

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

Governance of local scale sanitation: How to design governance for lasting service? Visual resource for workshop, guided stakeholder discussion and group/individual reflection

GUIDANCE MATERIAL: PRESENTATION



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Disclaimer:

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This guidance was developed from a synthesis of a three-year transdisciplinary action research project (see communitysanitationgovernance.info).

To monitor the impact of this guidance material, we are keen to gather feedback on what resonates and what is missing. If you have comments or suggestions, please contact us (see the last slide).



OVERVIEW

Structure of Guidance

1. INTRODUCTION

- a. What is Governance?
- b. Why should we improve Governance of local scale systems?
- c. How do we improve Governance of local scale systems?

2. WHAT TO GOVERN?

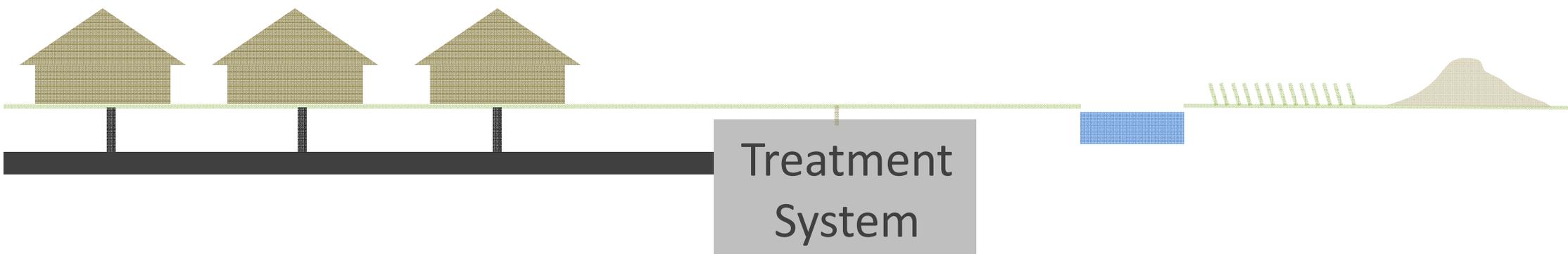
- a. Introduction of Governance Dimensions (technology, finance, users, management)
- b. **Activity: Exploring 'What' is and isn't governed**

3. WHO SHOULD GOVERN? AND HOW?

- a. **Activity: Exploring 'Who' governs now**
- b. Strategies for strengthening ***CBO-led approach***
- c. Drivers for increasing Local Government's Role
- d. **Activity: Exploring co-management**
- e. Strategies for ***Co-management approach***
- f. Strategies for ***Institution-led approach***
- g. **Activity: Exploring Institution-led**

The focus of this guidance is on 'local scale' systems, which have many names.

- Community-based (SANIMAS)
- DEWATS
- Simple Sewer System/MCK
- Services < 200 households (hh)
- Decentralised
- Local scale



This guidance uses the term 'local scale' as it recognises that other groups can Operate and Manage this scale of service along with, or instead of, community.

Expectations for using these materials

- The guidance is designed to be participatory – jump in with colleagues and have fun!
- The guidance strives to develop new and strengthen existing partnerships
- Be curious and discover new ideas
- The guidance tests assumptions – it could be a little bit uncomfortable, which means it is good for learning

1. INTRODUCTION

1. INTRODUCTION

What is Governance?

Governance is the:

Day to day activities that ensure system functionality

+

Formal and informal institutional arrangements that help or hinder the day to day

Improving governance means paying attention to:

1. **What** needs attention
2. **Who** has what responsibilities and **how** those responsibilities happen in practice

(Kooiman 2003, 2008)

1. INTRODUCTION

Why improve

Governance of local scale
systems?

The goal of sanitation (sewage management) is to separate people from pathogens (harmful microorganisms) in our excreta, and to protect the environment.

