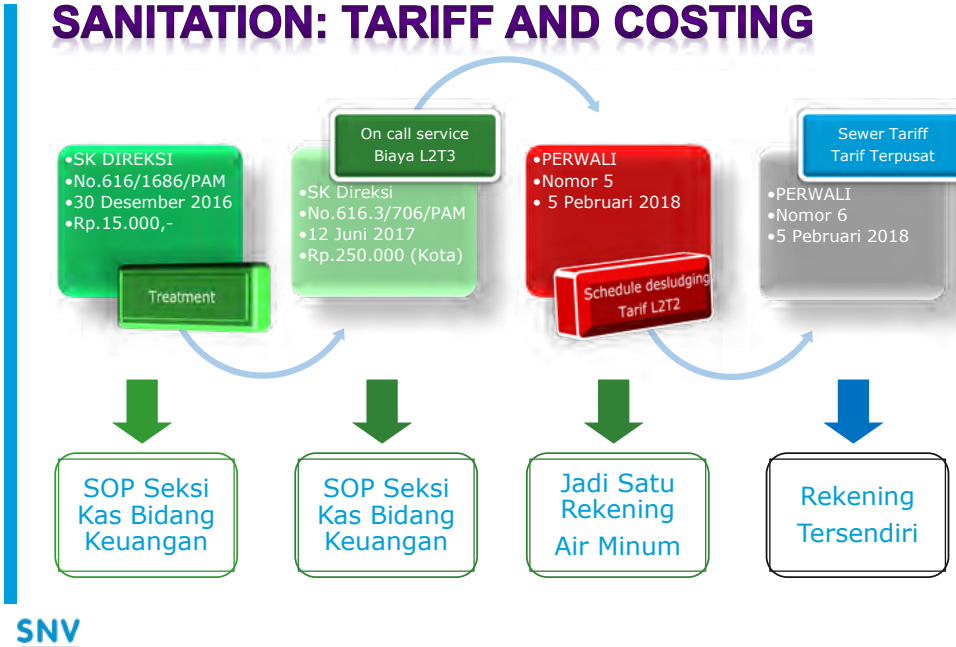
- Discovered that the company initiated a
- mapping of all sanitation facilities, onsite and offsite
- Before, the water and sanitation bills were separate, and people did not wish to pay for sanitation as they perceived this as a government responsibility
- From 2012 to 2018 there were losses in the sanitation programme, until this year they achieved profitability due to changing the structure of the sanitation tariff

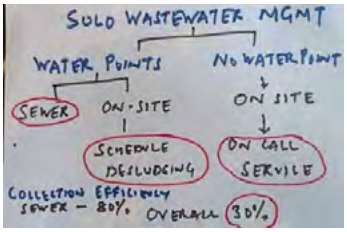
Sites visited

Participants met with the Water Authority in Surakarta, the Surakarta Water Company Office and a presentation was given by the Company's Director. They then visited the Putri Cempo FSTP (40 m3 capacity) and met with private sector partners to see a desludging service.

Key findings/ observations

- The wastewater utility wishes to improve water and sanitation to make people healthy, smart, and improve their welfare. They also wish to support the National 100-0-100 target.
- They have improved the FSTP through addition of segregation of sludge at time of input. The treatment plant is not working; the waste entering is still dark as it leaves.
- There is a separate accord between the drinking water and desludging tariff. In 2018, there is a new regulation to increase the revenue from the sanitation tariff
- Regular census to identify the type of containment which helps utility to project revenues. There is a regulation to merge wastewater bill with drinking water, and they have initiated block tariff for scheduled






WALIKOTA SURAKARTA
PROVINSI JAWA TENGAH
PERATURAN WALIKOTA SURAKARTA
NOMOR 5 TAHUN 2018
TENTANG
PENETAPAN TARIF LAYANAN LUMPUR TINJA TERJADWAL DAN GOLONGAN PELANGGAN PERUSAHAAN UMUM DAERAH AIR MINUM KOTA SURAKARTA

WALIKOTA SURAKARTA
PROVINSI JAWA TENGAH
PERATURAN WALIKOTA SURAKARTA
NOMOR 6 TAHUN 2018
TENTANG
PENETAPAN TARIF SISTEM PENGELOLAAN AIR LIMBAH DOMESTIK TERPUSAT DAN GOLONGAN PELANGGAN PERUSAHAAN UMUM DAERAH AIR MINUM KOTA SURAKARTA

desludging. It will include a provision of cross subsidy to LIC.

Recommendations

- Need to enforce and implement new Mayor Decrees on wastewater management
- Collection efficiency needs to be increased to have full cost recovery
- Establish proper monitoring mechanism to track services
- Increase awareness on safe sanitation products and services and also on willingness to pay
- Upgrade/ revive/ construct FSTP (capacity) and also ensure regular O&M

Q&A

You mentioned that the land is not owned by the utility, but the government. Why is that a problem? They cannot invest in the plant, if they want to do anything they have to ask the government for permission.

Related to the planning of the FSTP, what is their future development plan? Is there any data related to public and private financing, what kind of format will they use? The manager said that a technology from Bali will be brought in, but it is not clear what exactly is the plan. They are planning to allocate some budget for 2020 to operate the plant. The private sector operators are saying that whether they bring it to the treatment plant or dump in the environment, the result is the same (in terms of contamination). They could not get an exact figure on when and how they will make the repairs, but there is hope for some advanced technology that is compact given the land availability issue.

The Karanganyar team when to the same region but did not see much private sector involvement. Could you share how they got the private sector involved, were there any subsidies? There are 40,000 households i.e., customers for desludging. 80% have individual septic tanks. Through the new regulation, they merged the sanitation and scheduled desludging fee. The water utility gets more money from the sanitation fee. The desludging fee is delivered to the private sector, and the private sector actors don't have to do any marketing but receive the demand from the government, equivalent to 500 households per month.

Did you get an understanding of how the tariffs were decided/ calculated? It was not clear. There is a cross-subsidy from wealthier households to low-income households to make it lower for low-income households. They set it at a rate to keep it low for the community and also raised it for the commercial users. They also have a system of who is served by what -- those connected to water and sewer, those connected to water using on-site sanitation, and those with no water connection. From that they separated by category, e.g., commercial, residential etc.

(Comment) In Zambia, they have the same problem of the water companies not owning the land. They are trying to get a loan from a bank, but the bank wanted physical collateral and land is the ideal collateral. The aspect of land ownership is an important one.

Field visit report: Tangerang

Background and sanitation context

Tangerang District is located in the east part of Banten Province with area of 959,61 km2. Tangerang District has 29 districts and 28 sub-districts. Total population in Tangerang District is 3,58 million persons, with a population density of 3.736 person/ km2. Most of the people in Tangerang District work in the industrial sector followed by entrepreneurs as the second largest amount of work done in Tangerang District. The biggest industrial sector in Tangerang District is Manufacturing Industry particularly rubber and plastics.

The Local Government is committed to reduce the open defecation rates by improving the sanitation access using on-site system. There is a focus on the WASH activities in schools, and a low-income housing programme.

Sites visited

Participants visited at Junior Highschool, SMPN 2 Curugin Tangerang, where they were received by the Tangerang Local Government, that gave a presentation. They also met with the school principal, who is known for having led many reforms at the school that have led to a

healthy environment and sustainable practices by the students and teachers. Then, they visited Cileuleu Village, where they interviewed households that have received financial to build their septic tanks.

Key findings/ observations

General findings

- Sanitation programme has limited focus on OD practices since main target is schools
- No information on private sector contribution
- Too many actors on the WASH, information with different actors
- Sanitation funds collected are not ring fenced

Tangerang sanitation programme

- 16 trucks for emptying, with 4 m3 capacity for each, but overall operating capacity not clear
- WWTP not operating at full capacity yet plan to build more treatment plant

School programme

- Two toilet blocks constructed in front of the school, separated by gender, with hand washing facilities
- Construction of WWTP for school
- Commitment board signed by teachers and students to maintain facilities
- Pupils assigned plants with names, to maintain
- Removal of dust bins to reduce solid waste generation
- Instruct pupils to carry reusable water bottles and food containers
- Awareness creation and sensitization of pupils and parents during day
- School management lead by example to clean toilets

Financing mechanism

- Capex for communal WWTP from National Government with support from donors i.e., USAID, AUSAID
- Housing programme financed by local government
- Households contribute in kind

O&M

- School to maintain the facilities
- Inspections done every 6 months
- School head punished if not done
- For households that is done by themselves
- 20mil dedicated to each household to be split as 19mil for construction and 1mil for O&M

Tariffs

- For desludging included in the regulation of 2016, commercial 210.000/ m3, residential 100.000/ m3 and public institutions 75.000/ m3
- Costing for tariff calculation and collection rate not provided, could not establish cost recovery aspects
- Tariffs not yet in force for schools
- The equity consideration not clear-the tariff not progressive (i.e., the poor and wealthy pay the same and Institutions pay less than the HH)

Recommendations

- Increase the flexibility of the criteria for the

housing programme beneficiaries i.e., land ownership not negotiable, marital status, ID poor
- Have an overview of the financial health of the sanitation services across the entire chain
- O&M fund for housing beneficiary should be ring-fenced
- The tariff calculation should be based on the cost of the O&M, supported by a financial analysis. For example, the institutional tariff is higher than the household tariff
- Introduce paying of services in the early stages of the project, e.g., the private operators should be paying a desludging fee to give funds in advance for O&M
- Collect clear data on coverage, cost and quality of the service provided by the operators, to inform better planning
- Introduce contribution mechanism from the private operators, e.g., a desludging fee, operational fee

Q&A

(Comment) In the case of tariffs, the government is indeed reviewing, this not only covers the O&M of the STP, but also considers the distance between the point of collection and the STP. One of the purposes of the trip was to see the operation of the hiba system where the district builds something and then gets reimbursed afterwards i.e., results-based financing. Was this discussed? Yes, we asked about the investment, we were told that it benefits about 150 households but the process is not yet completed so it is not at the reimbursement stage. It was put towards a school, and the other was for a condominium. Physical construction is at 60%

Who is the person carrying out the inspections? Is it related to the M&E?
The health agency conducts testing to verify whether water is safe.
- The education agency evaluates the programme and has incentives and punitive measures based on performance. Principles that cannot maintain facilities will be dismissed for 3 months.
- The programme focuses on highly-dense areas, prior to 2019 it focused on the roads, public facilities. Starting from this year, they are calling it to a sanitation "plus" programme. There needs to be at least 20 houses without facilities and this is determined through a regent decree. The decree states that there are about 50 slums that need to be rejuvenated.

For Tangerang, it seems there are many residential areas, both formal and informal. Is there a mechanism or regulation for the local government that can ensure the developers comply with the standards for planning safe septic tanks? Is it part of the permitting process? First of all, we have local regulation no. 6 from 2012, which addresses waste and sludge management. This local regulation has very limited articles on sludge. We then prepared the related regulations, but it is already in place, basically to answer your question it is "yes, yes, yes," developers are required to provide these facilities, which covers the specifications of the septic tanks.

Block 3: Tools and decision-making

Block 3 focuses on tools and decision-making, and included the following sessions:

- Presentation by UTS ISF, about Life Cycle Costing and use of tools
- Presentation by CEPT on the SaniPlan
- Debating game

Presentation: introduction to tools & decision-making, by Antoinette Kome, SNV

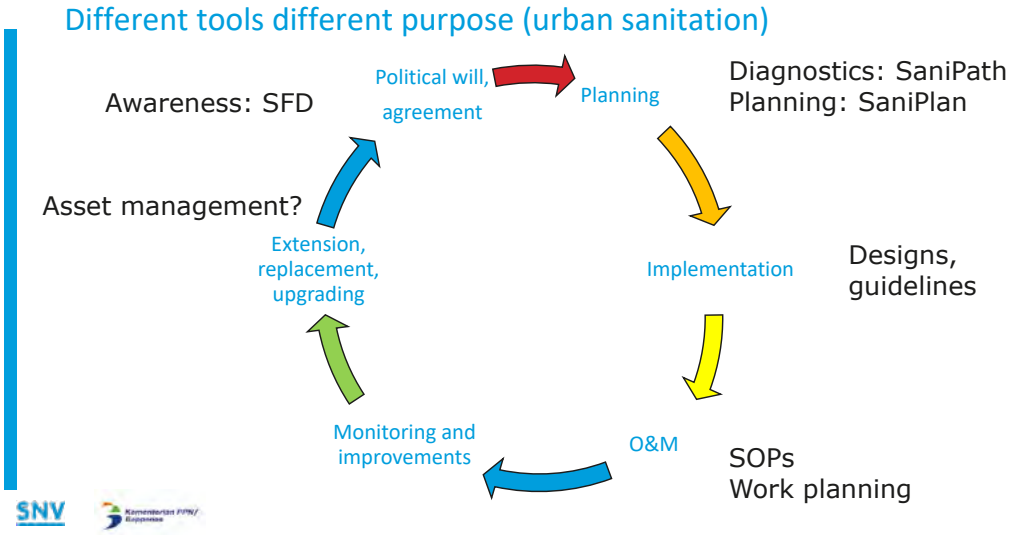
We consider tools to be computer or other systems where you give inputs and they generate outputs. Well-known is the Shit Flow Diagram (SFD), which produces a nice diagram based on the data inputted. Tools can also be methodologies or guidelines on how to perform a task.

Examples of tools include SFD, Rapid Technical Assessments (RTAs) that generate the amount of information about the number of people with access to toilets, the types of toilets etc. There is also the SaniPlan tool for budget forecasting. Revamp tool, from the Swedish Environmental Institute that looks at the reuse potential based on the characteristics of sludge.

Important to consider tools and their general objective. Are they for awareness-raising, is it for planning and diagnostics, is it for asset management, etc.? Tools can have different purposes along different steps of implementation of a programme. SFDs, for example can be used for awareness-raising while many would like to use them for monitoring.

Reflections on tools

- They can simplify and structure our work
- They can help to make sure you are not overlooking key elements
- Easier to replicate something when there is a tool available
- There are few tools that work specifically on sanitation finance for city-wide sanitation, particularly in terms of onsite sanitation
- There are more tools available for planning, and fewer for monitoring the financial health



Downsides

- "Garbage in, garbage out"
- Tools do not replace strategic thinking; you still need to analyze the outputs with a human perspective
- Developing a cost-reflective tariff is a good way to start, too many tariffs exist that do not have sufficient justification for why they are set at the rates they are
- Performance monitoring data for different parts of the service chain can help,
- Asset management tools for the larger parts of on-site sanitation infrastructure may be needed, but the software costs need to be included/ emphasized
- Need to consider the maintenance models and replacement strategies for tools. Perpetual light renewals, for example, are appropriate when the asset's lifespan can be significantly extended through minor repairs.

Presentation: cost-reflective pricing in Zambia, by Mbilima Chola Kasoma, NWASCO

Overview of cost-reflective pricing for sanitation

- When you are doing pricing, it is very important to have a legal basis, because pricing is a very sensitive issue, therefore it is difficult to enforce pricing without a legal basis to do so. NWASCO gets its powers from the WSS Act of 1997, which provides the backing on financial sustainability for NWASCO to consider pricing.
- Of particular interest are O&M, and the investment costs, which includes construction

The issues that have led them to implement several reforms

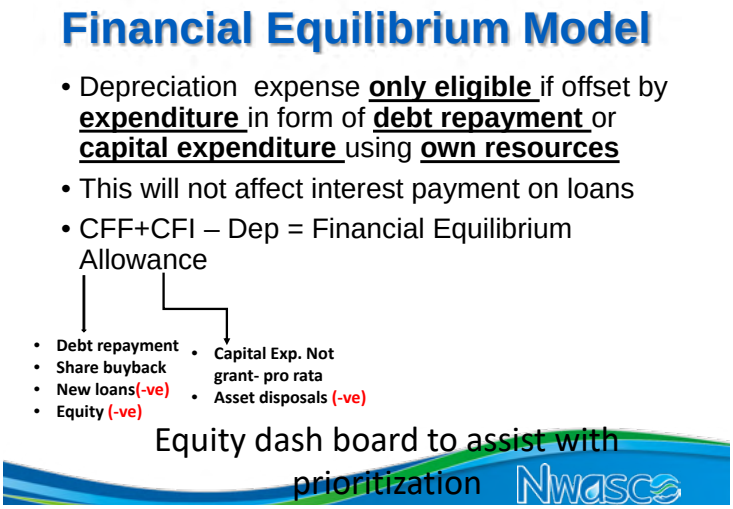
- Two-part rising block system consisting of a fixed charge and a consumption-based tariff, and so the sanitation tariff is a percentage of the volumetric (consumption-based) component of the water bill
- Tariffs vary across utilities, falling somewhere between 20-40%
- Tariffs are set in such a way that only the water revenues are considered in covering justified costs, so they will deny costs that are being justified
- The percentage assigned for sanitation is based on an estimate of the O&M costs, it may not be related to the costs incurred in providing the service
- Most infrastructure for sanitation is dilapidated, hence what's being reflected in the costs is only "the tip of the iceberg." Most costs are left out, i.e., maintenance.
- They rely on the base year costs, and so if they fail to include O&M, they're further understating costs
- Sanitation service delivery has lagged behind water service delivery, with 63% compared to 82.6% for water
- The companies are oriented towards water, which means they are not prioritizing O&M for sanitation
- Sanitation continues to consider sewerage, and yet these are only a small fraction of the population
- For example, in Lusaka less than 15% of the population are serviced by the sewer network
- The sanitation tariff is set on volume, and the quality of that volume is not paid attention to. If you forecast on the quantities you are receiving and treating, without considering the quality of what you are treating, you will reduce the lifespan of your facilities, and as a result it will not be cost-reflective pricing.