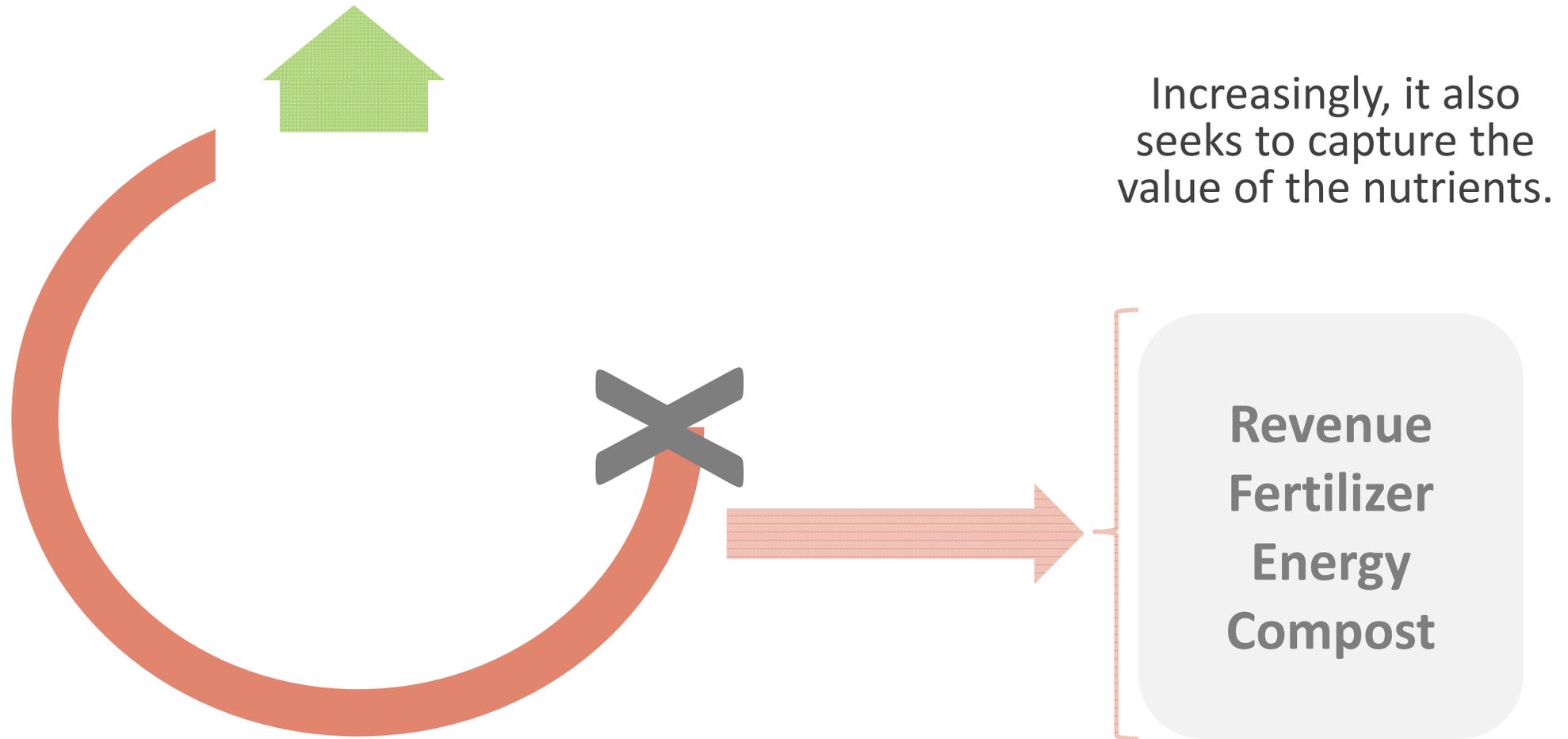
But, for the local scale systems in Indonesia:

- Actual use is about half of what was designed.
- Most CBOs cannot manage hard tasks. Many fail financially.

This means many local scale systems may not achieve separation outcomes.

However, local scale systems can be a core part of sanitation services, **if managed well.**

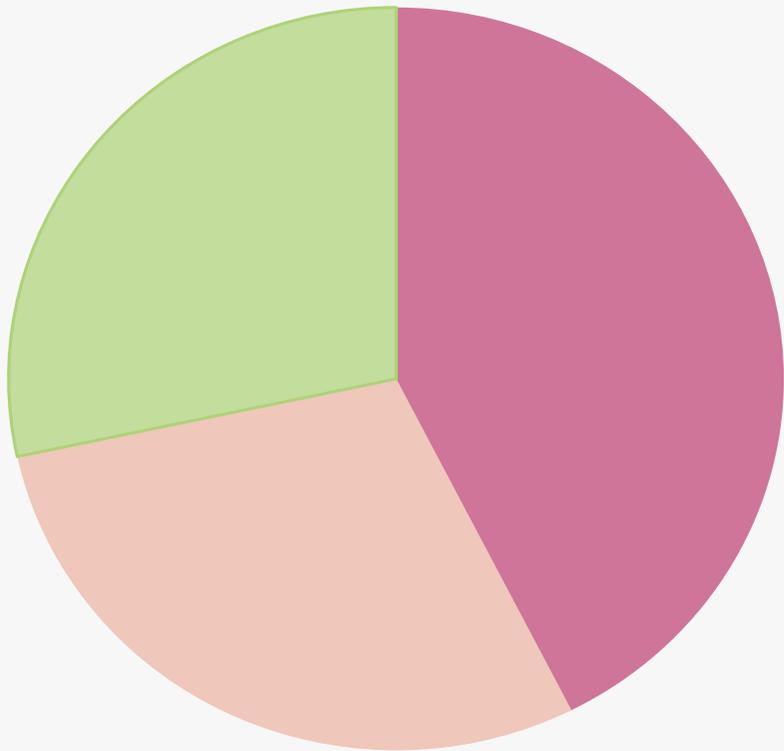
The fundamental outcome of sewage management is to separate people from excreta, and protect the environment.



To achieve separation we need to help systems **operate successfully in the long-term.**

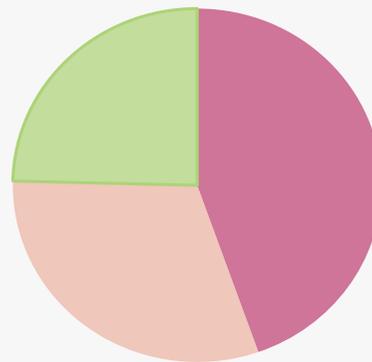
The actual average use of local scale systems could be about **half of system design**.

Simple Sewer System



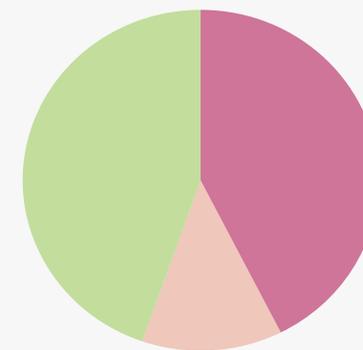
n=134,
cleaned from
410 data points

Simple Sewer System & Communal Facility



n=65,
cleaned from
477 data points

Communal Facility (MCK)



n=47,
cleaned from
498 data points

% user
utilisation
(actual /
designed)
■ 0-50%
■ 51-80%
■ >80%

(Source:
USDP
NAWASIS)

CBOs have difficulty managing many important tasks.

Challenging tasks

Successful operation

- Monitor effluent quality
- Major repairs and rehabilitation
- De-sludge every 2-4 years

Sustainable financing

- Collect user fees and sufficient income
- Budget for major expenses, emergencies

Sustaining demand

- Educate about benefits of service to maintain motivation of users

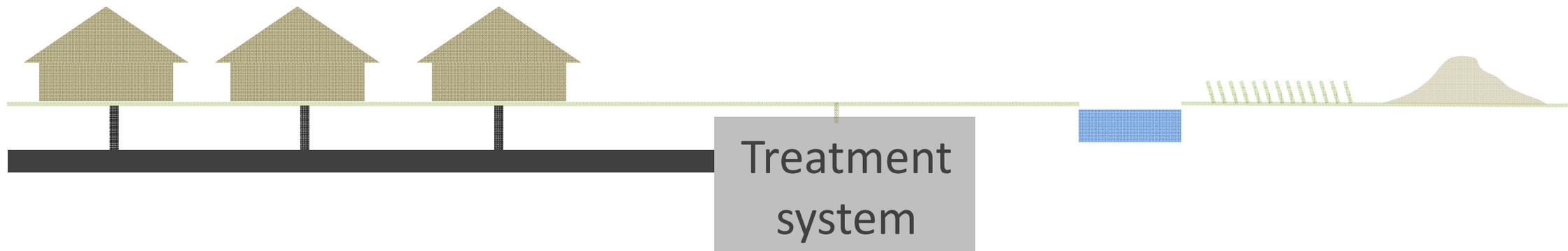
Effective management

- Fund / pay operator
- Ensure operator legitimacy in community

As governance improves, the benefits of local scale systems increase.

Local scale has many benefits compared to centralised:

- ✓ Easier to install in existing areas
- ✓ Easier to finance
- ✓ Simpler to operate
- ✓ Less consequences when things go wrong
- ✓ Can be connected up as financial and institutional capacity improves



1. INTRODUCTION

How do we improve
Governance of local scale
systems?

How do we improve Governance of local scale systems?

1 - Pay attention to “**WHAT**” needs to be governed:

Functioning
technology

Sustainable
financing

Effective
management

Sustaining
demand

2 – Clarify “**WHO**” should govern and “**HOW**”:

CBO-led

Co-management

Institution-led

To help local scale systems operate successfully for decades, governance (the way we look after them) needs to improve.

There is a range of ways to do this – we can think of these **approaches** as a **spectrum** of governance models. They are not mutually exclusive.