Strategy/ reforms being implemented

- They have a new tariff setting model to consider the entire sanitation value chain from collecting, transporting, treatment and disposal. It considers the costs of investment and

new investments - i.e., the current investments, but also how to ensure there are future investments to continue to provide/ maintain sanitation

- We need to have water and sanitation as separate services - separate the cost centres. Within sanitation, then break it down between SS and NSS
- They need service providers to maintain separate books of accounts for sanitation and for water, and to break down sanitation into SS and NSS - it must be done at source, i.e., at the invoicing stage is it a water cost, a SS cost or NSS cost. They are finding that data is very limited, especially financial data, which makes it difficult for the tool to function.



- They have a sewer tariff on a rising block system to help assist with equity
- There are 2 types of tariffs for dumping: volume and quality

New sanitation pricing

- They have embedded a cross-subsidy among and between customer categories (residential/ household, industrial and commercial). They wish for residential tariffs to be the lowest
- The system allows for different tariffs based on regions, to reflect the economic status of the regions e.g., in Lusaka the tariff is higher
- The base year prices continue to be the basis, but they allow for unrealised costs, and allow the service provider to add those in later with justification. All costs are in nominal terms, free of inflation. They treat inflation as a pass-through cost, to avoid having it erode the cost-recovery rate. Otherwise you will not be able to consider the actual cost-recovery.

How NWASCO assesses the costs presented to them by the city utilities

- They need to determine which costs are which at the source, or invoicing stage.
- They need to divide their business in terms of water versus sanitation, e.g., the revenue that is generated, how many connections they have, etc. For shared costs, they need to come up with a basis for splitting them. Most companies have one management system for both. So they push the companies to consider, if these were two different businesses, how would the costs look?
- They push the companies to use consistent justifications, rationale for their assumptions.
- The majority of people accessing sewerage services are affluent people, so there is no need to subsidize them -- at the first bracket it is cost-recovery for sewerage. For NSS, they keep tariffs low since these are typically low-income households.
- There is a surcharge for poor quality effluent, essentially a "polluter pays" principle. Any industry that discharges poor quality will be fined, and there is an upper limit for the quality of the effluent. A company cannot just discharge whatever quality and pay the fees, but to promote the longevity of the facilities they will reject some of the effluent and force the industries to adjust their processes.
- There is a monthly charge for vacuum tanker services. There is a tipping fee, charged per load for the vacuum tankers. The fee is considered to be a treatment fee, and so the trucks must distinguish between industrial and commercial effluent. The quality aspect for the residential homes is related to whether or not there is garbage thrown into the pits.
- There is a sanitation surcharge for all customers on the sewer network, 3-5% of the water bill, to support pit construction. This is charged to everyone except for those who are not connected to a home water pipe.
- Companies must state the repayments that they are making every year e.g., if they are

borrowing money from the ADB, which the will consider. A service provider cannot recover the cost of an asset where they were grants received. Because it is not fair to the consumer to pass along those costs.
- Wish to consider service coverage, safely managed, financial viability, affordability -- all related to the SDGs
- The investments by banks are massive, but in terms of coverage, they will only cover a small portion, and in terms of equity, they are not punishing those that are polluting
- Quality is measured by BOD, based on the specs of the treated waste.
- They are piloting the model with 9 out of 11 service providers within their jurisdiction

The benefits expected

- Quality service
- Revamping of the systems
- Cost-recovery

Q&A

How do you connect the private sector to this work? They have developed a regulatory framework for onsite sanitation and FSM, in that they have defined the structure such that service provision is mandated by law by the utility. The utility can work with whomever they want, whether private or public. The service provider permits the private sector actors to operate on their behalf. They maintain the overall responsibility, but they can delegate to the private sector.

How have the companies reacted to this task, with cost separation?
Response by Utility A: Cost separation did not come very easy, but if they don't comply they will not get tariff increments. So to get the better tariff, they have complied. They have shared with them the tools to calculate these costs, to determine the overhead costs. They opted to go with the separation method to calculate, 4% of customers are connected to water whereas those with sewers are 4%.

Response by Utility B: The separation came as a welcome move, it is just like how hand luggage is now separated as a fee in your airplane ticket. But it was in there before, and now you have to break it out. It helps them to measure to the discharge, and the costs that go into it. They have received guidance on the overhead. The surcharge creates a fund that is administered by NWASCO, and it is used towards improvement for sanitation in urban areas. The next project is the biogas project, including improving existing sanitation components. The only challenge is they are not collecting 100% but at least they are making sure the fund is used for the right purpose.

If you are within 10m of a sewer line, it is mandatory that you connect. How do you manage that with most of the people that are in the area are affluent, so how do you work with low-income households that are required to connect? Sewer systems are only in the old areas that were planned by the authority. Most of the low-income communities are far away from the sewer lines, and treatment plants.

How long has this programme been implemented? Is there any monitoring system in place that you are monitoring to gauge its effectiveness? This is the 3rd year overall, but for some it is the 2nd year that came into the pilot later. Tariff application is done every 3 years so after 3 years they will assess the performance. Already in the 1st year assessments, they are still seeing under-pricing that needs to be addressed. The measures include cost coverage, collection efficiency (whether people are really paying for the service), and percent coverage of sewered and non-sewered.

With regard to the charge per load for vacuum truck emptying, how are you going to regulate emptiers that are using drums for emptying? The charge is per cubic meter of what

they charge. The tariff is mainly targeting the effluent from septic tanks, they treat the effluent from pit latrines differently. For desludging pit latrines, they may not have to pay at all. The service providers, through the cross-subsidization mechanism, they should be able to cover the cost. This is because of the volume and quality charges. The hope is to make sure low-income communities that use pit latrines do not have to pay.

Presentation: SaniPlan, by Upasana Yadav, CEPT

The SaniPlan is available online, here: https://sites.google.com/site/pasprojectifsmguide/home/toolkit

The SaniPlan Model is an excel-based tool that provides a list of improvements that a city or utility can make based on the status of their current system and their budget. Its system includes 110 possible improvement actions to improve the service levels, and the costs consider both CAPEX and OPEX.

The SaniPlan helps the user to consider the impact of a particular improvement action on the service level, i.e., what are the outcomes that can be achieved. The model has an integrated approach, to consider both impacts of improvements to water and wastewater programmes, so a variety of scenarios have been included in the model.

The framework is fairly simple. It starts with entering baseline information, which looks for a range of data from the user, then provides a performance assessment. Based on the performance, the model provides the improvements that can be undertaken and the action planning necessary. Based on the actions that are selected, the user can then do financial planning. They can also compare different decisions to envision different scenarios.

The real model work begins during the action planning phase. it is like a "plug and play model," you can plug in the actions that you want to improve for your city, e.g., if you want to improve the coverage level in your city, what are the implications for your utility. You can consider a wide range of improvement actions, ranging from low to high cost actions. And you can see the impact on the indicators, and there are intersectoral linkages as well to see where one action will affect another. You can then explore the impact of your decisions based on the indicators over the next 10 years.

In the financing plan, it will help to align the projected costs with the municipal budget. For example, it will ask you to explain where financing for different components will come from.

Performance levels	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Access and coverage											
Coverage of households with individual and group toilets in city	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%
Number of households with access to individual and group toilets as percentage of total households in city.											
Coverage of households with individual and group toilets in slums	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%
Number of households in slum settlements with access to individual and group toilets as percentage of total slum households.											
Service level and quality											
Coverage of households with adequate sanitation system	85%	85%	85%	86%	86%	86%	86%	87%	87%	87%	87%
Number of households with access to safe and adequate sanitation system for wastewater disposal (sewerage or on-site) as percentage of total households in city.											
Septic tanks cleaned annually in city	1%	1%	31%	30%	29%	28%	27%	26%	25%	25%	24%
Number of septic tanks (includes septic tanks of individual toilets, community and public toilets) cleaned annually as percentage of total septic tanks in city.											
Adequacy of septage treatment capacity	0%	0%	0%	110%	107%	103%	100%	97%	95%	92%	90%
Quantum of septage that can be treated at faecal sludge treatment plant as percentage of normative septage generated in city.											

Operation costs are very important, so the model will determine whether or not the city will be able to finance the proposed changes based on the budget provided. The model then provides guidance on how to conduct financial planning. The system allows for flexibility to allow for the municipal budget to propose internal transfers for example, it doesn't have to necessarily provide a cost-recovery programme, but also can suggest pulling from the property taxes, etc.

Once you have a financial sustainability plan, it will allow you to then consider what are the implications for increasing the tariffs and the procedures that need to be followed.

Can compare:
- Project costs
- Impact on service levels
- Capital financing plan
- Tariff increment requirement

Q&A

Tariff increases are politically sensitive -- how to address this? Agreed, but a tariff increase is necessary for the projects to be sustainable. We don't want them to be constructed by grants and then the local government doesn't have enough money to operate it, and the project gets abandoned. It requires a lot of consultation with local officials.

How do you make sure that the sanitation plans are not over-ambitious? SaniPlan is happy to provide guidelines, support for use of the tool, it is free and available on the website. There are also multiple versions available, such as a smaller FSM version. SaniPlan suggests that projects aim towards general improvement, not to achieve a certain target of 90% for example, but to improve upon what is there. The availability of funds is the main priority.

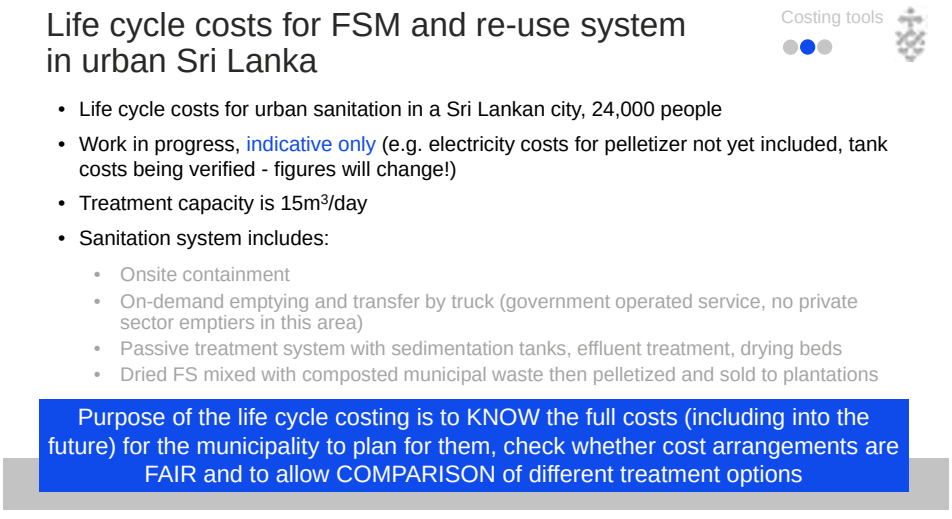
Presentation: sustaining the sanitation service chain: costing and cost-tracking tools, by Juliet Willetts, ISF-UTS

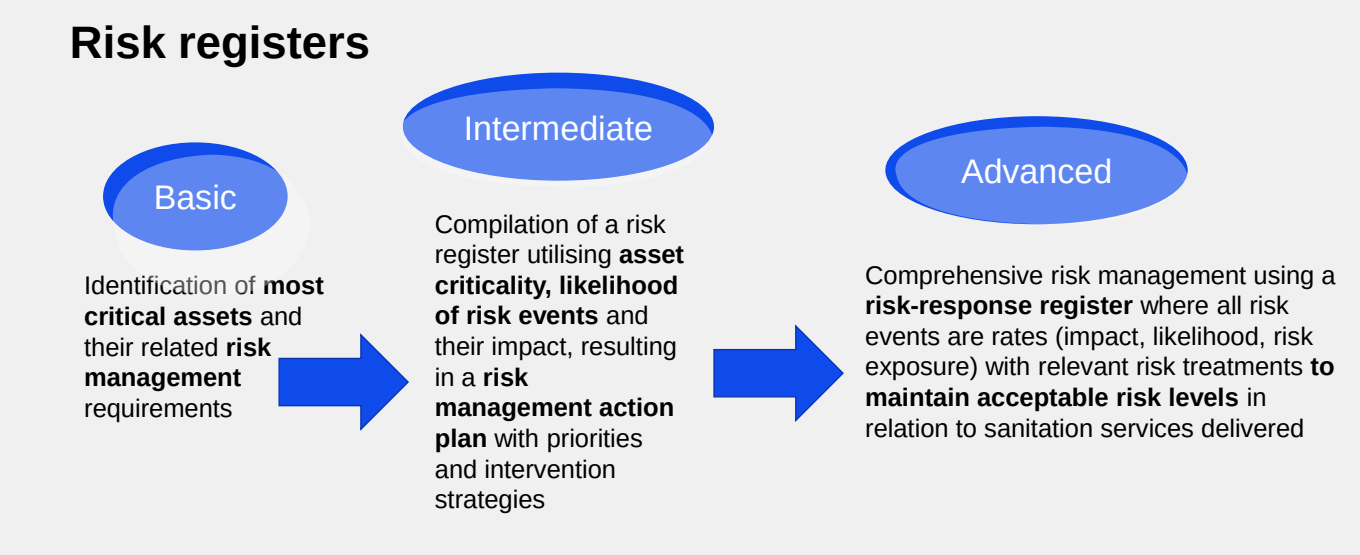
Juliet explained the need to be considering the costs of all parts of the chain. It is important to consider what tools enable one to evaluate what is already being spent so far, which can help with accountability, to identify gaps, to determine equity as well as what is the potential for sustainability.

Original definition of 'sustainable cost recovery (Camdessus 2003): "The panel proposes the concept of sustainable cost recovery (rather than full cost recovery) as a way of giving the water sector the financial assurance it needs, while acknowledging affordability problems and the case for subsidies in certain cases." Costing tools help us reach this aim of 'sustainable cost recovery'.

Why use a costing tool?

Planning
- Useful for promoting informed choice of technology and service options through cost-effectiveness analysis
- Useful for understanding





all costs to then match costs with financing

Reviewing

- Tracking costs and expenditure (for accountability, to understand financing gaps, to check on equity and sustainability)
- A lot of "pre-baked" tools exist and are useful, but there's a lot that you can calculate yourself and the advantage of this is that you will be familiar with exactly the inputs you have set up. Many tools can be used to inform your own spreadsheet, not necessarily having to use the tool itself. When using tools, it may be useful to focus on one specific actor in the value chain or aspect -- you may not need to do the whole picture.

Understanding these costs and what they are relative to each other is necessary and it is important that we evaluate them in ways that we can communicate them to stakeholders. For example, in terms of containment, households are making major contributions to manage their waste and onsite containment whereas this cost does not exist for sewered homes. In addition, important to ensure inclusion of costs for safely managing both liquid/effluent and sludge waste streams for onsite systems (which are combined in offsite systems).

Important principles when using costing tools: avoiding easily made mistakes

- Consistent boundary of analysis: which costs are included and excluded
- Consistency about whose costs (which actor) an analysis is looking at
  - All actors (overall cost of providing a service to society as a whole)
  - One actor (emptier, a household, a service provider)
  - Avoids confusion between pricing and costs
- Consistent metric to compare costs, for example:
  - Total annualised cost per household
  - Total annualised cost per capita
  - Net Present Value

Critical to understand costs that will occur in the future, and to be able to predict these. Asset management can help. Asset management is a series of systematic and coordinated management practices that optimise performance (to meet a desired level of service) while minimising costs and the risk of asset failure. Asset management requires a management information system that tracks the status and condition of different assets, and considering the consequences of failure of each asset. It is a matter of evaluating risk of failure (whether it is progressive or abrupt) and criticality

of each asset to the performance of the overall sanitation system. For example, you can manage only the most critical assets, or perhaps you add in a strategy that mitigates risks only for these most critical assets.
Introduction to the WASH TrackFin Tool as a tool to look at budget allocations and spending: these principles can be applied at any level, e.g., national or municipality. The tool can be used to identify corruption e.g., if two municipalities have significantly different costs. There are a variety of resources available on the internet and standardized terminology.

Final reflections

- Costing tools tend to focus on infrastructure, and omit 'soft' costs such as those associated with raising demand, monitoring, training, capacity building, skills etc. What are the costs to employ people to be doing monitoring, what are the costs of training people to be able to conduct the required operation and maintenance?
- Be very clear on the purpose of the tool is and your own purpose - there are a variety of tools

Q&A

You suggested that we look into software costs, but do any of the tools you mentioned cover these? No, they don't. It is all infrastructure-focused.

Could you elaborate on full cost recovery vs sustainable cost recovery? There was an idea that if it is privatized, it can be made into full cost-recovery. But it failed to consider the affordability issue. Nothing is full cost recovery with user fees, instead look for sustainable cost recovery. The challenge then, of course, is that no one wants to pay the full cost anymore. So where does that money come from? Where is it fair to pull these funds from?

(Comment) In healthcare, there is a purchaser-provider split. Whereas it says that the provision of health care services must come from taxation, and then there is a patient contribution for use. The equivalent in the sanitation sector is that there are big capital expenditures and then smaller operating expenditures. The approach therefore is to cover the infrastructure costs with the transfers and then look to tariffs to cover the operational expenditures.

How do you accommodate situations in which the government may not know what the technologies are, is there a margin of error or can a percentage be estimated? We often don't know what's "under the ground" to be able to estimate the systems. So instead we need to do the work in advance to determine what are the ranges and types of facilities. You need to have an analysis process to get to that.

How do you accommodate the different types of treatment systems, e.g., mechanical, natural? In addition to different emptying styles, e.g., manual, mechanical. In the World Bank tool, you can input these distinctions between technologies.

Debate game

The statement "Making your own in-country tool on cost and revenue is better than using the international/ available tools" was presented to the group, and everyone who answered

"agree" to the statement went to one side of the room, and "disagree" to the opposite. Teams were then instructed to prepare a series of opening statements and subsequent rebuttals. A jury of three workshop participants evaluated the teams based on their arguments and successful rebuttal of the other team's arguments. Their arguments are summarized below.

Table 11: Debate game arguments

Affirmative side (15 participants)	Negative side (18 participants)
■ When you have a home-grown tool, it doesn't mean reinvent the wheel and make something that is better for you ■ A tailor-made tool is better because it takes care of the local context, and your environment rather than trying to think what the developer was thinking ■ You get more buy-in from the users and those with whom you are working ■ You don't have to display your data to everybody else (data privacy issue), your data will only provide the outputs that you want everyone to know as opposed to your private inputs ■ For in-country audits it is easier to have a home-grown tool rather than something you downloaded from the internetIt is typically more simple, because general tools are trying to take care of other contexts, so it is less complex to use ■ In a nutshell you cannot put reality in a box ■ Who can build a tool that can into account different continents? Which tools are simple that can take into account these complexities? ■ We are not reinventing but making it our own. Building our own tool from what is existing. ■ The usage of those tools that are global is low, so we want to make sure they get used ■ You can benchmark your data against certain key parameters ■ The process of making a local tool creates ownership, because very few people even use the international tools. ■ At the end of the day, the rules of excel are the same. ■ What are the costs for using tools that people don't understand? They can be higher than developing the tool locally.	■ What you've described is reinventing the wheel ■ A tool has standards whether you're in Zambia or Indonesia ■ We're talking about a tool that has been thought through by experts, people have already thought through this ■ You need to build upon what's already available, let's not invest in more time and money ■ This is money that countries do not have, thus it creates inequalities ■ There is no cross-learning across countries, no benchmarking that can occur ■ No one is an island, you need others to help you, if you just focus on what you know, you may lose the benefit of what others have learned ■ Home grown solutions sound politically correct, but be technically correct ■ Global tools can also be simple, global does not equal complex ■ Most international tools provide for best practices, and you can customize them. ■ If you buy the tools, they come with support to customize them. ■ The crux of the question is whether you make your own tool, not customizing. ■ We live in a globalized world where we are bringing people together, and the opposite is very nationalistic. We need to bring experts together. ■ If one takes your argument to its logical conclusion, you will develop your own SDGs.

Block 4: Key Performance Indicators (KPIs) for urban sanitation

Block 4 focused on Key Performance Indicators, and included the following sessions:

- Summary of D-group Discussions
- Presentation by IUWASH Plus on the SanDex
- Group Work on Financial KPIs and Sustainability
- Plenary

Presentation: Introduction and summary of D-group discussions, by Antoinette Kome, SNV

Can the allocation of taxes and tariffs contribute to greater equity?

- People were very divided on the answer to this question
- Differences between loan repayment periods which are more or less friendly towards households, e.g., 30 year repayment periods versus 2 year repayments for households
- The issue between the high cost of fuel to get to a treatment plant, which is absorbed by the emptying fee, whereas people don't like treatment plants and want them as far away as possible
- But these emptying fees aren't faced by the sewer
- And sewers have much greater longevity than vacuum trucks
- Ideally user fees cover treatment reuse AND asset replacement
- About 35% of people said that yes, it is desirable to increase equity, but very difficult
- We need to be clear on who benefits from what, and more data about the beneficiary populations.

Solutions/ suggestions from the workshop and the D-group discussion

- More durable investment and efficient operations
- Let's move away from "build, neglect, rebuild" -- it would be so much easier if we could plan ahead
- There should be a financing policy for utilities that rewards efficiency for service providers and provides for services for the poorest

Key performance indicators can help to monitor the direction of change

- Affordability of services for the poorest wealth quintiles
- Level of cost recovery of emptying services
- Level of operational cost recovery
- Collection rate (of user fee)
- Local government budget allocation (%)
- Score cards:

Does the service provider have:
• A defined, approved, tariff and connection fee based on a transparent calculation?
• A functioning billing and collection system?
• An up-to-date customer database?
• A process for handling defaulters (of payment)?
• A procedure to support alternative payment arrangements?
• Regular indexation of tariff? (Annual= full-fledged)
• An understanding and records of full costs and revenues related to sewer services?
• Has targets and objectives for improved efficiency in tariff collection and covering operating costs
• An acceptable collection ratio? (paid versus billed income)
• Positive operating cost coverage (1= basic)

- More investments towards reaching the poorest, need specific investments
- Important to look to areas with high urbanization rates and take lessons learned to transfer
- Maintain importance of public facilities
- Increase willingness of government staff to consider the needs of the poorest in their city
- Improve the data quality
- Need for strong regulations to allow for ring-fencing of revenues and dedication of pro-poor funds
- Allow utilities to charge a surcharge on sewer to then invest in onsite sanitation
- Nice to have these regulations, but need for better monitoring of implementation of said regulations
- Avoid having the private sector "cherry picking" where they are only serving customers where emptying is easy, they can easily pay.

Presentation: IUWASH Plus Financial KPIs, by Benny Djumhana

IUWASH Plus is a USAID-funded program for 2016-2021 that is working with the Government of Indonesia (GOI) to increase access to water and sanitation. It has four main components:

- Working with the community to increase demand
- Strengthening operator capacity
- Knowledge management, including compiling of information and experience to be used by the GoI
- Measure the improvement/ performance of the sanitation operators

Based on this fourth component, they developed the Sanitation Index, known as the SanDex to monitor sanitation operators. It is a tool built in excel to make it user-friendly. It has four main categories of indicators:

- Institution
- Regulation
- Financial
- Operation

Sanitation Index #1: Institution

These are the parameters/ indicators to determine whether or not the institution is established or not. It measures the type of institution, the number of tasks being performed, how many of their designated roles are filled, and whether a set of standard operations and procedures (SOP) are in place.

Sanitation Index #2: Regulation

This is related to whether or not regulations are present. It measures whether or not there local wastewater laws have been ratified, and what proportion of the regulations of the municipality head have been approved.

Sanitation Index #3: Financial

In this indicator, they are not looking at full cost recovery (e.g., loan repayment) because it results in a very high tariff. The expectation is that a government grant will cover the full costs and the user only will cover the operating costs. Financial measures include the proportion of the local budget that has been allocated for wastewater improvement, the ratio of the tariff versus operating cost, the real revenue versus the budgeted revenue, etc.

Sanitation Index #4: Operation

For the Operation indicators, they want to determine whether or not the operations are performing well. The measures include the operating capacity of the IPLT (Instalasi Pengolahan Lumpur Tinja,

or Septage Treatment Plant), whether there are sanitation promotion activities being conducted, effluent quality monitoring and whether technical SOPs are in place.

Q&A

How many cities is IUWASH working in? 35 cities, only work in urban areas of these areas.

When you describe the operating cost, does it include emptying and treatment? Does it include maintenance costs? Operating costs consists of emptying to treatment. But depreciation of the treatment plant is not included. Same with the sewerage system and the treatment plant for the wastewater. Only emptying from the house, the treatment plant, it only covers operating costs.

With regard to the operation indicators and checking the effluent quality, how and where is it done? The Ministry of Environment checks the effluent every year; there is a regulation that every city must check it.

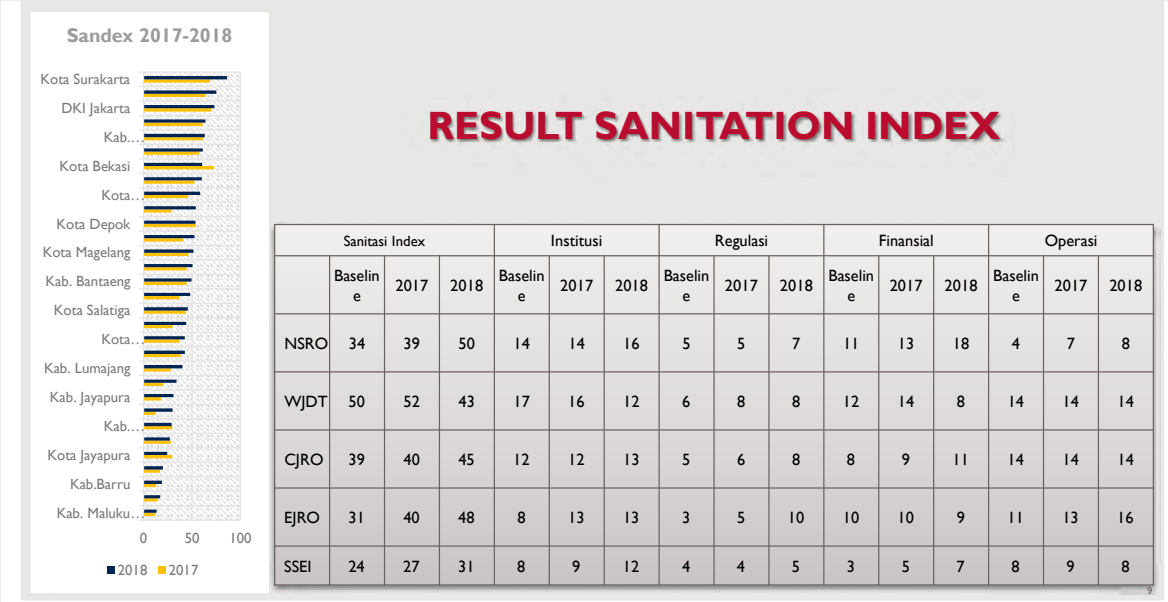
Is the measurement really happening at the DEWATS, septic tanks etc.? Some cities check the effluent, but most are not. This is the problem. The problem for checking is the budget, but most cities don't have the budget to be checking.

On the financial KPIs, is the private sector considered a source of funds, e.g., private operators paying a desludging fee, a license to operate etc.? Private sector operators are invited to engage in the sanitation sector, they work together to calculate the tariff. The private sector contribution is reflected in the private sector.

You mentioned that the city with the highest score is Solo Surakarta, but yesterday we visited the treatment plant and it is not functioning because they are over capacity. How does it score so well? Is there a weighting system? There are two treatment plants in the area, but access to one is difficult. It is difficult because the monitoring needs to be frequent, and you need to revisit the performance.

Which indicator has led Surakarta to be the highest performer? The financial indicator.

(Comment) As SNV prepared to launch in Bangladesh, we visited Manila to understand how they were working. We found that people were paying, but did not want to accept the service. People only wanted desludging when they had the problem, they did not want it to be regular.



Sanitasi Index				Institusi			Regulasi			Finansial			Operasi		
	Baseline	2017	2018	Baseline	2017	2018	Baseline	2017	2018	Baseline	2017	2018	Baseline	2017	2018
NSRO	34	39	50	14	14	16	5	5	7	11	13	18	4	7	8
WJDT	50	52	43	17	16	12	6	8	8	12	14	8	14	14	14
CJRO	39	40	45	12	12	13	5	6	8	8	9	11	14	14	14
EJRO	31	40	48	8	13	13	3	5	10	10	10	9	11	13	16
SSEI	24	27	31	8	9	12	4	4	5	3	5	7	8	9	8

You said that depreciation is not included in the tariff because that would be too high. How do you determine when a tariff is too high, and who makes that decision? The tariff is prepared by the operator. They prepare the calculations, then the local government approves it. They don't promote the investment repayment, because they are in the early stages of sanitation and they want to introduce costs one by one. They don't want to burden the already-fragile demand with a higher price. The Ministry of Public Works helps to review the costs. We don't have a specific number to share.

How do you assess the vulnerability and social inclusion, specifically for the financial indicator? We don't look at that. When the operator sets the tariff for low-income areas, they set a "basic tariff' but we do not measure it with this index. The tariff we use her calculates the average tariff. This index does not do analysis by unit but rather a total analysis e.g., averages per year to develop ratios.

(Comment) In Tanzania, we prepare a tariff for the next 3 years and then we go to the community and ask for their comment. We incorporate that feedback, then present it to the regulator who then makes adjustments and approves the final tariff.

Group work on financial KPIs for sustainability and equity

Participants were asked to gather in groups according to the country in which they are working, with the following instructions:

- Reflect about what you already measure and what it tells you about the financial sustainability of the service and financial equity.
- Reflect about the type of data you have and the level of disaggregation that is possible.
- What would be 3 feasible and meaningful indicators that you could propose for financial sustainability and/ or financial equity? (From existing or new indicators)

Bangladesh KPIs for sustainability and equity

The central government has allocated 20% of funds towards sanitation. But the monitoring system is not strong enough to monitor the expenditures of this fund.

Indicators identified

- Whether the 20% allocation (as per regulation) to sanitation of annual budget from central government is actually allocated
- Actual expenditures on household sanitation as compared with allocated amount
- Progress in implementation of the sanitation tax (across government, households and non-government institutions)
- Collection efficiency of sanitation tax
- Rate of expenditure of the funds raised through the sanitation tax
- Proportion of LIC (pit latrine) and proportion of "better-off" (septic tanks) accessing emptying service (based on existing differential tariff)
- Total sanitation allocation and expenditure for LICs from all sources (UNDP, ADB, municipality)
- Progress towards a cost-reflective tariff (covering O&M for emptying, transport and treatment)

Highest priority feasible and meaningful indicators

- Proportion of sanitation tax allocated is used for sanitation
- Total sanitation expenditures for LICs
- Progress towards a cost-reflective tariff

Q&A: Bangladesh KPIs for sustainability and equity

Does the 20% come from the central government and are you looking for full cost-recovery using this fund? 20% of the annual budget should be spent for sanitation purposes. Previously, this was used to construct toilets, demolish hanging toilets, etc. But now that OD has been reduced, the regulation is still there but it is being used towards drainage, roads, under the sanitation heading. The hope is to track how much is actually being spent towards sanitation.

Indonesia KPIs for sustainability and equity

There is not sufficient data being collected to provide a picture on financial health and sustainability.

Indicators identified

- Access to different levels of sanitation
- Poverty rates and levels
- Number and quality of the infrastructure
- Quality of the effluent (with different levels of implementation)
- Number of emptying services (in some cities), but not against the total number of containments
- Number of complaints associated with poor sanitation
- Amount of revenue realization versus the target, from desludging services
- Operating and maintenance expenses for emptying and IPLT
- Volume of emptying
- Number of CBOs supporting sanitation (but don't have information on the status of how active they are)
- Percentage of the city's budget that is allocated for sanitation (difficult to measure, because it is distributed across several institutions)
- Number and capacity of private operators (only exists in a few cities)
- Number of people and locations that have received sanitation socialization and hygiene promotion
- Number of households receiving support for a sanitation facility

Highest priority feasible and meaningful indicators

- Number and types of sanitation infrastructure (city-wide) against the total population
- Costs (CAPEX, OPEX, CAPMANEX, [...] along the sanitation chain, onsite, offsite, city-wide
- Affordability to pay for sanitation services (of the lowest and second lowest quintiles especially)

Q&A: Indonesia KPIs for sustainability and equity

Is the second indicator covering the total costs of the sanitation value chain? And if so, could you explain a bit more about it? To know sustainability, we need it to include everything. Yes, we wish to measure it along every part of the sanitation chain for onsite, offsite and city-wide.

Nepal KPIs for sustainability and equity

We only have partial data, it is difficult to advise on financial sustainability.

Highest priority feasible and meaningful indicators

- Budget allocated vs budgeted required - budget allocated doesn't answer the full question
- Budget realization vs. budget allocated
- Increased access in LIC households/ communities

- Tariff setting, tariff collected vs. OPEX

Q&A: Nepal KPIs for sustainability and equity

Can you explain the unit bank account? There are no bank accounts for separate systems for sanitation. But there is an account for the water supply utility.

Tanzania KPIs for sustainability and equity

Our case is different, because we have a lack of water. Therefore, a major need is to work towards water supply, therefore our activities are combined. We are further behind in progress, therefore we are bringing awareness on toilet usage. The Tanzanian government enacted a law this year, that all utilities are to achieve collection efficiency of 95%, otherwise there is a penalty. You are supposed to raise each month 30%. The initial capital is being invested by the government and then the utility must continue with the repairs and maintenance.