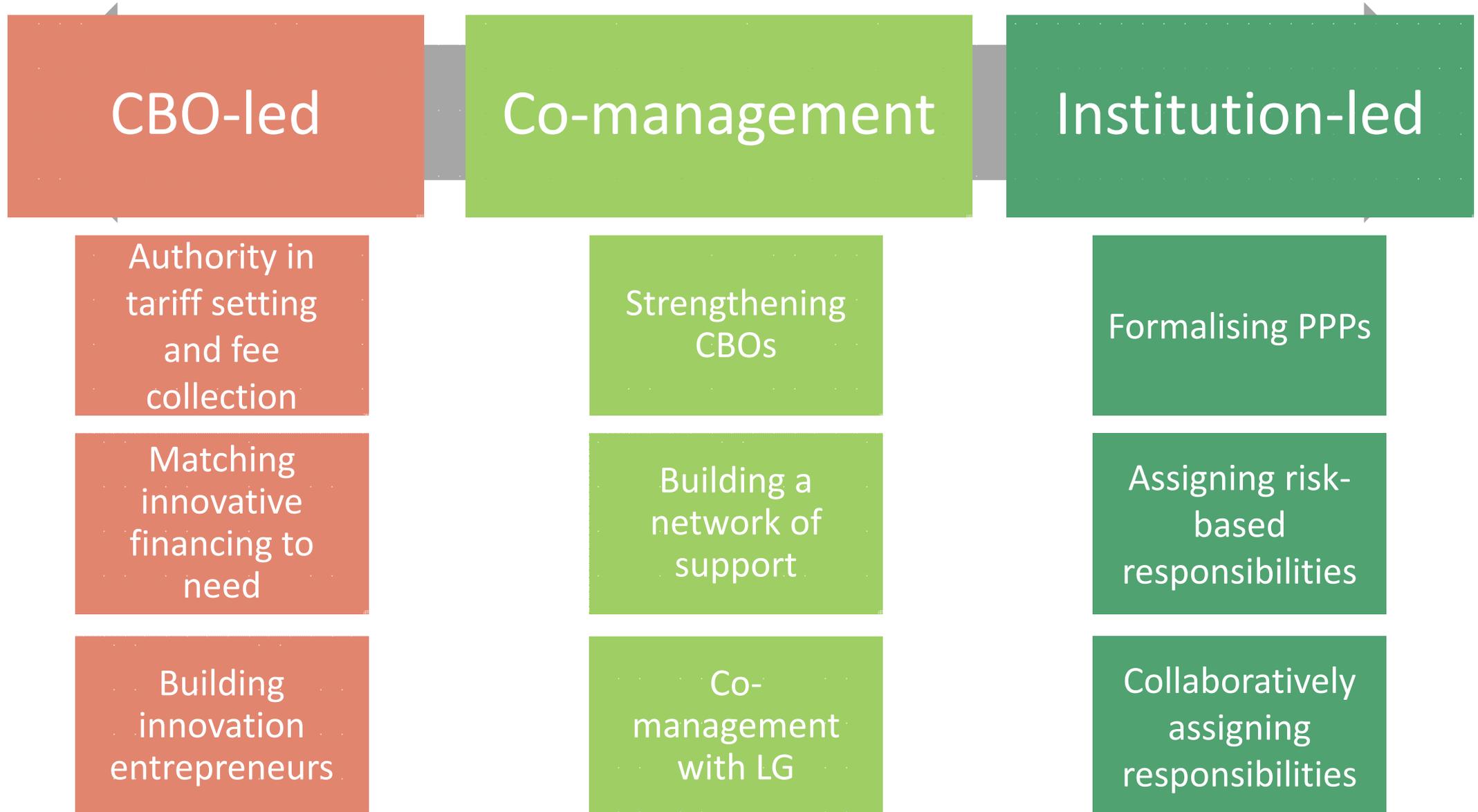
In this guidance, we will explore each of the **approaches** within the spectrum and various **strategies** within each approach.