Indicators identified

- Land acquisition
- Community awareness
- Effluent quality
- Registration of private emptiers
- Volume of sludge going to treatment plants
- Coverage of services (not currently disaggregated between sewered and OSS)
- Number of new connections to sewers
- Proportion of wastewater safely treated
- Percent of people connected to the sewer
- Revenue collection efficiency (not currently disaggregated between water and sanitation)
- Revenue growth (not disaggregated currently)
- Contribution to capital investment (clear definition for sanitation services)
- Percent of revenue to personnel cost (up to a maximum of 30%)
- Net profit margin
- Cost recovery ratio (at least 50% recovery)
- Return of asset on equity
- Debt to asset ratio

Highest priority feasible and meaningful indicators

- Proportion of Pro-Poor Connections to Sanitation Services, disaggregated by sewers and onsite facilities
- Affordability - measure the affordability of the service, how much a person spends on sanitation services as compared to other services e.g., water and electricity
- Full Cost Recovery Ratio - measured the amount the water utilities are recovering their expenses from their revenues

Zambia KPIs for sustainability and equity

Indicators identified

- Collection efficiency
- Cost coverage by collection - measures the extent to which the collection covers the cost
- Cost coverage by billing/ revenue
- O&M Coverage by collection - the extent to which O&M is covered by costs
- Sanitation Coverage (sewers, septic tanks, pit latrines)
- Cost breakdown (personnel, maintenance, etc.)
- Tariffs collected for sewer, emptying, FSM

- Impact of Tariffs on Customers (domestic)
- Monthly bill of the customer and compare it to their income to give a measure of affordability
- Surcharge for collection and expenditure (currently not disaggregated between water and sanitation)

Highest priority feasible and meaningful indicators
- Affordability of services - Income and expenditure relative to the utility bill
- Financially sustainable sewer services - tariffs, connection ratio, connection fee

Q&A: Zambia KPIs for sustainability and equity

Does the municipality collect the data or the utility? They are measured by the utility, e.g., where SNV is working they help them with collection of this information.

Why did you choose one about coverage, but doesn't necessarily touch on financial health? We are examining cost coverage by collection, so we are relating the coverage figure to the revenues that are being generated to address this. We also aim to cover this through affordability with our tariff indicator 1.

Session recap by Juliet Willets, ISF-UTS

It is important to consider the difference between Leading versus Lagging Indicators.
- Leading: something that you measure that is happening now, and is going to affect something in the future. For example, this could mean a measure of budget allocation. It is a precursor to activities being conducted but it does not guarantee any specific change as a result of those funds being spent.
- Lagging: something that has already happened, which could be the resulting increase in sanitation coverage based on the allocated budget. A lagging indicator can only measure after the event has taken place.

We want to know all the costs, but we also need to measure the revenues – both need to be tracked. it is about the relationship between those two to really understand the financial health. There were three different suggested ways of measuring equity by participants:
- Affordability, from Tanzania, Indonesia and Zambia
- Budget allocation to LIC in Bangladesh
- Proportion of poor who have access to services in Nepal

It is important to be thinking about evidence, and whether we have services that are financially sustainable, and whether it is fair. And to do this, we want to be pragmatic. Ideally, we have a lot of information, but we may not necessarily be able to measure many parameters that we'd like to, particularly when there are limited institutions with responsibility for sanitation who would be in a position to collect and analyse information. In the example of Zambia, the utility has the responsibility to measure everything and this year they measured every household, but maybe it cannot be done every year. Therefore it shouldn't be an annual indicator, for example. We need to also consider a sample-based approach.

(Additional comment from Antoinette) Even doing something small and tracking that, can be useful. There have been so many elaborate MIS systems that have failed. For example, in 2006 UNDP developed an MIS for rural water supply in Nepal. It was a beautiful platform but now nobody is talking about it. Sometimes it is better to have a few indicators that are consistently measured as opposed to too many that are not measured.

Block 5: Country group sessions and wrap up

To close the learning event, this block focuses on sharing knowledge and reflecting on what has been learnt and what can be taken back to their country programmes. It includes:

- World café sessions-sharing advice on key sanitation challenges
- Country group take away messages in "Shopping Bag"
- Closing of the learning event

World cafe sessions

Following the discussions and ideas over the four days, country groups were asked to develop key topics or questions to ask a group of consultants for advice. Two representatives from each country were appointed to be the country 'client' while the remaining participants were allocated to 5 mixed groups of 'consultant companies' who rotated amongst the clients to offer their advice to the questions in 15-20 minutes.

The five countries, Nepal, Zambia, Bangladesh, Tanzania and Indonesia received technical assistance based on the questions they had raised. This information was then shared with their country counterparts and will be 'taken-home' to inform future decisions.

Table 12: Country presentations from the results of the World cafe sessions

Country	Questions asked and advice received
Bangladesh	**How to collaborate between the central and local governments?** Local council can raise this issue to the central government to give them provision to work independently **How to secure funds/ allocated budget for sanitation?** Local council approval should be given before releasing any funds Central government can develop a monitoring system for allocated budget expenditure **How to develop willingness to pay/ BCC?** Sensitize people to Willingness to Pay (WTP) Different awareness campaigns can be implemented Develop enforcement mechanism **Because of the high water table in some areas, soak wells do not work properly; need for alternative technology** Holding tank design should be introduced Raise the base of the toilet

Table 12: Country presentations from the results of the World cafe sessions (continued)

Country	Questions asked and advice received
Indonesia	**Advice for when land availability is difficult; how to raise awareness amongst the poor** Develop a locality/ household map Building/ houses segregation/ planning Discuss with the community about infrastructure that needs to be built Also need to emphasize what will the problem be if they don't have proper infrastructure for sanitation Raise awareness in potential areas. It needs to be emphasized that each house will automatically have containment near their house, so they should make land available (for communal septic tank) Use appropriate technology, eg. mechanical, electrical **How to provide sufficient funds; implementation of annual sanitation tax** Indonesia is decentralized, so can test this through piloting in one region to see if it is working Important to convince community of what they will receive from the tax that they pay each year Need to identify who will implement because if it is localized, the system will be easier to apply, more focus on target compared to national
Nepal	**Equity in Sanitation: everyone pays the same for emptying and disposal whether they have a pit latrine or septic tank. How to solve this?** Conduct a customer segmentation on types of sanitation and income level Include cost/ financial analysis Explore progressive tariff, by income, customer type, type of containment structure, etc. **Financing of Fecal Sludge Containment: collection is difficult if containment is not standardized and does not make emptying easy. Financing for containment?** Preliminary assessment to determine where upgrades are needed In densely populated areas, shared septic tanks could be cheaper option Community savings group loans or similar system MOUs with banks and construction materials shops Categorize upgrades e.g., small, medium, full and estimate costs Cross-subsidies for low-income households Measures to encourage compliance for households that can afford upgrades e.g., fines, percent of property tax, etc.

Table 12: Country presentations from the results of the World cafe sessions (continued)

Country	Questions asked and advice received
Tanzania	**How to secure investment in sanitation for our cities (besides utilities' own revenue)?** Most interesting piece of advice was related to political willingness -- if politicians are willing and motivated towards what you are aiming to achieve, it is very useful to consider them with setting priorities. Schedule desludging to strengthen enforcement For engaging the pro-poor, it is clear we need to have clear data on who and where they are. Explore utility support to emptiers through revolving funds Create public-private partnership build, operate and transfer ownership Secure loans from commercial banks that prioritize sanitation Apply different tariff blocks to customers based on categories Advice to explore village banking to improve user interface and containment through revolving contributions among villagers who do not have toilets. **Ways to ensure pro-poor access and affordability for sanitation services (sewer and emptying services)?** Identify low-income areas Identify reasons for not having access to sewer and emptying services Check closely if/ whether the existing tariffs affect the poor Form informal strategies to identify local manual emptiers Promote upgrading of onsite sanitation Conduct willingness to pay for services survey
Zambia	**How to access funding for sanitation, particularly by city utilities?** Currently, it is difficult to access and government support is limited to CapEx. Develop a strategic/ master plan Use PPPs to leverage the private sector or outsource to private sector Lobby support from central government; use politicians Introduce scheduled emptying, which leads to informed operational efficiency Access donor aid through equipment e.g., solar, biodigester Explore reuse options Review costs, seek to reduce costs **They're seeking mechanisms to encourage sanitation business. For example, how to improve the relationship between the utility, emptiers and local authorities?** Develop MOU with local authorities and emptiers to agree on win-win arrangement Local authorities to retain a small percentage of revenue to motivate them

Shopping bag

An important objective of the learning event is that participants take away a 'shopping bag' full of new ideas and learning to influence practice their own countries. In country groups participants reflected on their learning highlights from the four days and used this opportunity to collect any additional information or examples from other participants.

Each country was asked to present the lessons learnt and the lessons they are carrying with them to their respective countries. Documenting what is in each country's 'shopping bags' hold participants accountable to knowledge and learning they pledge to take back.

Table 9: Country presentations on their "shopping bags"

Country	Questions asked and advice received
Bangladesh	Introduce scheduled desludging, at least pilot in one city Cost Reflective Tariff - covering regular costs and operating costs (b), intermittent costs (c) and depreciation/ rehabilitation/ asset renewal (d) Budget tracking of local government in sanitation Replicate lessons learned from the School WASH programme field visit Develop entrepreneurship in emptying services
Indonesia	Saniplan tool and others Budget instruments and tools across the sanitation chain Mechanical treatment options to deal with limited land availability Financing scheme alternatives Collaboration between private and public actors (PPPs) KPIs Sanitation tax Pro-poor and equity Prioritization of socialization in sanitation investments Cost-reflective tariff Parameters for tariff calculation Increasing stakeholders' commitment Importance of good engagement with CBOs How to conduct overview of financial health Full versus sustainable operational cost recovery Scope of regulator-regulations Importance of having a database Definition of equity - what is fair and for whom Clarity on readiness criteria

Table 13: Country presentations on their "shopping bags" (continued)

Country	Questions asked and advice received
Nepal	Learned about the existence of several sanitation tools that can be applied e.g., the Saniplan Mechanical sewage treatment plant learning Awareness of the model for school sanitation - principle of avoiding the dust bin Elements of sustainable sanitation finance, e.g., sanitation tax, sanitation levy, different ways to implement tariffs e.g., increasing block tariff
Tanzania	Examples of private sector investment Potential for increased involvement of banks in sanitation financing Value of government commitment in prioritizing sanitation programmes The need for KPIs to include onsite sanitation and equity elements BCC being applied at the primary school level Peer to peer regulators exchange on cost-effective tariffs Revolving funds to be maintained by WSSAs, for more investment into sanitation Need to maintain mapping and data for onsite sanitation Surcharge for discharged waste that contains chemicals and/ or solid waste
Zambia	Tools shared during the event Difference between mechanical and conventional treatment plants Need for accurate data Reality vs Political Correctness Practical experience on scheduled desludging PPP as a potential source of funding Increase collaboration with the utility, local actors and community Key involvement of the finance department during sanitation programming Strengthen the relationship between city utilities and emptiers, e.g., delegated management model

Closing of the learning event

Antoinette delivered brief closing remarks to thank everyone for their thoughtful participation in the event.

Appendices

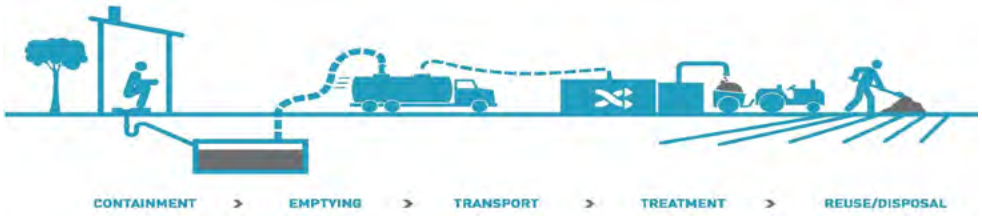
Appendix 1 - Programme

Time	Activity
	DAY 1
8.00	Registration
8.30	Presentation of the programme, introductions and official opening speeches (Bappenas, EKN, SNV)
11.00	BREAK
	Block I: Financial health of sanitation services
11:15	Introduction Block I
	Country group work and plenaries on costing along the sanitation value chain
13:00	LUNCH
	Block II: The Indonesian urban sanitation financing experience
14:00	Introduction Block II
	Introductory presentation by the Ministry of Planning (Bappenas) and Ministry of Works (PU)
	Introductory presentation by the Urban Sanitation Development Programme (USDP)
15:15	BREAK
15:30	Preparation field assignment
17.00	Closure
	DAY 2
tbd	Field assignment (4 groups, each going to one site)
	DAY 3
9.00	Welcome day 3
	Groups consolidate their findings
10:30	Presentation of 2 groups to a panel of Indonesian representatives
11.10	BREAK
11.30	Presentation of 2 groups to a panel of Indonesian representatives
13.00	LUNCH
	Block III: Tools and decision making
14.00	Introduction Block III
	Presentation by Upasana Yadav, CEPT on SaniPlan
	Presentation by Chola Mbilima, NAWASCO, on the equity dashboard
15.00	BREAK
	Presentation by Juliet Willetts, ISF-UTS
	Debating game
17.15	Closure for the day
	DAY 4
	Block IV: Key performance indicators for urban sanitation
9.00	Programme of the day
	Presentation by IUWASH on the use of financial KPIs
	Group work on financial KPIs for sanitation
11:00	BREAK
11:15	Plenary
13.00	LUNCH
	Block V: Country group sessions and wrapping up
14:00	World café sessions
15:20	BREAK
15:40	Closure sessions
17:00	Closure

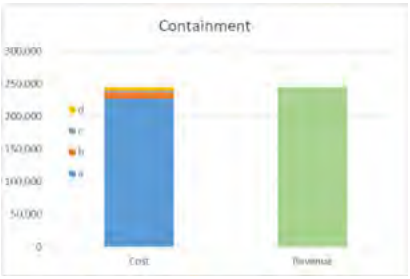
Appendix 2 - Country poster introductions

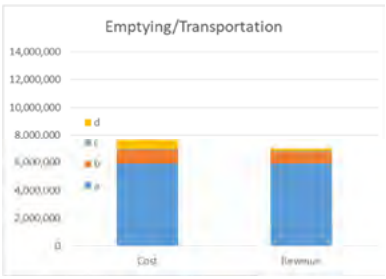
Bangladesh presentation

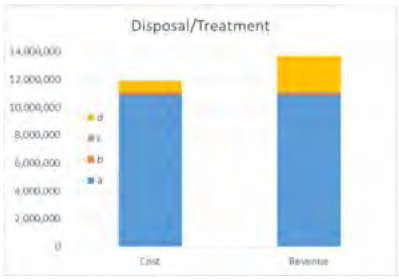
Jhenaidah Municipality



Jhenaidah Municipality has a population of approximately 250,000 inhabitants. The Paurashava outsourced the FSM Services in 2017 to AID Foundation, a local NGO, for the emptying service of pit latrines and septic tanks with 2 Vacutugs (owned by Paurashava) and operation and maintenance of the FSTP (owner by Paurashava). AID Foundation pays to Paurashava a leasing fee of the Vacutugs per every Containment Registration, which should be used to cover bigger repairs and purchase new Vacutugs (depreciation). AID Foundation have the option to use the treated sludge for re-use products, but till today, no activity initiated. In addition, Jhenaidah is the first and unique Paurashava in the country to start collecting since july 2017 Sanitation Tax to all holdings (5% of the value), which is ring-fenced in separate account for big investments in sanitation like new FSTP. AID Foundation had loose in first year, but achieving almost breakeven on 2nd year. However, they are weak in developing further business and scale up.







	Item	Cost (BDT)	Recovered from	Revenue (BDT)
A	Septic Tank	227,500	Owner	227,500
B	Daily use	9,000	Owner	9,000
C	1% of total cost	2,275	Owner	2,275
D	After 40 years	5,688	Owner	5,688
	All costs covered by Owner.			

	Item	Cost (BDT)	Recovered from	Revenue (BDT)
A	2 Vacutug (1 and 2 m3)	5,900,000	Transfer & Municipal Revenue	5,900,000
B	Daily operation	979,048	Service Tariff (85%)	849,868
C	Other costs (pump & others)	60,000	Municipal Revenue	60,000
D	After 10 years	649,000	Vacutug Lease Fee & Transfer & Municipal Revenue &	198,620
	100% capital costs from transfers. O&M almost achieving breakeven, including other AID foundation costs. The lease fee (198,620) is going to general Municipal account, where they pay for big repairs, and new Vacutug in future.			

	Item	Cost (BDT)	Recovered from	Revenue (BDT)
A	FSTP (wetlands)	10,895,790	Transfer & Municipal Revenue	10,895,790
B	Daily operation	157,140	Service Tariff (15%)	149,977
C	Other costs	50,000	Transfer & Municipal Revenue	50,000
D	After 15 years	799,025	Sanitation Tax	2,608,464
	FSTP operated by AID Foundation. Service Tariff covers cost of O&M for Vacutug and FSTP. No re-use production. Sanitation Tax collected by Paurashava for new infrastructure, but not yet used.			

Indonesia presentation

SNV

Cost & Revenue in Sanitation Value Chain
INDONESIA

SANITATION SERVICE CHAIN

ACCESS TO TOILET → EMPTYING & TRANSPORT → TREATMENT → DISPOSAL OR REUSE

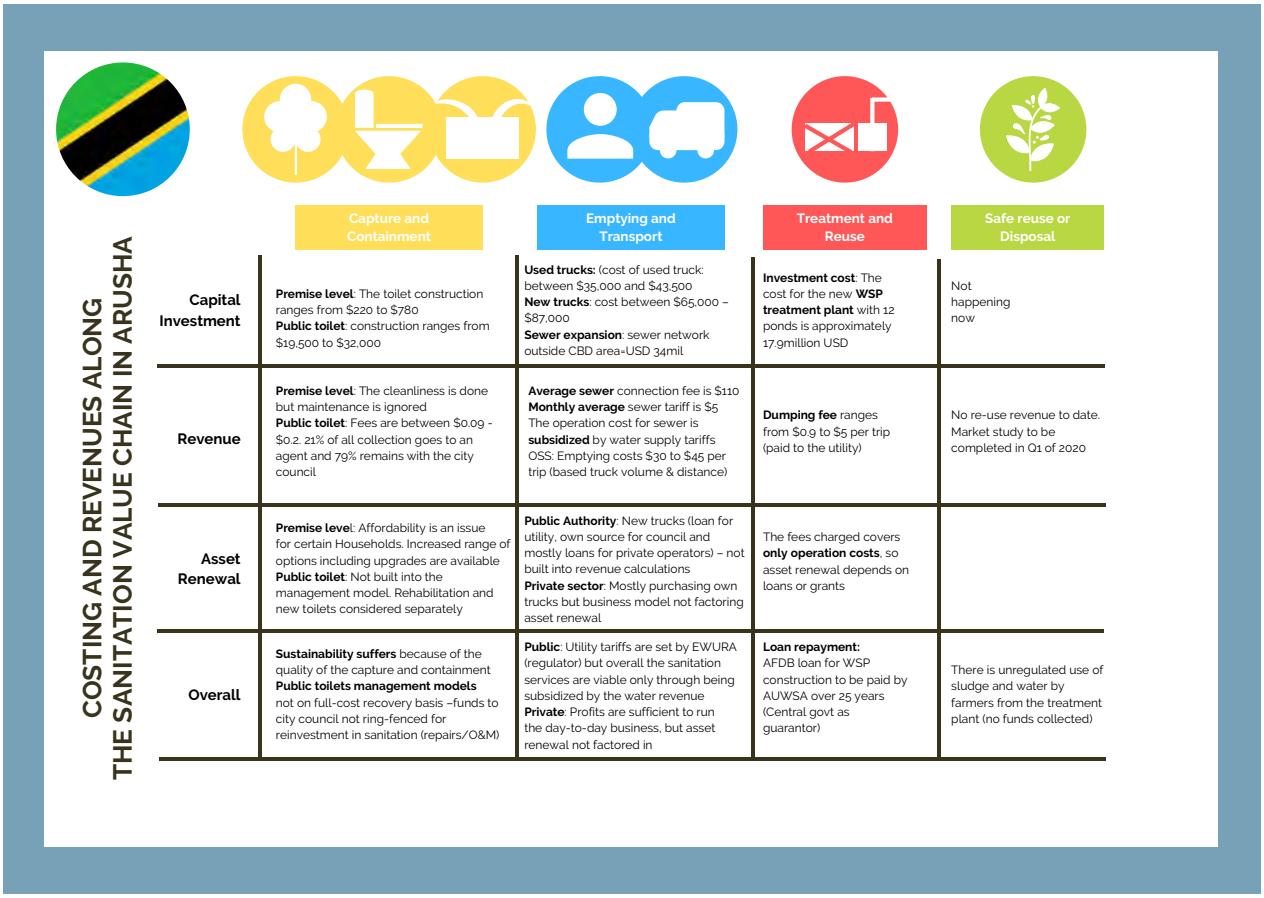
City	Cost	Revenue	Cost	Revenue	Cost	Revenue	Cost	Revenue
Bandar Lampung	• Construction of communal toilets • Socialization to eradicate Open-Defecation	Tax: Provincial Budget Tariff: None Transfer: None Trade: None	• Operational & Maintenance	Tax: None Tariff: waste collection, provision of public toilets and desludging Transfer: None Trade: None	• Construction of off-site system • Rehabilitation of off-site system • Operational & Maintenance • Improve capacity of operator	Tax: • State Budget (DAK & KOTAKU) • Provincial Budget • Municipal Budget Tariff: None Transfer: • NUSP Kotaku Funding • NGO (SNV) Trade: None	N/A	Tax : None Tariff : None Transfer : None Trade : None
Metro	• Socialization to desludging regularly • Construction of household toilets • Construction of school toilets	Tax: • State Budget • Provincial Budget Tariff: None Transfer: None Trade: None	• Operational & Maintenance • Increase of desludging truck	Tax: State Budget Tariff: waste collection, provision of public toilets and desludging Transfer: None Trade: None	Wastewater Management -Improve capacity of operator	Tax: • State Budget (DAK & KOTAKU) • Provincial Budget • Municipal Budget Tariff: None Transfer: • NUSP Kotaku Funding • NGO (SNV) Trade: None	N/A	Tax : None Tariff : None Transfer : None Trade : None
Tasikmalaya	• Construction of communal toilets • Construction of household toilets • Socialization to eradicate Open-Defecation • Replication of SANIMAN project	Tax: • State Budget • Provincial Budget Tariff: None Transfer: None Trade: None	• Operational & Maintenance • Increase of desludging truck	Tax: State Budget Provincial Budget Tariff: waste collection, provision of public toilets and desludging Transfer: None Trade: None	• Construction of off-site system • Rehabilitation of off-site system • Operational & Maintenance • Improve capacity of operator	Tax: • State Budget (DAK & KOTAKU) • Provincial Budget • Municipal Budget Tariff: None Transfer: • NUSP Kotaku Funding • NGO (SNV) Trade: None	N/A	Tax : None Tariff : None Transfer : None Trade : None

Indonesia presentation

Nepalgunj Sub-Metropolitan City, Nepal

Premises	Capital Investment Cost		Annual Operation and Maintenance Cost (Annual)		Asset Replacement Cost (Current Value)			External Revenue	
	USD	Who Pays	USD	Who Pays	USD	Every How Many Years	Who Pays	USD	Who Provides
Sanitation Facility									
Household Toilet & HWWS	220	House Owner	30	House Owner	135	20	House Owner	N/A	N/A
School Toilet and HWWS	5,310	School Management Committee / City / Province / Federal Government / Private School	445	School Management Committee	222	1	School Management Committee / City / Private School	N/A	N/A
HF Toilet and HWWS	3,100	City / Province / City / Federal Government / Private Health Facility	265	HF Management	90	1	HF Management / City / Private Health Facility	N/A	N/A
Public Toilet and HWWS	26,550	City / INGO	3,100	City / Operator	265	1	City / INGOs	1770/year	Public Toilet Users
Containment									
Household - Septic Tank System with Soak Pit	710	House Owner	30	House Owner	710	25	House Owner	N/A	N/A
Household - Single Soak Pit System	45	House Owner	25	House Owner	45	15	House Owner	N/A	N/A
Household - Double Soak Pit System	90	House Owner	10	House Owner	90	15	House Owner	N/A	N/A
School - Septic Tank System with Soak Pit	3,100	School Management Committee / City / Province / Federal Government / Private School	135	School Management Committee	3,100	25	School Management Committee / City / Private School	N/A	N/A
Health Facility - Septic Tank System with Soak Pit	1,770	City/Province / City / Federal Government / Private Health Facility	65	HF Management / City	1,770	25	HF Management / City / Private Health Facility	N/A	N/A
Public toilet - Septic Tank System with Soak Pit	3,540	City / INGO	355	Operator / City	3,540	25	City / INGO	N/A	N/A
Sludge Emptying / Transport									
Manual (including PPE and Rickshaw for)	135	Manual Emptier	90	Manual Emptier	135	5	Manual Emptier	25/service or trip	Service Seeker
Mechanical (Vacuum Truck - 8KL, Accessories & PPE)	10,620	City / Private Service Provider	7,965	City / Private Service Provider	10,620	10	City / Private Service Provider	25/service or trip	Service Seeker
Disposal									
Formal Site (Sludge Tank)	8,850	Federal Government	265	City	8,850	20	City / Province / Federal Government	N/A	N/A
Dumping	0		0		0			0	Fine System in Place, not in Practice
Use on Farmland	0		0		0			0	No Payment to Emptier

Tanzania presentation



COSTING AND REVENUES ALONG THE SANITATION VALUE CHAIN IN ARUSHA

	Capture and Containment	Emptying and Transport	Treatment and Reuse	Safe reuse or Disposal
Capital Investment	**Premise level**: The toilet construction ranges from $220 to $780 **Public toilet**: construction ranges from $19,500 to $32,000	**Used trucks:** (cost of used truck: between $35,000 and $43,500 **New trucks**: cost between $65,000 – $87,000 **Sewer expansion**: sewer network outside CBD area=USD 34mil	**Investment cost**: The cost for the new **WSP treatment plant** with 12 ponds is approximately 17.9million USD	Not happening now
Revenue	**Premise level**: The cleanliness is done but maintenance is ignored **Public toilet**: Fees are between $0.09 - $0.2. 21% of all collection goes to an agent and 79% remains with the city council	**Average sewer** connection fee is $110 **Monthly average** sewer tariff is $5 The operation cost for sewer is **subsidized** by water supply tariffs OSS: Emptying costs $30 to $45 per trip (based truck volume & distance)	**Dumping fee** ranges from $0.9 to $5 per trip (paid to the utility)	No re-use revenue to date. Market study to be completed in Q1 of 2020
Asset Renewal	**Premise level**: Affordability is an issue for certain Households. Increased range of options including upgrades are available **Public toilet**: Not built into the management model. Rehabilitation and new toilets considered separately	**Public Authority**: New trucks (loan for utility, own source for council and mostly loans for private operators) – not built into revenue calculations **Private sector**: Mostly purchasing own trucks but business model not factoring asset renewal	The fees charged covers **only operation costs**, so asset renewal depends on loans or grants	
Overall	**Sustainability suffers** because of the quality of the capture and containment **Public toilets management models** not on full-cost recovery basis –funds to city council not ring-fenced for reinvestment in sanitation (repairs/O&M)	**Public**: Utility tariffs are set by EWURA (regulator) but overall the sanitation services are viable only through being subsidized by the water revenue **Private**: Profits are sufficient to run the day-to-day business, but asset renewal not factored in	**Loan repayment:** AFDB loan for WSP construction to be paid by AUWSA over 25 years (Central govt as guarantor)	There is unregulated use of sludge and water by farmers from the treatment plant (no funds collected)

Zambia presentation

FINANCIAL HEALTH OF SANITATION SERVICES IN KABWE TOWN FOR LUKANGA WATER AND SANITATION COMPANY (*LgWSC*)

SANITATION PRICING REFORMS IN ZAMBIA

- WSS Act provides for NWASCO to develop guidelines for setting of tariffs for WSS
- Key principle - **FINANCIAL SUSTAINABILITY** i.e. to cover O&M and investment costs for both **WATER** and **SANITATION** services.

Challenges

- Cost plus method of tariff setting premised on base year prices
- Sanitation tariffs calculated as a % of the water bill
- Sanitation Tariffs not cost reflective
- **Sanitation tariff** = volume of waste water treated + cost of treating poor quality waste + investments costs for wastewater treatment services.

OVERALL FINANCES INCOME AND EXPENDITURE STATEMENT

	2017
Income	83,550
Expenditure	93,538
Profit	(8,988)

EMPTYING AND TRANSPORTATION CHARGES

Price of emptying (Manual informal) – K150
Price of emptying (Mechanical – Vacuum) – K550
Charges in both instances do not cover O&M

PROFESSIONALIZATION OF FSM SERVICES

New Sanitation Pricing

- New tariff setting model to consider the entire sanitation value chain from collecting, transporting, treatment and disposal
- Considers costs of investment + new investments
- Have Water and Sanitation as separate services- hence separate costs centres
- Service providers to maintain separate chats of accounts
- As much as possible costs should be split at source
- Sewer tariff are separate rising block
- 2 types of tariff for sanitation; **VOLUME** and **QUALITY**

New Sanitation Pricing

- Rising block tariffs (i.e 0-6m3 , 6-15m3 etc)
- Volume of sewage treated is assumed to be 80% of the water volume hence tariffs calculated on that basis
- Cost recover from the 1st Bracket
- Surcharge for poor quality effluent- focus on industrial effluent
- Monthly charge for vacuum tanker services
- Charge per load for vacuum tanker emptying
- Sanitation surcharge for all customers on sewer network save for kiosk/public taps customers

Financial Equilibrium Model

- Depreciation expense **only eligible** if offset by **expenditure** in form of **debt repayment** or **capital expenditure** using **own resources**
- This will not affect interest payment on loans
- CFF+CFI – Dep = Financial Equilibrium Allowance

Quality based tariff for sanitation - Mogdem formula

- Uses BoD, SS, Return Factor and Volume together with specs of model waste water TP (described in IC) are used to calculate projected revenues
- Customers will be categorised in tiers (1,2)
- BoD, SS and Return Factor are seen as constant, volume will vary
- Excess Vol outside standard (mg/l) * treatment cost for that parameter (e.g BoD)
- Treatment cost/ M3 = Assumed apportionment of costs * Av Treatment cost/m3 * level of waste water treatment anticipated

Model Implementation

- Piloting in 6 Utilities including Lukanga and Water & Sanitation Company for rising block sewerage tariff
- Lukanga for monthly vacuum tanker charge
- Quality based sanitation tariff to commerce with Lusaka
- A pricing strategy for OSS and FSM is being developed and currently in draft form

Appendix 3 - Field visit testimonies

Hendry Sitohang - Manager of Onsite Business (Jakarta)

The testimony demonstrates how an individual can be in the middle of a system that isn't working - the operator is blamed because the on-site systems are cost-centres while the offsite systems are not, and as a business he has to help keep costs low and keep everyone happy

When I arrived 9 years ago, nothing was working, electricity was dead, the tariff [for tipping] was very low. The whole plant was covered by dry hardened sludge.

The other managers are angry with me [due to losses of the onsite part of business that he manages]. My assistants say please give me money to buy this or repair that. But I cannot give it as the other managers (of the offsite business) are angry at me... they push me to find break-even point.

Mr Hartono - Head of FSTP, PutriCempo (Surakarta)

Issues with FSTP escalated first with the faulty design, poor construction and lack of regular operation & maintenance.

Running in overcapacity the FSTP was designed for 45 m3 but is receiving 100 m3.

We do not own the land hence there are complications for allocation of budgets

There is a plan to rehabilitate in 2020 to move towards safely managed sanitation.

Mr Novea - Recipient of government support for septic tank (Tangerang)

Mr. Novea is 32 years old and married with five children. He inherited the land from parents.

He has no fixed employment (motorbike taxi, builder, etc.).

Beneficiary from house and toilet improvement (bamboo to concrete wall, soil floor to tiles, OD to proper toilet)

This support will change my life. We will have a cleaner environment and a healthier lifestyle for me and my family. The community is also happy because the environment is cleaner for all of us.

We would wish for more comprehensive financial support to further improve the facilities and maintain it.

Mrs CucuSri Rahayu - Headmistress of SMPN 2 Curug (Tangerang)

Mrs. CucuSri Rahayu is the Headmistress of SMPN 2 Curug, Tangerang since 2015. She manages the school, and motivates teachers and students to improve sanitation behaviours.

Her school was rewarded for best O&M of School Sanitation Facility regionally in 2016.

In my time the toilet used to be a dark and hidden place

With the new clean and bright toilet facilities, my students feel happy and comfortable. It is a strong motivation for them to come to school”

I would invite other head teachers to come to my school so they can see with their own eyes the impact of sanitation improvements on the school environment and children’s happiness”

The most important to sustain success is to invest in student responsibility and ownership of the toilet operation and maintenance

Samini - Recipient of aid to build a latrine (Karanganyar)

My name is Samini. I am a housewife. I am married. My husband is Suwandi. We are a small family, with a 15-year old boy in Grade 3 of Junior Highschool. My husband is a construction worker.

I used to defecate in the open, by a small stream near my house; before 2019. This year I received assistance from BAZNAS. They built a latrine and a septic tank in our backyard.

Back in early 2018, our Village Authority conducted a survey in our bayan (similar size of a hamlet under village territory). They found that in Bayan Pingit (name of hamlet), Kelur ahan Bolon of Sub-district of Karanganyar - which is my place - there were 12 households with no latrines. The Village Authority proposed to the Government of Karanganyar to grant us a latrine. But it was not successful. Then again, this year they proposed it to BAZNAS, and BAZNAS approved it.

Each household was provided with construction materials worth IDR 2 million. The money was not given to us, but the materials needed were provided. My husband constructed the substructure and superstructure, and also the septic tank with the help of our two nephews. I added IDR 400,000 for the construction costs. It took two weeks for my latrine to be built.

I am now included in the government programme of Regular Desludging Service. My septic tank will be emptied after three years. The first service comes free. But succeeding services will cost me IDR 250,000 per desludging works.

I am happy now! It was difficult to defecate into the stream. Now my village is free from open defecation practice. It brings me happiness to know that my neighbourhood is healthy. This is why the people of Karanganyar supports government programmes related to health improvements.