CBO-led

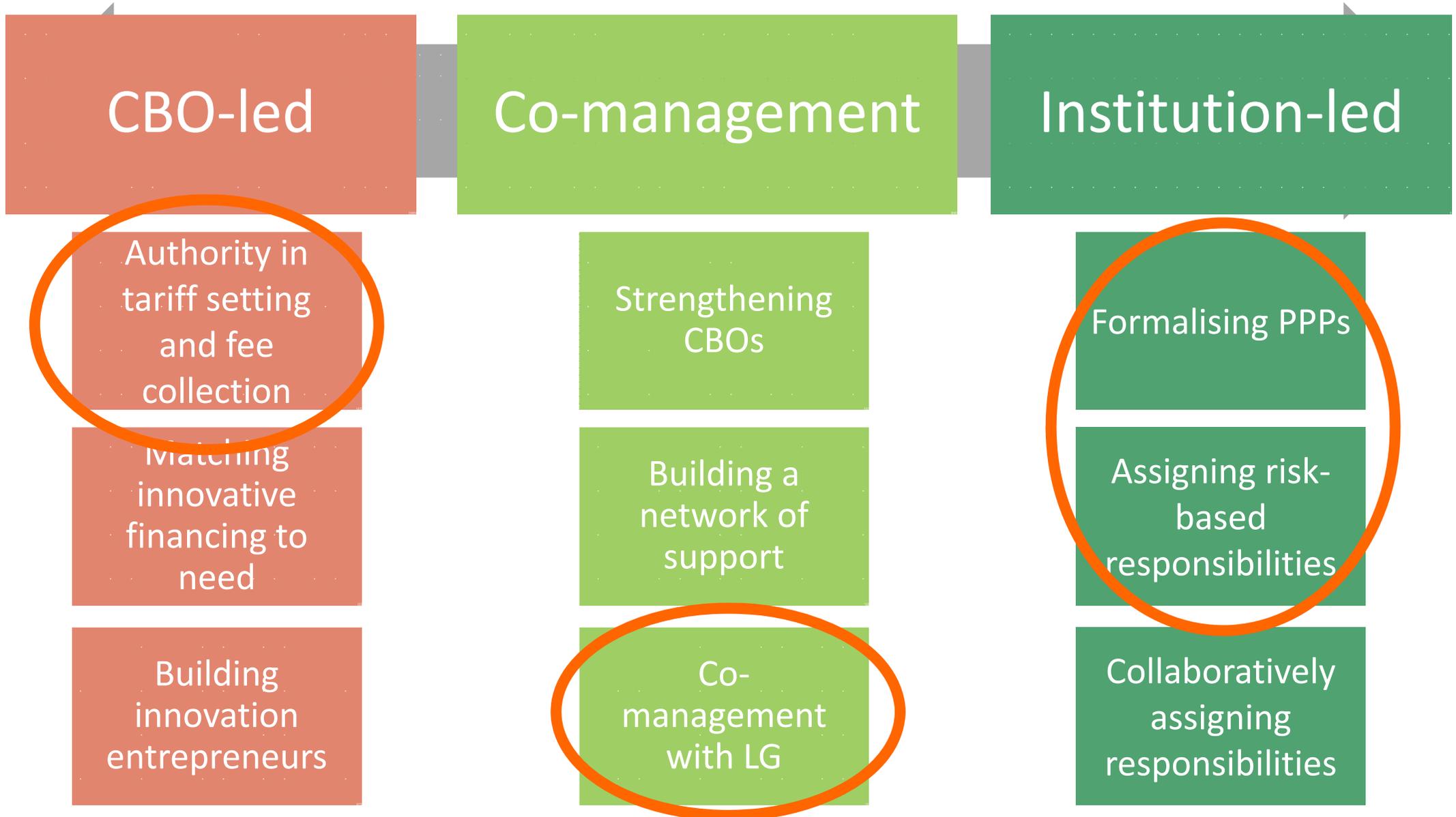
Co-management

Institution-led

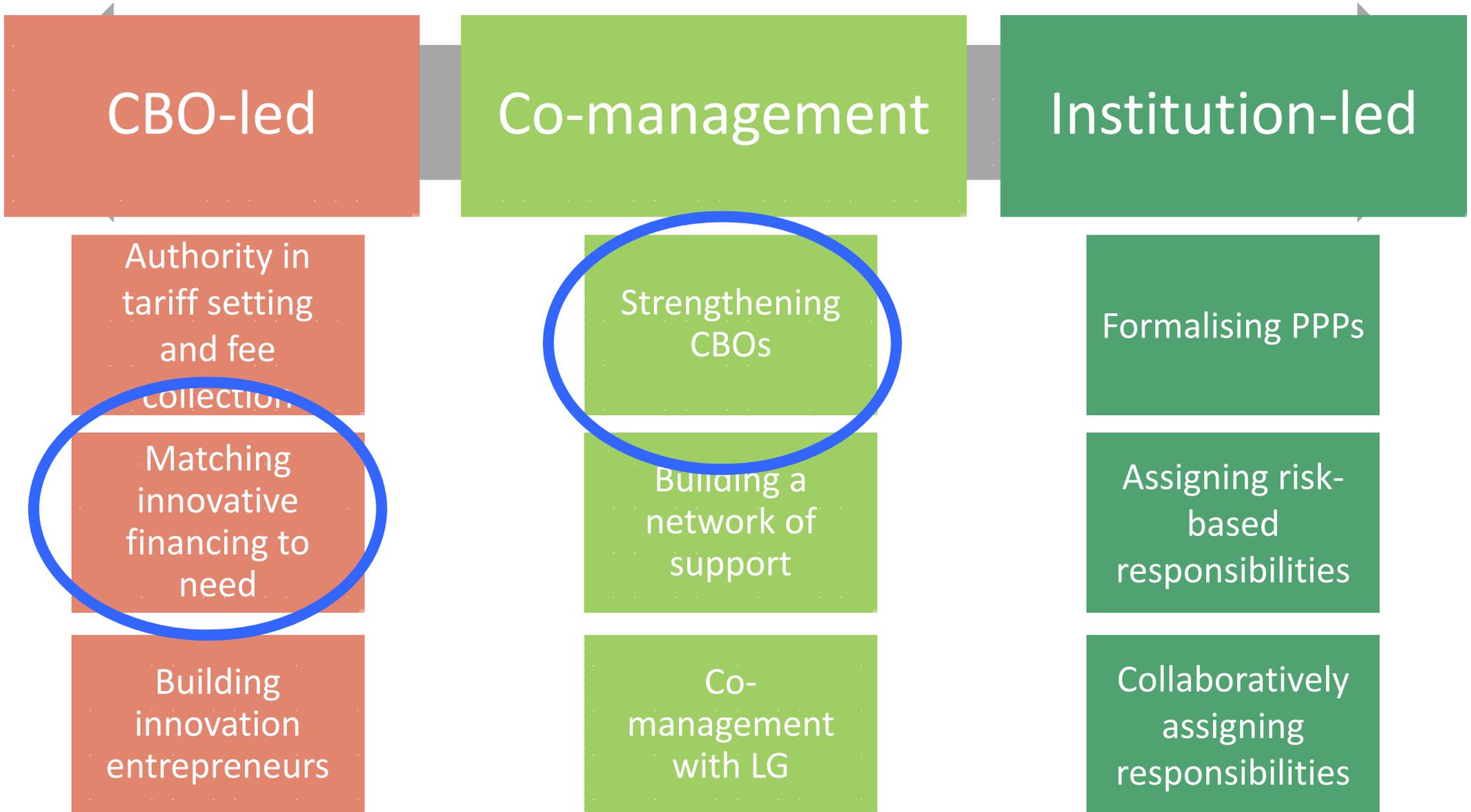
It's like a **toolbox**....