Appendix 4 - E-group summary

"Sustainable Cost Recovery and Equity in Urban Sanitation" - 2019

Explanation of the preparatory Egroup discussion

Dear colleagues,

This November SNV is conducting a learning activity called "**Sustainable Cost Recovery and Equity in Urban Sanitation**" as part of its knowledge and learning component of the programme: Urban Sanitation & Hygiene for Health and Development.
The learning activity consists of:

1. A preparatory **email discussion running on this Egroup platform** from tomorrow week Thursday 31st of October till the 20th of November

2. A **face-to-face workshop**, which will take place in Jakarta, Indonesia from Monday 25th till Thursday 28th of November

3. **Follow-up activities in countries**, depending on country priorities

While the face-to-face workshop will have a limited number of invited participants from SNV's programme cities, the Egroup is open to all. In this email I will explain how the Egroup discussion works.

For whom is the Egroup discussion?

The discussion is for all people interested in urban sanitation and hygiene in Asia, Africa and Latin America. We are giving preference to people from local and national governments who are currently working in the sector, but there are also professionals from many development organizations and banks. Currently there are 372 people in the urban san Egroup. If you would like someone else to join, please ask them to send a mail to: urbansan+subscribe@snvwash.groups.io

What will we discuss?

Financial sustainability of services along the sanitation chain, and where public funding should be used to ensure sustainability and greater equity. The discussion will build upon the 2014 discussion and paper about financing urban sanitation. The difference is however that last time the focus was more on repayable finance mechanisms, whereas this time the focus is on making to role of decision makers to ensure sustainable services for all and make the best use of public money.

To explore this issue, we will discuss 3 topics and each topic will run for one week. At the end of the discussion, we'll make a summary paper as input for the workshop. Below are the three topics. The discussion on the first topic will start tomorrow.

Topic	*dates*	*Topic*
Topic 1	31/10- 6/11	What do we see as sustainable cost recovery?
Topic 2	7/11- 13/11	Strategies for greater equity in targeting public funding
Topic 3	14/11- 20/11	Tools and limitations of tools

Only part of the people in the Egroup will participate in the learning event. Therefore we will be sharing the report of the learning event and the different materials on this forum as well.

HOW DOES IT WORK?

On the first day of the discussion, you will find some questions in your inbox. Everybody is invited to share their ideas, comments and examples, responding to the Egroup message. All experiences and opinions are welcome and please don't be shy to contribute.

Please write your message in the main email text and not in an attachment, because some participants are based in remote locations with limited internet speed. Egroup automatically stores attachments on the website, so people would need to go there to read your attachment.

At the end of the week, all messages of the block will be processed and integrated into a chapter of the summary document. This will be the same for all 3 topics.

Looking forward to hear from all of you over the coming weeks!

Best,

Ant.

Topic 1: What do we see as sustainable cost recovery in city wide sanitation services?

31st of October till the 6th of November

Dear colleagues,

Today is the first day of the discussion on "Sustainable cost recovery and equity in urban sanitation". In this discussion we will explore financial sustainability along the sanitation chain and where public funding will contribute to greater equity. The discussion is a follow-up of the discussions that we held in September- November 2014 on Financing urban sanitation, and the subsequent paper with UTS/ISF (https://snv.org/cms/sites/default/files/explore/download/snv_financing_sanitation_learning_paper_0-2.pdf) .

At that time, we discussed specifically the life-cycle costs of large infrastructure, that is: the initial investment of that infrastructure, cost of day-to-day operations (c) expenses for intermittent maintenance, and the cost of a renewal. We discussed whether in people's experience this comes from tariffs (user payments), taxes or transfers (from national government or other). We also explored the options for using repayable finance to cover any of those life-cycle costs. I'm a bit divided whether or not I should give you more background on this discussion, as I realise not everybody in the group now, was engaged at that time. However, I also want us to move forward in this topic, therefore I will share the full summary of that 2014 discussion in a separate mail today.

One of the recurring messages in the 2014 discussions and paper was that we should strive for "Sustainable Full Cost Recovery" of sanitation services as opposed to simply full cost-recovery of services. Sustainable full cost recovery would consider taxes and transfers, in addition to user charges to cover the life-cycle costs. That's widely accepted in the sector, already proposed by the Camdessus panel in 2003. The main question is how city authorities, and perhaps responsible utilities, can operationalise this concept of sustainable full cost recovery in their city. What does it mean in practice? Related to that is the question about what is the best use for public funding and thus where full cost recovery by tariffs should be demanded.

We are now looking at the entire city sanitation service, not only the large infrastructure. This means, along the sanitation value chain, in all parts of the city and reaching all people, considering that all the related infrastructure has its own life-cycle costs. Hence the first topic is called: "What do we see as sustainable cost recovery in city wide sanitation services?". This topic will run from today 31st of October till next week Wednesday 6th of November. The discussion questions are:

1) How do you assess the financial health of the sanitation services in a city? (your city) What do you take into account in terms of life-cycle costs and along the sanitation value chain?
2) Which parts of the sanitation value chain and/or life-cycle cost do you consider should be covered by tariffs and where do you consider taxes or transfers should be used?

3) Why should those costs be covered by taxes and/or transfers in your view? How is this the "best use of public money"?

I realise that these are all challenging questions, and I am really looking forward to your views. Of course, you are welcome to discuss only one or two of these.

You can contribute by replying to this email. As always, please do mention your name, organisation and country in you reply, and please refrain from sending attachments which will be moved to the Egroups website and are less likely to be read by people.

For your reference, I have included below some basic concepts from the financing paper.

Best,

Ant.

1.1 Introduction to the topic (from Financing Sanitation in Cities and Towns, 2014)

Most people would agree that there are costs in providing a service such as sanitation, and that these costs need to be recovered if the service is to continue being provided long term. But there are differences in understanding *what* the costs are, and *how* they should be accounted for and recovered. In this topic we will try to share with you the latest thinking in the WASH sector about costs and cost recovery.

Note that in this topic, we talking only about monetary costs. Ideally we could also be taking into account environmental costs or impacts, and also social impacts, but that will be too much to address in a 2 pager.

This background summarises 3 points:

a. The type of costs in urban sanitation service provision
b. The type of sources for covering these costs could be, and
c. How thinking about this has changed over time

1. What are the costs of sanitation service provision?

From the very beginning of planning sanitation infrastructure and services, we need to think about the costs that are involved in providing sanitation over the life of the service – what we call **lifecycle costs**. This allows us to understand what finances need to be found and when. Otherwise, it will not be possible to provide a sustainable service.

Groups such as IRC's WASHCost researchers have explained the main lifecycle cost elements**.** For the purpose of our discussion, we can group those costs in 4:

a) **Initial investment** – community engagement, project preparation, system design, site preparation and installation, commissioning etc. Also includes service extensions.

b) **Regular day-to-day operations** – operation and maintenance of hardware, administration and management, community engagement, utilities, etc.
c) **Intermittent maintenance** – minor repairs and replacements (e.g. pumps), desludging, etc. required at relatively short time intervals
d) **Major rehabilitation, replacement and asset renewal** – major activities required at relatively long time intervals, such as repairs and replacements of aging infrastructure elements

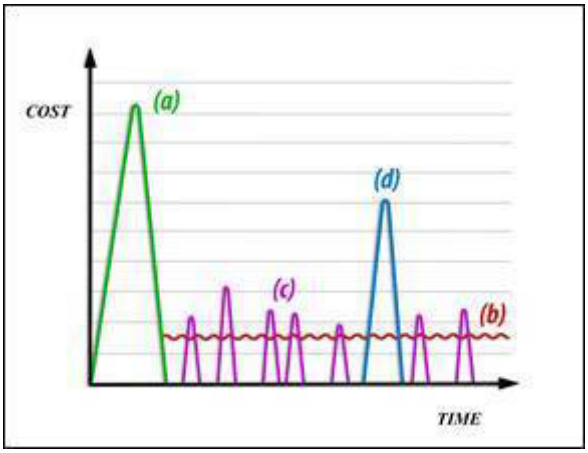


FIGURE 1: LIFECYCLE COSTS: COSTS INCURRED OVER THE WHOLE LIFE OF SANITATION SERVICE PROVISION (A) INITIAL INVESTMENT (B) DAY-TO-DAY OPERATIONS (C) INTERMITTENT MAINTENANCE (D) ASSET RENEWAL

As we all know, the initial investment is high, and many plans disappear into the drawers because no money is found for (a) or (d). We will focus the discussion on these costs, *upfront finance and other 'lumpy' finance* ((a) and (d) above) for initial investment and for rehabilitation/replacement when physical assets approach their end of life. The upfront investment determines the nature/quality of the service, and the decisions made upfront have a profound influence on the performance of the entire sanitation service chain.

Of course finances to carry out day-to-day operations are absolutely critical, and also an important discussion but their financing is qualitatively different. Regular cash-flows (such as tariffs paid monthly, or annual government allocations) are needed for these relatively smaller ongoing requirements, whereas the 'lumpy' investments require relatively large sums of money upfront.

To keep things simple with our focus on financing the larger investment costs, we will use two cost groupings for our discussion:

- *Investment costs* (initial investment and rehabilitation, the **major lumpy costs** in the lifecycle, *a* and *d* above) and
- *Operation & maintenance costs* (all other costs incurred regularly on shorter timeframes) (b and c).

2. What are the sources of revenues to cover the costs of sanitation services?

The 3 main sources of revenues for water and sanitation services are tariffs, taxes and transfers.

Tariffs - contributions made by service users in return of using the service
Taxes - costs paid for by government funds raised through the tax system
Transfers - contributions made by international donors (ODA or 'overseas development aid') and a range of other charitable entities through grants, low interest loans and underwriting projects through guarantees.

Ideas about how water and sanitation services should be financed have changed over time, with 3 clear patterns of widely accepted thinking that dominated at different times:

d. (1) Funding mainly by **taxes** (*late 1850s to 1970s*):
   Urban infrastructures (water, sanitation, electricity etc.) were viewed as public services contributing to economic growth in industrialising European countries, and funded **by governments**. While these government investments supported rapid economic growth, the approach also led to low cost recovery and funding shortfalls especially for developing countries.
e. (2) Funding by **tariffs** (*1980s onwards*):
   With the rise of market economic thinking and need to recover costs, governments adopted the 'user pays principle' and the idea of '**full cost recovery**' through tariffs paid **by users**. Although adopted widely as policy, in practice, water charges seldom covered the complete costs of water services even in industrialised countries.

   (3) Funding by **tariffs, taxes and transfers (the 3Ts)** (*since 2003*):
   Seeking paths to financing the water and sanitation MDGs, the 2003 Camdessus Panel proposed the concept of **'sustainable cost recovery'** using a mix of tariffs, taxes and transfers as a more realistic way for developing countries to finance lifecycle costs of water services and leverage other sources of financing (from commercial/private sector). The OECD has endorsed this concept.

The most current idea about how water and sanitation services should be financed is through the 3Ts as the main sources.

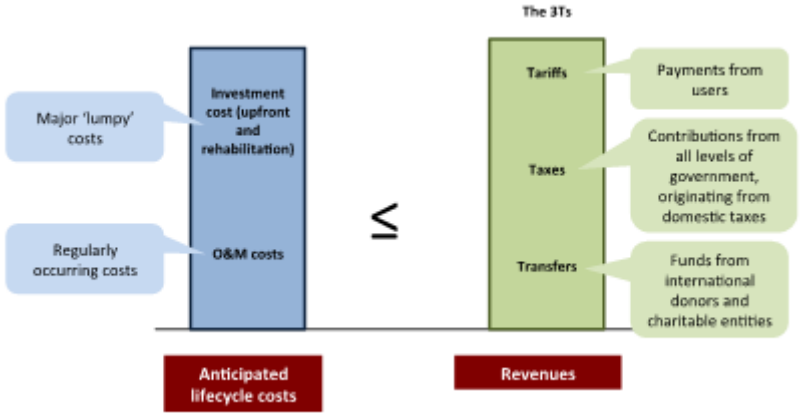


Figure 2: For sustainable cost recovery over the lifecycle of the sanitation service, the stream of revenues from the 3Ts should match or exceed the expected lifecycle costs

3. Using repayable finance for upfront investment in sanitation

When planning sanitation services, we need to make sure the revenues from tariffs, government contributions and donor support (3Ts) can fully cover the anticipated costs over the lifecycle of the service (Figure 2).

There is of course a great urgency for increasing (and sustaining) sanitation services. In urban context, this requires relatively large sums of money to provide the upfront for the initial investments (a) in Figure 1. These large sums cannot be provided immediately through the 3Ts and their traditional sources of grants and donor aid for all towns and cities. However, the alternative, that these cities and towns will wait to improve their sanitation, is not acceptable from a human health perspective. Therefore, we need to look for other sources that can help closing this finance gap at the start, such as loans. Of course, that means that money has to be paid back.

Repayable finance ("loans") is therefore an important method of securing the large sums of money from non-traditional sources, to provide the upfront capital for the 'lumpy' cost items (a) and (d) in Figure 1. While such funds bridge the shortfall in upfront capital, they need to be repaid some time in the future through the 3Ts that may come in smaller amounts over a long time (such as monthly tariffs and annual government allocations). If a project's revenues from the 3Ts are insufficient, leaving a financing 'gap' over the lifecycle of the service, the project will be unsustainable – it will struggle and ultimately fail to provide services.

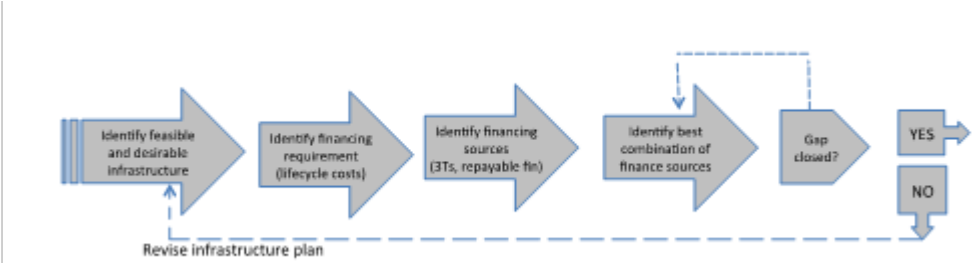


FIGURE 3: PLANNING FINANCE IS AN ITERATIVE PROCESS OF *REDUCING PLANNED COSTS* AND IDENTIFYING A RIGHT MIX OF 3TS THAT IN COMBINATION WITH SCHEMES FOR *ACCESSING REPAYABLE FINANCE*, MEET THE REQUIREMENT FOR SUSTAINABLE COST RECOVERY. IF THE FINANCING GAP OVER THE LIFECYCLE OF THE SERVICE CANNOT BE CLOSED, THE SANITATION INFRASTRUCTURE PLAN WOULD NEED TO BE REVISED.

Sustainable cost recovery means that the total revenues from the 3Ts must be cover all the costs (a), (b), (c) and (d) in Figure 1, including the costs of the repayable finance (repayment of capital and interest and any fees).

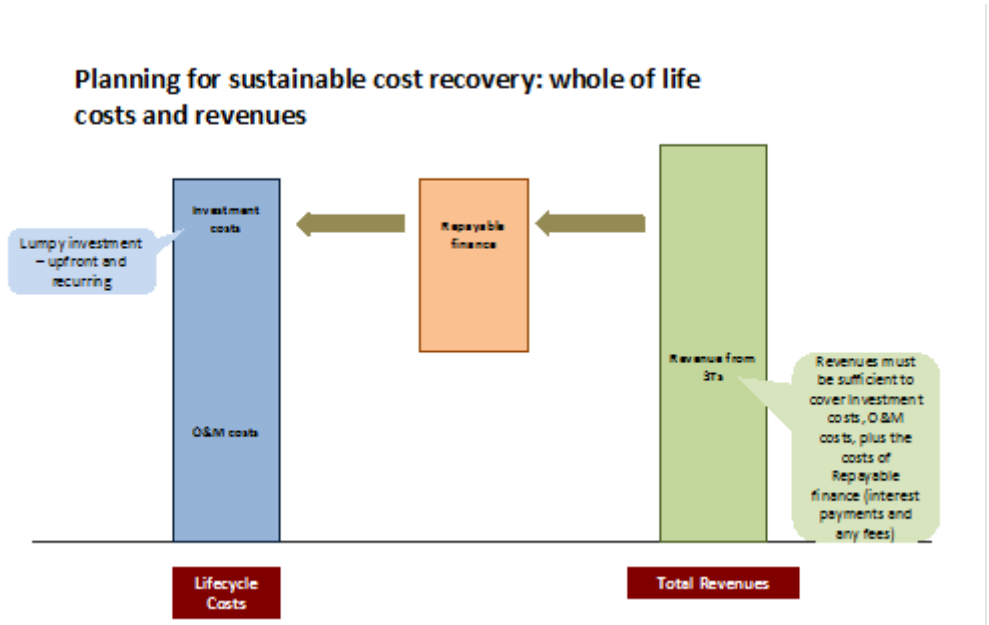


FIGURE 4: EXAMPLE FINANCING PLAN WHERE THE SHORTFALL IN UPFRONT CAPITAL IS BRIDGED THROUGH REPAYABLE FINANCE, AND REVENUES FROM THE 3TS ARE SUFFICIENT TO COVER ALL COSTS INCLUDING REPAYMENT OF FINANCE.

(1) Funding by tariffs, taxes and transfers (the 3Ts) (*since 2003*): Seeking paths to financing the water and sanitation MDGs, the 2003 Camdessus Panel proposed the concept of **'sustainable cost recovery'** where the full lifecycle costs of water services are recovered through a

The 3Ts

Tariffs - contributions made by service users in return of using the service
Taxes - costs paid for by government funds raised through the tax system
Transfers - contributions made by international donors (ODA or 'overseas development aid') and a range of other charitable entities through grants, low interest loans and underwriting projects through guarantees.

combination of tariffs, taxes and transfers, known as **the 3Ts** (Trémolet & Rama, 2012).

The notion of sustainable cost recovery, now endorsed by the OECD, recognises that using a combination of tariffs, taxes and transfers is a more realistic way for developing countries to finance lifecycle costs of water services, and can be used to leverage other sources of financing (from the commercial and private sector). Sanitation services have a large element of public good so partial funding through government taxes is justifiable. Public funding is also essential to ensure that the poor are not excluded from services (Mehta, 2003). Furthermore, it is recognised that international donors and a range of other charitable entities can make useful contributions towards achieving the MDGs.

1.2 Summary Topic 1: What do we see as sustainable cost recovery in city wide sanitation services?

Dear colleagues,

Last week we concluded the first topic of the discussion on "Sustainable cost recovery and equity in urban sanitation". This first topic ran from 31st of October till the 6th of November, aiming to first understand what we see as sustainable cost recovery in city-wide sanitation services. There were 13 contributions, from 12 people from 10 countries: Tanzania, Bangladesh, Malaysia, Indonesia, Nepal, Zambia, Honduras, Mozambique, Rwanda and Uganda. Thank you all for your interesting contributions!

The discussion questions were:

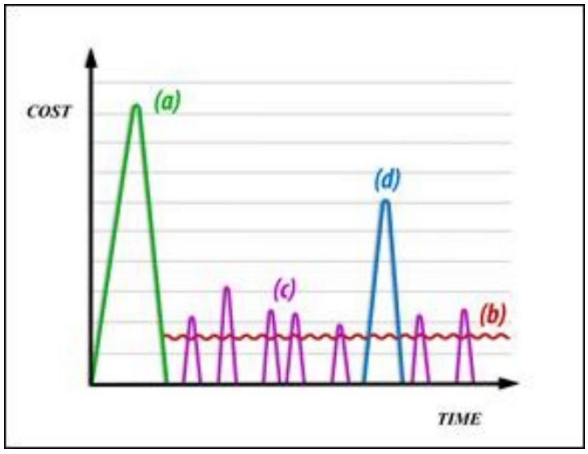
4) How do you assess the financial health of the sanitation services in a city? (your city) What do you take into account in terms of life-cycle costs and along the sanitation value chain?
5) Which parts of the sanitation value chain and/or life-cycle cost do you consider should be covered by tariffs and where do you consider taxes or transfers should be used?
6) Why should those costs be covered by taxes and/or transfers in your view? How is this the "best use of public money"?

Below I will try to give a short overview of your contributions. Please accept my apologies for any misinterpretations.

Best,
Ant.

Ad 1. How to assess the financial health of sanitation services in a city?

For financially sustainable sanitation services, the life-cycle costs of all elements along the sanitation value chain should be covered, that is:



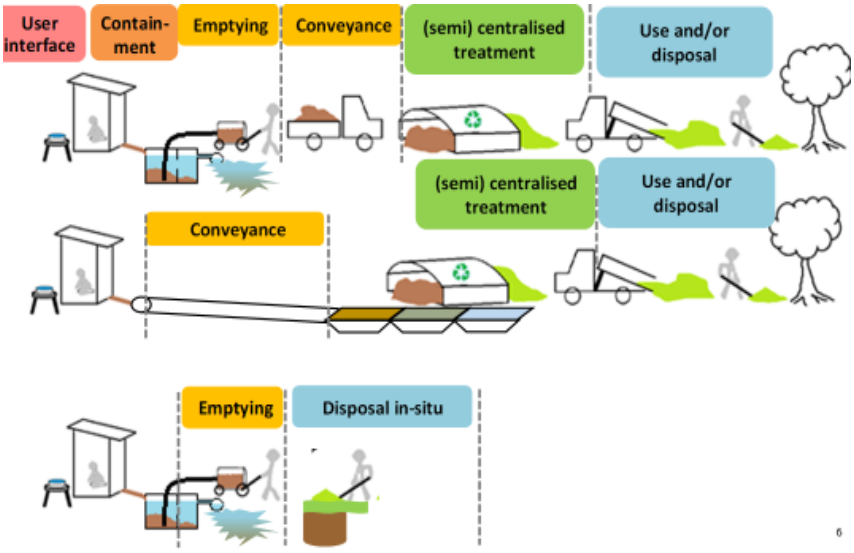
a) **Initial investment** – community engagement, project preparation, system design, site preparation and installation, commissioning etc. Also includes service extensions.
b) **Regular day-to-day operations** – operation and maintenance of hardware, administration and management, community engagement, utilities, etc.
c) **Intermittent maintenance** – minor repairs and replacements (e.g. pumps), desludging, etc. required at relatively short time intervals
d) **Major rehabilitation, replacement and asset renewal** – major activities required at relatively long-time intervals, such as repairs and replacements of aging infrastructure elements

As Lena Saptalena from Indonesia commented, for sanitation, especially on-site sanitation, this is almost a matrix with the sanitation value chain horizontally and the life-cycle costs vertically:

	User interface	Containment	Emptying	Transport / conveyance	Treatment	Re-use/ disposal
a) Initial investment						
b) Regular day to day operations cost						
c) Intermittent maintenance costs						
d) Major rehabilitation, replacement and asset renewal						

However, the additional complication is of course that in a city, there may be several, interconnected sanitation value chains. Like Fred Lyimo from Tanzania explains, there is 7.6% sewer in the city centre, on-site household sanitation and also other services like public toilets. Hence in some cities, the above matrix might be multi-dimensional…

But let's go back to the question how to assess the financial health of sanitation services in a city. Many of you pointed out that this is very difficult to nearly impossible. First of all, due to the fragmentation of responsibilities along the sanitation value chain, especially for on-site sanitation. Unlike piped water supply, ownership of assets along the sanitation chain may lie with different entities. Furthermore, as Nadira Khawaja from Nepal writes, finances and management is sometimes intertwined with other services (not ringfenced for sanitation) and key stakeholders may be reluctant to share financial information. For example, private sector provides might not want to show profit to avoid taxes. Hence you suggested alternatives for assuring the financial health of sanitation services:



- Focus mainly on the financial health of big infrastructure (Fred Lyimo)
- Make sure that the type of infrastructure to be build, considers the financial capacity of users and government (Dorai Narayan from Malaysia)
- Use proxy indicators – such as sustained quality service- to assess whether sanitation services are financially viable (Nadira Khawaja)
- Focus rather on sustainability and affordability of the service as a whole (Lena Saptalena)

However, Ika Yuniarti from Metro in Indonesia suggested that the problem is not so much the financial health of services, but rather the unclear institutional framework, the lack of willingness-to-pay and the need to adapt service models for sanitation so that polluters are also paying. That is, not only the ones who receive the service should pay, but also the ones who do not want to connect to sewer or those who do not maintain their septic tank properly. For example, Fred shared the low willingness to connect to sewer from some households in Arusha, as they feel that having a septic tank will be cheaper. Lena and Dorai also advocate for charging the cost of pollution in addition to the cost of service.

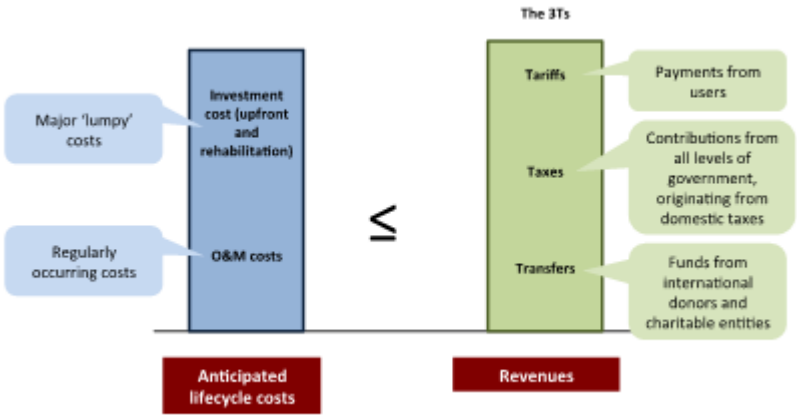
Marc Casas from Bangladesh explains that one of the main bottlenecks for financially health sanitation services is undue spending. He provides the example of oversizing of treatment plants while the demand (required load) is not yet there and tends to develop slowly over time. Dorai states this oversizing also happened in Malaysia. Another issue is the disbursement pressure in the construction of large infrastructure, which leads to high treatment capacity in view of low demand. The challenge, as Lena explains, is the plants are operating under capacity, hence receive less revenue from tariff and are unable to cover their costs according to plan. In Indonesia there are now 283 sludge treatment plants of which about 20% is functional. Aside from the above factors, there are also challenges in relation to "soft ware elements", such as regulation,

standardization, planning, preparation of SOPs etc. The lack of consideration of those elements in the costing, jeopardizes the effective and efficient use of infrastructures.

Looking back at the question, it seems that 1) there is still a way to go in most cities in order to have an overview of the financial health of sanitation services, 2) we have not entered the methodological side of the question.

Ad 2. Which parts of the sanitation value chain and/or life-cycle cost do you consider should be covered by tariffs and where do you consider taxes or transfers should be used?

As mentioned in the introduction to the topic 1, sanitation costs can be covered by tariffs, taxes or transfers. Tariffs are only paid by the people directly benefitting from the service, and sometimes the value of the tariff depends on use. Hence people tend to consider this fair: you pay for the service that you use.



Taxes, however, are paid by all irrespective of use of the service. Hence if we use taxes – from all- to pay for the services of a specific group, we are basically subsidizing this group. When you subsidize one group with the money from all, there needs to be a good reason to explain why this is fair.

In response to the above question, Kumbulani Ndlovu from Zambia explained that according to principle 4 of the Zambian water policy (2010), user charges should be full cost recovery. Meaning they should cover the entire chain as well as all life-cycle costs. However, at the moment this is not yet possible, so the idea is to introduce this gradually.

You basically all stated that:

- All life-cycle costs of user interface and containment should be paid by the users.
- The O&M costs of direct services should come from tariffs.
- Costs for treatment and re-use should come from taxes and transfers

Hence the matrix would look more or less as below (see legend at the bottom):

	User interface	Containment	Emptying	Transport / conveyance	Treatment	Re-use/ disposal
a) Initial investment						
b) Regular day to day operations cost						
c) Intermittent maintenance costs						
d) Major rehabilitation, replacement and asset renewal						

f.

Directly covered by owner	
Tariffs	
Taxes or transfers	

You did add a few caveats.

First of all, Marc, Dorai, Nadira all stated that there could be public funding (taxes or tariffs) for the user interface and containment if the users are extremely poor or the government demand a very high-quality containment like the Jokhasou in Japan (see picture below). Nadira did however caution to consider perverse incentives and long-term effects on governance of the type of subsidies.

Secondly, Yerri Noer Kartiko from Indonesia emphasizes the importance to calculate the right tariff or tax needs, considering technical and management costs, but also other costs like those for enhancing public participation and engagement, to keep systems running even in an emergency, and the costs to educate the public. In this sanitation value chain visualisation, such costs are not so evident, and risk being forgotten. This is also valid for the "software" costs mentioned by Lena. Kumbulani shares that in Zambia a special pilot has started between the regulator and 3 utilities to define "Pricing for sanitation services".

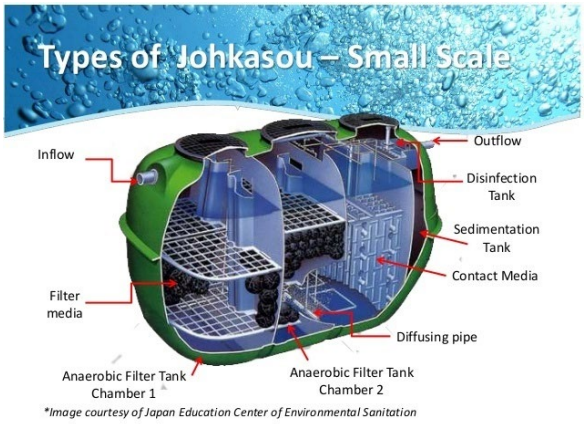


*Image courtesy of Japan Education Center of Environmental Sanitation

Thirdly, tariffs should provide the right incentives and be affordable. Cross-subsidies, as explained by Ika Yuniarti from Indonesia and others, can help to distribute costs according to level of use and payment capacity. Another measure might be the introduction of polluter pays models. Chemisto Ali from Uganda shares a case where the tariffs are low because the private sector does not abide by the regulations.

Marc gives the example from Jhenaidah where the municipal sanitation tax is generating the fund for investments and major rehabilitation (a and d). Nadira provides an example of taxes from planned housing estates generate funding for those costs.

Patricia Solorzano from Honduras and Horácio Quembo from Mozambique explained that in theory such large investments should come from taxes and transfers, but that in practice the budget allocated is minimum due to the low priority of sanitation.

Finally, in the long run, Dorai says, there can be a small revenue from sales of re-use products that could be considered.

Ad 3. Why should those costs be covered by taxes and/or transfers in your view? How is this the "best use of public money"?

As Getachew Belaineh from Rwanda pointed out, in answering this question it's important to consider that the value of life-cycle costs should always be compared against the level of service. Those levels of service can be different across a city, which may affect the justification whether or not to cover investment and major repairs from taxes and transfers.

You gave many different answers to this question. These are the reasons you gave:

Because the money isn't there in tariffs and the cost is high
A number of people simply said that the initial investments and major rehabilitation, replacement and asset renewal should be paid from taxes and/or transfers because the tariff cannot cover it.

Because it's a public benefit
Dorai suggested to differentiate between private and public benefit. While the benefit of basic sanitation is mostly private, he says, safely managed sanitation has a much wider public health benefit. However, Kumbulani explained the negative effects of a lack of any kind of sanitation in terms of public health and economic development. Patricia also pointed to the public health risks.

Because the asset ownership is public
Kambole Mwambazi from Zambia also explained that the ownership of the assets will be retained by the state, or only be transferred to the utility upon meeting certain conditions (besides mentioning that poor sanitation affects the most vulnerable people most).

Because it's a government duty
Horácio stated that it is the obligation of the government to provide sanitation, and this is why such high infrastructure costs should be covered from public money.

Because it will be a destruction of capital
Getachew explains that in practice it may not always be possible to cover the operation costs from tariff, and that subsidy is needed to avoid losing the infrastructure investment. He provides the example of waste treatment plants in Kigali and three secondary towns where the operationalisation is becoming difficult.

Topic 2: Can public funding (taxes and transfers) in sanitation contribute to greater equity?

7th -13th of November

Dear colleagues,

Welcome to the second topic of our discussion on "Sustainable cost recovery and equity in urban sanitation". The second topic asks whether public funding in sanitation can contribute to greater equity. The topic runs from today, 7th of November till next Wednesday 13th of November.

Over the past week, we received 14 contributions from 13 people from 9 countries, with two of these coming in just now when I'm typing this. Thank you all for your contributions. I hope to get the summary of the first topic to you over the weekend.

In the first topic we discussed what you see as sustainable cost recovery in city wide sanitation services, that is for all parts of the city, along the sanitation value chain and considering the costs of investments, operation and maintenance, repairs and renewal of assets. Most of you indicated that tariffs should cover costs of day-to-day operations and intermittent maintenance, while in most cases you expect upfront infrastructure investments and asset renewal to come from taxes or transfers. You also spoke about affordability in relation to tariffs and about some countries having a low tax base.

It is clear that affordability challenges are not uniform across the entire population, nor are the costs of services the same in all contexts. It is also clear that tax money is always limited with many competing demands, not only from sanitation. Hence there are trade-offs in the decisions about where to use money coming from taxes or transfers. While larger infrastructure investments are often paid from loans, these loans are ultimately paid back from tax money. It maybe though that this is national tax money -paid by everybody in the country- for infrastructure that only benefits a certain group of people in certain cities.

In the latest JMP reports, there was a focus on rates of change and service gaps between the richer and poorer groups in a country. It was clear that these gaps exist in all countries. The SDGs are of course all about inclusion and reducing inequality. However, when we look at the sanitation investments paid by taxes and transfers, these are not always directed towards the poorest groups. For example, investments in sewer networks for the central business district, can be assumed to increase service levels for the better off people in a city.

The discussion questions are:

1) Do you consider that the current use of taxes and transfers in sanitation (in your city or country) is contributing to reducing inequality in sanitation services? Why/ Why not?
2) Do you think that this is even a realistic and/or desirable expectation?
3) In your view, what would be required to ensure the use of taxes and transfers contributes to reducing inequalities in sanitation services? (or said otherwise: "how?")

Again, I realise that these are not the easiest questions to answer, so feel free to discuss the topic more broadly. Either way, I am really looking forward to hear from you.

As for the previous topic, you can contribute by replying to this email and please mention your name, organisation and country in your reply. This will help others to understand your message better.

Best,

Ant.

P.S. The SuSanA team is interested in sharing the messages of this discussion on the SuSanA forum. If you do not want this, please indicate this in your contribution or write to me directly (akome@snv.org) or to the moderator of the SuSanA forum: Elizabeth Muench (elisabeth.muench@ostella.de) . They would also like to copy the messages from the first topic to the SuSanA forum. However, if you are not comfortable with that, let me or Elizabeth know, and we will not do share your contribution. We will treat this confidentially.