It's like a **toolbox**....One **Local Government** might try these strategies based on their needs and strengths.



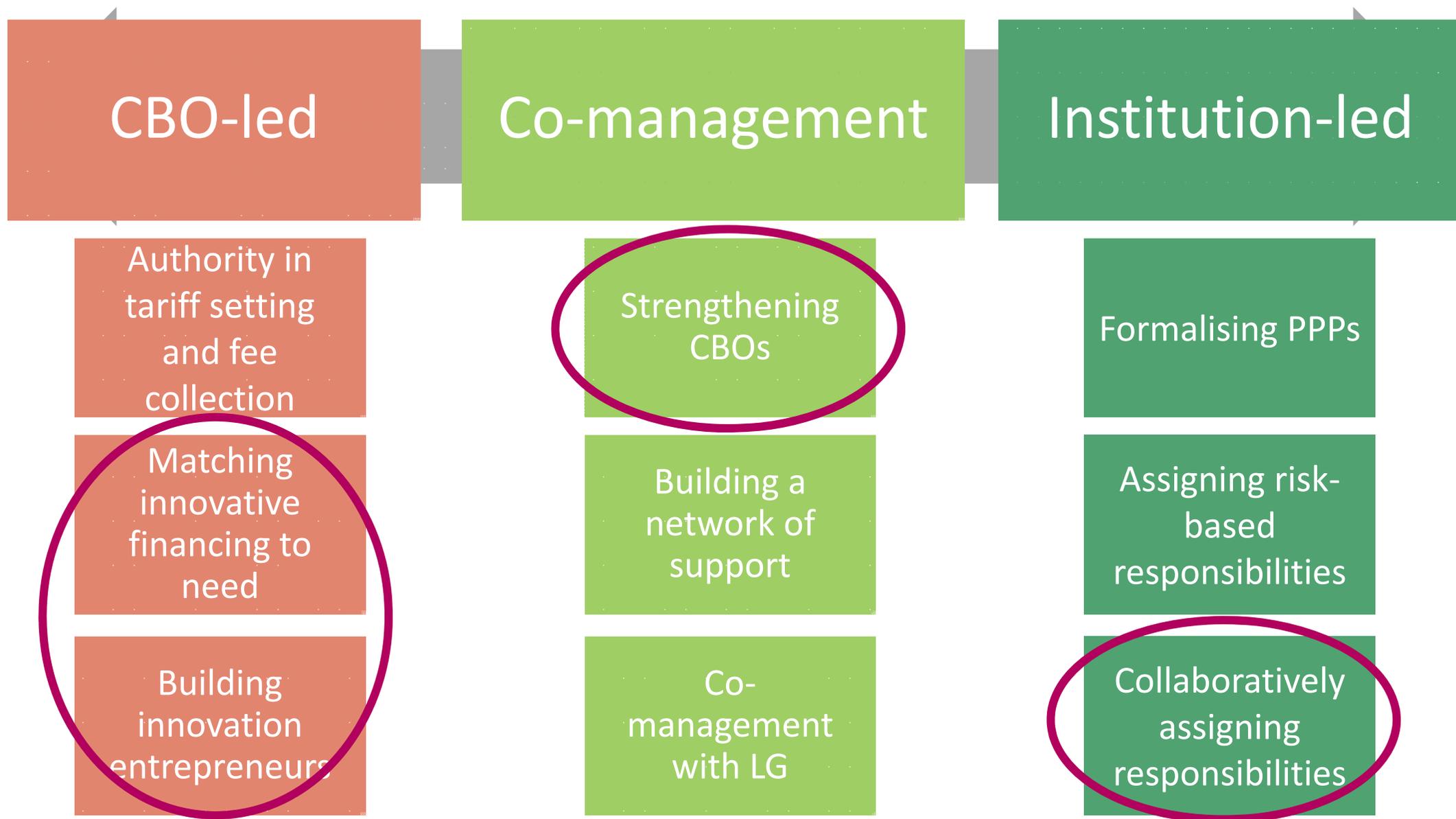
It's like a **toolbox**....Another **Local Government** might try these strategies based on their needs and strengths.



Where one Local Government sits on the spectrum,
this year and in the coming years,
depends on their particular strengths, needs,
and opportunities.

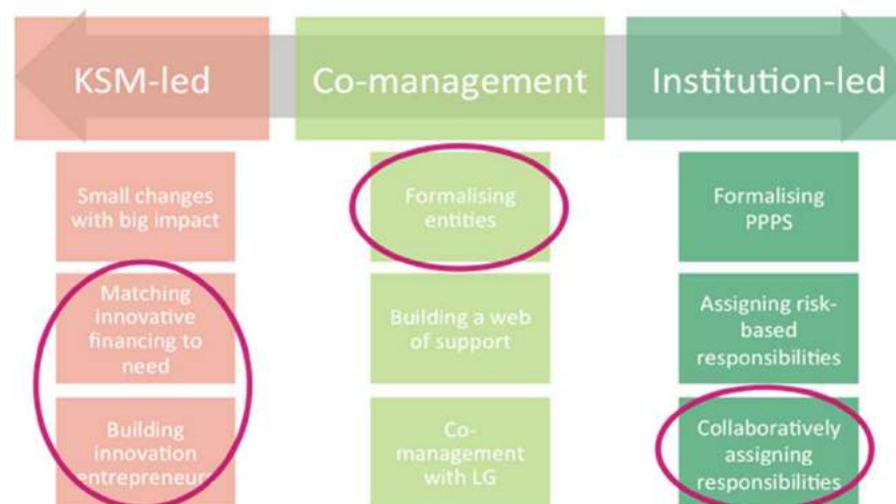


The purpose of this guidance is to help **Local Governments** explore what **tools** might help them improve the management of these systems based on their unique context.



KEY MESSAGE

The best approach is working out what fits in your context.



2. WHAT TO GOVERN?

2. WHAT TO GOVERN?

Introduction of the
Governance Dimensions

What to govern?

Functioning technology:

Ensuring the physical system delivers the service

Sustainable financing:

Sufficient ongoing revenue to cover all short and long-term operational cost elements

Effective management:

Accountable and equitable administration and decision making system

Sustaining demand:

Maintaining effective community demand for the service over time

Each of these areas needs to be considered during the Operation Phase to achieve successful service delivery.

These dimensions (1) remind us what to monitor and manage and (2) help diagnose issues of local scale service.



Functioning technology:

Ensuring the physical system delivers the service

Sustainable financing:

Sufficient ongoing revenue to cover all short and long-term operational cost elements

Effective management:

Accountable and equitable administration and decision making system

Sustaining demand:

Maintaining effective community demand for the service over time

The dimensions provide helpful guidance on what to monitor.

Functioning technology

Systems operating as designed within acceptable loading range
Systems operating as designed - effluent quality meets standards
Regular & periodic maintenance (e.g. sludge & scum) occurs as required

Sustaining demand

Accessibility: Planned vs actual users/connections (long term)
Availability: System always/sufficiently available.
Acceptability: Users satisfied with system

Effective management

Functional management structure
Scheduling, implementing, and monitoring operations (Systems in place for dealing with major repairs)
Sufficiently skilled and active operator
Structures for accountability to stakeholders

Sustainable financing

Sufficient income to cover monthly expenditure
Finance available for major repairs

2. WHAT TO GOVERN?

Activity: Exploring 'What' types of governance challenges exist

Activity: Exploring the Operation phase in your context

Thinking about the local scale sanitation systems in your Local Government, or local scale systems generally:

Step 1. Using a **black** pen:

- *Draw or write down **everyone** who can **control or influence** the operation of the local scale systems in your context. Think broadly, beyond just ‘operator’, and be specific e.g., the tofu factory that connected last year, the local health inspector, etc*

Activity: Exploring the Operation phase in your context

Step 1. Who has **control or influence** in the operation of the DEWATS systems in your context?

Step 2. Using a **red** pen, draw or write out the problems that are commonly experienced in your model/scenario after construction:

- *What are the biggest barriers after construction?*
- *What hinders ongoing operation in your part of the world?*