2.1 Summary Topic 2: Can public funding (taxes and transfers) in sanitation contribute to greater equity?

Dear colleagues,

Hereby the summary of the second the topics of the discussion on "Sustainable cost recovery and equity in urban sanitation", which ran from the 7th till the 13th of November.

There were 14 contributions from 9 countries: Tanzania, Bangladesh, Indonesia, Zambia, Honduras, Mozambique, Uganda, Kenya and USA. Thank you all for your interesting contributions!

The second topic explored whether public funding (taxes and transfers) in sanitation can contribute to greater equity. The discussion questions were:

4) Do you consider that the current use of taxes and transfers in sanitation (in your city or country) is contributing to reducing inequality in sanitation services? Why/ Why not?
5) Do you think that this is even a realistic and/or desirable expectation?
6) In your view, what would be required to ensure the use of taxes and transfers contributes to reducing inequalities in sanitation services? (or said otherwise: "how?")

Below I will try to give a short overview of your contributions. Please accept my apologies for any misinterpretations of your responses.

Please don't forget to write on the third topic which closes this coming Wednesday.

Best,
Ant.

Ad 1. Do you consider that the current use of taxes and transfers in sanitation (in your city or country) is contributing to reducing inequality in sanitation services? Why/ Why not?

Of the people responding to this question, 30% said yes taxes and transfers in my country are helping to reduce inequalities, 25% no, it does not and 40% said yes and no. The latter group indicated that in some cases taxes and tariff do contribute to reduce inequality, while in other cases it doesn't. Or, as Chemisto Ali from Uganda says, it does, but insufficiently.

Yes, the use of taxes and transfers is reducing inequality

The main reason why you consider that the use of taxes and transfers is reducing inequality, is because there is investment in low income areas. For example, in Bangladesh, Marc Casas writes, the NUPRP project invests in low income areas in 21 cities, and this includes investment in sanitation. In Zambia, Emily Banda and Chola Mbilima explain, the sanitation levy is paid by the connected households. This sanitation levy is ringfenced and then used to provide sanitation facilities for low-income communities. In Lusaka the sanitation levy started in 2012. Up till now it has funded 200 on-site sanitation facilities in three low-income areas and is also contributing to the construction of condominial sewer in another peri-urban area.

In Kenya, Reinilde Eppinga explains, water utilities now have a "Pro-poor unit" which looks specifically at improving water and sanitation services for low-income areas. Kenya also has the Water Services Trust Fund at the national level, which provides financing to water utilities to improve their services – often for those underreached.

In Tanzania, Fred Lyimo shares that the new AfDB investment for sewerage will also include peri-urban areas, as well as sanitation facilities in public and institutional facilities.

Lena Saptalena explains that in Indonesia, there are several funding streams aimed to improve services in low-income areas:

- National budget funds large infrastructure and national programmes
- National budget also funds Special Allocation Funds (called DAK) that can be accessed by local governments to support low-income communities in their area.
- There is funding provided from the provincial level to local governments
- There are taxes raised directly at the local government level.

National and provincial funds are allocated on the basis of eligibility criteria as well as so-called "readiness criteria". The latter are conditions that a local government should comply with in order to receive the funding. However, as Ika Yuniarti from Indonesia and others explain, sanitation tends to have low priority for local governments. This means that it in practice compliance with readiness criteria to access funds for sanitation, might not be their highest priority.

Lena writes that allocation to sanitation from local taxes tends to be very low – as there are many competing needs. Moreover, the definition of sanitation in Indonesia is broad. It includes drainage and solid waste which often have

priority. Finally, in some cases, tax money has to be used for O&M of the treatment plant, rather than covering that from tariffs. Due to all those factors, the potential of reducing inequality may not be fully realised in Indonesia.

No, the use of taxes and transfers is not reducing inequality

As mentioned above, 25% of contributions stated that the current use of taxes and transfers not reduce inequalities and 40% said: "yes and no". The main argument is that the amounts of investment going to the wealthier groups are so much higher. For example, the 233m USD AfDB loan for sewer in Arusha – for 30% of the population. This comes down to 1,450 USD/cap. The 150m USD loan from ADB going to sewer in Khulna covering about 20%? of the city (if 20% that would be about 500 USD/cap). And the example by Alyse Schrecongost from the USA. She mentions an investment of 500m going to networked sanitation services, versus 30m going to the 75% of the non-networked population. This means that the investment per capita in the networked area is about 50 times higher. Flaviana Kifizi from Shinyanga in Tanzania reflects that the sanitation investments in her city will be directed at the people who already have with water connections, excluding those who still do not have water.

Based on these higher amounts of capital investment (benefitting people in formal settlements who have already services), it is concluded that often the sanitation investments paid by taxes and transfers do not reduce but increase inequality. Furthermore, Alyse explains that the loan conditions for networked sanitation investments tends to include long grace periods, while loans for on-site sanitation investments tend to have much shorter duration.

It should be noted that several contributions do caution not to equate networked areas with high incomes and non-networked areas with low-income. While this is often the case, it is not a given and can differ per context. Moreover, there are cases where part of the investments goes to sludge treatment plants and/or decentralised solutions for lower income areas.

The inequality in the allocation of investments does not only take place within the city, but also among cities. Dorothee Absalom from Tanzania and Horácio Quembo from Mozambique explain that such large investments prioritise the capital and biggest cities, while the majority of small cities will have to wait. Yet the taxes are paid by all.

Aside from inequality in terms of infrastructure investment (type a. and d. costs of the first topic) several of you point to the use of taxes in covering the costs of ongoing operations. Patricia Solorzano shares that in Honduras one of the challenges is the transparency of the allocation of taxes and transfers. This is related to the application of reduced tariffs by large companies and overall lack of willingness to pay. As a result, the income from tariffs is too low and it is not unusual that in practice taxes and transfers are also covering ongoing operation and maintenance costs. This point was also made by Lena above. Yerri Noer Kartiko from Indonesia explains that in his city, the tariff is unlikely to ensure sustainability of FSM services, and while this may be covered at the moment by local taxes, it is a vulnerable arrangement. With a change in government, staff and/or the mayor, the priority for sanitation can shift. Therefore, he suggests an

open dialogue with the public is needed and potentially to introduce a polluter pay arrangement.

Ad 2. Do you think that this is even a realistic and/or desirable expectation?

About half of the contributions states that it is desirable as well as realistic for taxes and transfers to contribute to great equity. Chola and Alyse say it is desirable, because without greater equity we cannot reach the SDGs. However, 35% thinks that it may be desirable, but it is not realistic or at least very challenging in the current context. The challenge lies in the fact that the tax base is small compared to the needs and urbanisation rates (Chemisto, Fred). Furthermore, there will be pressures from the formal sector who pays most of the taxes (Marc). In order to make a first step, Chemisto says, it needs a full overview of costs along the sanitation value chain.

There are also some contributions that wonder whether it is desirable to prioritise investments for the poorest as opposed to city-wide. The answer is probably that we need a balance, as in theory, a well-organised, clean city centre (that is with the basic services such as water and sanitation), will benefit economic development of the city and thus generate jobs for all. That includes jobs for the people who live outside of the city centre. However, we also all know cities where two parallel worlds co-exist: a city centre that looks like a luxurious Hollywood/ Bollywood/ Nollywood picture and low-income areas with appalling conditions.

Overall you are advocating for greater awareness about which investments (both infrastructure investments as well as subsidizing O&M with tax money) go where. It is important to be sensitive, Reinilde says, to how investment affects all living in the city, so a first step is to know the population and have data about the proposed interventions.

Ad 3. In your view, what would be required to ensure the use of taxes and transfers contributes to reducing inequalities in sanitation services? (or said otherwise: "how?")

There were many suggestions on how to ensure better use of taxes and transfers in terms of reducing inequalities. I've grouped these into 5.

First of all, more durable investment and efficient operations, including better tariff setting

Lena makes this point, saying that we need to move away from the "build, neglect and rebuild" practice in the sector. Alyse also mentions the need for better (financial) management by utilities.

Chola suggests that one of the key solutions is found in a well-structured tariff setting system for existing (and future) services. Additionally, that would be a tariff, as Patricia writes, that is transparent and well monitored.

Both Chola and Patricia advocate for a clear policy framework that sets service standards as well as financing mechanisms for the poorest. Patricia furthermore suggests that there is a need for a financing policy that rewards the efficiency of

service providers, stimulates cost-recovery through the tariff and defines subsidies for the poorest.

Prioritise investments in low-income and/or underserved areas

Many of you suggested to prioritise investment for low-income areas and slums, including subsidizing construction of toilets (containment) as well as emptying services for the poorest Marc, Flaviana, Dorothee, Lena and Fred say. They also highlight the importance of public facilities. Chemisto suggests targeting investments to the areas with high urbanisation rates and/or urban population growth.

Increase willingness and capacity to target investments low-income and/or underserved areas

There is still a lot of advocacy needed to increase the willingness of government and utility staff to consider the different population groups and their differing needs Reinilde says. There should also be greater clarity about the suitable technologies. Furthermore, it requires capacity strengthening and improvement of data quality, two things which are also mentioned by Alyse and Patricia.

Work on regulation and accountability of stakeholders

Emily and Ika advocate for strong regulation so that ringfencing happens and pro-poor use is transparent. Reinilde asks for regulators to allow utilities to charge a fee that can be used for on-site sanitation service provision.

However, Horácio emphasizes implementation of the regulations. He also wants to see sanitation in town plans and budgets. Potentially a dedicated sanitation agency makes a difference Chemisto says.

Enabling environment for private sector to engage

Horácio, Reinilde and Alyse feel that an improved enabling environment for private sector can potentially contribute to improved services. Alyse states that formalised affordable markets (for sanitation services such as emptying) would attract both investment and allow for growth.

Topic 3: Tools and limitations of tools

14th – 20th of November

Dear colleagues,

Though contributions are still coming in on the second topic, time flies and we have already come the third and final topic of our discussion on "Sustainable cost recovery and equity in urban sanitation". This third topic is about tools for understanding financing and/or equity, and the strengths or limitations that we see. The topic runs from today, 14th of November till next Wednesday 20th of November.

In the first topic many of you explained that it difficult to assess the financial health of sanitation services along the sanitation chain due to:

- Fragmentation of the chain
- Lack of ringfencing of finances
- Lack of reliable data

In the second topic, several people said "yes and no", indicating that it really depends on the situation whether or not taxes and transfers contribute to reducing inequalities.

Yet there are many tools that aim to address one or more of those issues:

- Costing along the sanitation value chain
- Financial sustainability of services
- Equity of the use of public money

By tools I mean: methodologies, guidelines, but also the interactive calculations in the FSM toolbox.

In this third topic we would like to hear your experience and reflections on the use of these tools. These are the questions:

1) Could you describe the tools that you have used (or know well) for decision making on urban sanitation finance?
2) What did you see as strengths and weaknesses of these tools?
3) How could these tools help (or not help) to make financing decisions that reduce inequalities?

I hope that you will find time to respond to these questions. Please feel free to include links of the tools and also other relevant resources, but please do not include attachments as these get stuck in the Egroup platform. As for the previous topic, you can contribute by replying to this email and please mention your name, organisation and country in your reply. This will help others to understand your message better.

Best,

Ant.

P.S. Also for this topic, the SuSanA team is interested in sharing the messages of this discussion on the SuSanA forum. If you do not want this, please indicate this in your contribution or write to me directly (akome@snv.org) or to the moderator

of the SuSanA forum: Elizabeth Muench (elisabeth.muench@ostella.de) . We will treat this confidentially.

3.1 Summary Topic 3: Tools and limitations of tools

Dear colleagues,

We have come to the end of this Egroup discussion, and here I would like to share with you the summary of the third and final topic which ran from the 14th – 20th of November. This third topic was about tools for understanding financing and/or equity, and the strengths or limitations that we see. The questions were:

4) Could you describe the tools that you have used (or know well) for decision making on urban sanitation finance?
5) What did you see as strengths and weaknesses of these tools?
6) How could these tools help (or not help) to make financing decisions that reduce inequalities?

In this, we were looking specifically for tools supporting financing decisions. That could be methodologies, guidelines, but also the interactive calculations in the FSM toolbox for example (though this is currently not accessible). Such tools may help to understand:

- Costing along the sanitation value chain
- Financial sustainability of services
- Equity of the use of public money

We only had three contributions on this topic (from Zambia, Indonesia and Honduras), which is not many considering that there are currently 398 people in the group. Perhaps my questions were too time consuming to answer or unclear, or perhaps the use of tools for this topic is not yet wide-spread… However, the contributions that we did get, are good value and I encourage you to read the summary. I'm also including the message that was posted on the topic on the SuSanA forum.

Best,

Ant.

Ad 1. Could you describe the tools that you have used (or know well) for decision making on urban sanitation finance?

The "tools" that were mentioned in the discussion were:

- SaniPlan tool by CEPT used for urban sanitation
- The SNV urbansan performance monitoring indicators related to finance
- "At what cost" tool by IRC, AquaConsult, Water for People used for rural water supply in Honduras (I assume that this is based on WASHCost)

The information on SaniPlan was shared by Paresh from India on the SuSanA forum. This is a tool developed by CEPT for city-wide planning for drinking water, sanitation, and solid waste management. It considers both capital and operational expenditures and compares this with revenues from tariffs and the local government's budget. One can consider different scenarios and compare.

Kumbulani Ndlovu from Zambia shared 3 of SNV's urbansan performance indicators namely around:

1. The affordability of faecal sludge emptying and sewer fees for the two lowest wealth quintiles (compared to income and other basic services)
2. The level of cost-recovery and profit of faecal sludge emptying services (based on an analysis of expenditure and revenue)
3. A score care on the financially sustainability of sewer services (focus on O&M only)

Patricia Solorzano shared the "At what cost" example aimed at calculating the cost of rural water supply services, as a basis for tariff setting by the regulator.

We thus have three very different tools with very different objectives, namely planning, tariff setting and performance monitoring. Globally it seems that the emphasis of tools and guidance around costing, is for planning purposes and to make decisions about large infrastructure investments. There is less attention to the monitoring of financial health of sanitation services as a basis for incremental improvements and allocation of public funding. We have however learned from the urban water supply sector, that monitoring, benchmarking and incremental improvements, is a good strategy to move towards more financially sustainable services.

Ad 2. What did you see as strengths and weaknesses of these tools?

You did not say much about strengths and weaknesses. Paresh did share that the SaniPlan tool requires a lot of data, but that it's worth it. He mentioned that it would ensure some low-hanging fruits for improvements are not forgotten. The good thing about tools is that they help to organise and structure the work. It generally becomes easier to replicate and the organisation ensures that you do not forget key elements.

Overall, it is clear of course that the quality of outputs of any tool depends on the quality and availability of data that go in. The well-known saying is: "Garbage in, garbage out". Sometimes the lack of quality of data is difficult to notice, as the tool may generate beautiful graphs and figures. Thus, giving a false sense of precision. This is especially true for tools that automatically generate a report. Unless you take the time to reflect on the meaning of the outputs, there is a risk that we make big mistakes by (blindly) accepting the outputs of tools.

For example, of the shit flow diagrammes now include the word: "desk based" or "field based assessment" in the top left hand corner of the diagramme. That is very good. Unfortunately that is rarely an element of conversation in the powerpoints where the diagrammes are used… So in addition to the quality of data, I guess the commitment of people to reflect on data, is also essential for the proper use of tools.

Though I actually love tools because it's very nice to play with (and often useful), personally I have been complaining a bit about the development of so many tools in our sector. I have been a bit worried that the "toolification" takes up so much time and resources, whereas we also need to invest in reflection and strategic thinking in urban sanitation. No level of toolification can replace strategic thinking!

Last but not least, if you have data, you can still calculate lifecycle costs yourself in excel (but it requires more thinking 😉).

Ad 3. How could these tools help (or not help) to make financing decisions that reduce inequalities?

From the data that Kumbulani shared on affordability of services, it is clear that the emptying fee is unaffordable for the poorest wealth quintiles in most of the cities (where he measured). These emptying fees are compared against a monthly income and monthly payment of other basic services, because it has to be paid at once. In theory, a payment arrangement- e.g. in instalments- could make it more affordable for household of the two poorest wealth quintiles. However, it should be noted that even on an annual basis, the total payment for sewer is lower than that one-off emptying fee. It depends of course on the containment and household size, how often the emptying is required.

Yerri Noer Kartiko from Indonesia reflected that there is no national regulation on tariff calculation for FSM. The local government did define a desludging tariff, but it is not based on a "specific and detailed calculation" of cost and/or affordability. Furthermore there is no national regulation on the allocation of other budget, hence equality is very far away.

Patricia shares that Honduras has its Sector Financing Policy, aimed at achieving the objectives of the Sector plan. It touches upon costing, ability to pay, expansion, public-private partnerships and even climate change adaptation. It also details the need for ringfencing of municipal funding for WASH and assurance of money for software, technical assistance among others. There is a detailed methodology for the calculation of the tariffs. However, this is the calculation of the water tariff and sewer tariffs. It does not include the calculation of tariffs (user payments) for faecal sludge management services.

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