Activity: Exploring the Operation phase in your context

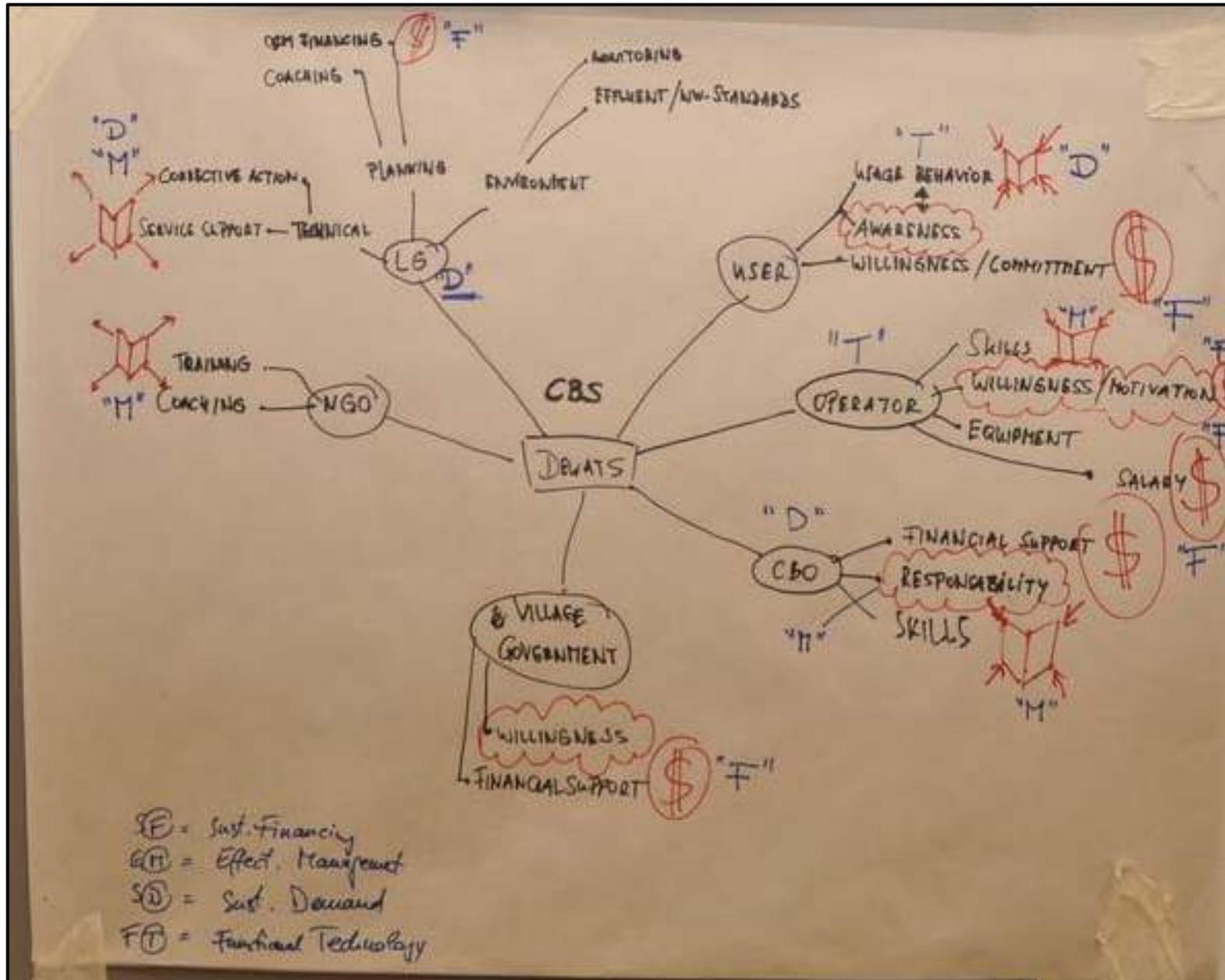
Step 1. Who has **control or influence** in the operation of the DEWATS systems in your context?

Step 2. What problems are commonly experienced?

Step 3. Using a **blue** pen and thinking about the Governance Dimensions (technology, finances, demand, management):

- *How would you categorise these types of problems according to the Governance Dimensions?*
- *Also, when thinking about these dimensions, do they prompt you to think of other types of issues? Do these categories identify other gaps?*

Example: This is one way to draw the local situation – there are many other ways.



Reflection: Exploring the Operation phase in your context

- Discussion/reflection questions:
 - Was anything surprising about this activity?
 - What types of governance issues were most frequent? Least frequent?
 - Did thinking about the Governance Dimensions help to identify other issues?
 - What do you think the benefits are of the Governance Dimensions as a tool?

3. WHO SHOULD GOVERN? AND HOW?

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Activity: How is governance currently arranged?

For this activity, you will need the gameboard of stakeholders and the game pieces of activities necessary for the Operation phase.



And you will place the activities next to the stakeholders based on how you think governance currently works - that is based on who is currently responsible for which activities.



Activity: Exploring what happens now in your Local Government (or in Local Governments generally)

- Look at the stakeholders – rename them so they represent your experience.
- Look at all of the activities.
- Put each activity next to the stakeholder who is responsible for doing it.
- Are any activities missing? Add them.
- How different does the distribution of activities look if they are placed according to what should happen in theory versus what actually happens in practice?

Reflection: Exploring what happens now in your Local Government (or in Local Governments generally)

- Discussion/reflection questions:
 - Was anything surprising about this activity?
 - Who has most responsibilities placed next to them?
 - Who, besides CBOs, has responsibilities? What do they do?
- Take pictures of your gameboard

3. WHO SHOULD GOVERN? AND HOW?

Strategies for strengthening
the **CBO-led** approach

Next we'll focus on why and how to improve the CBO-led approach to governance of local scale systems.



CBO-led

Co-management

Institution-led

CBO-led

Authority in
tariff setting
and fee
collection

Matching
innovative
financing to
need

Building
innovation
entrepreneurs

Authority in tariff setting and fee collection

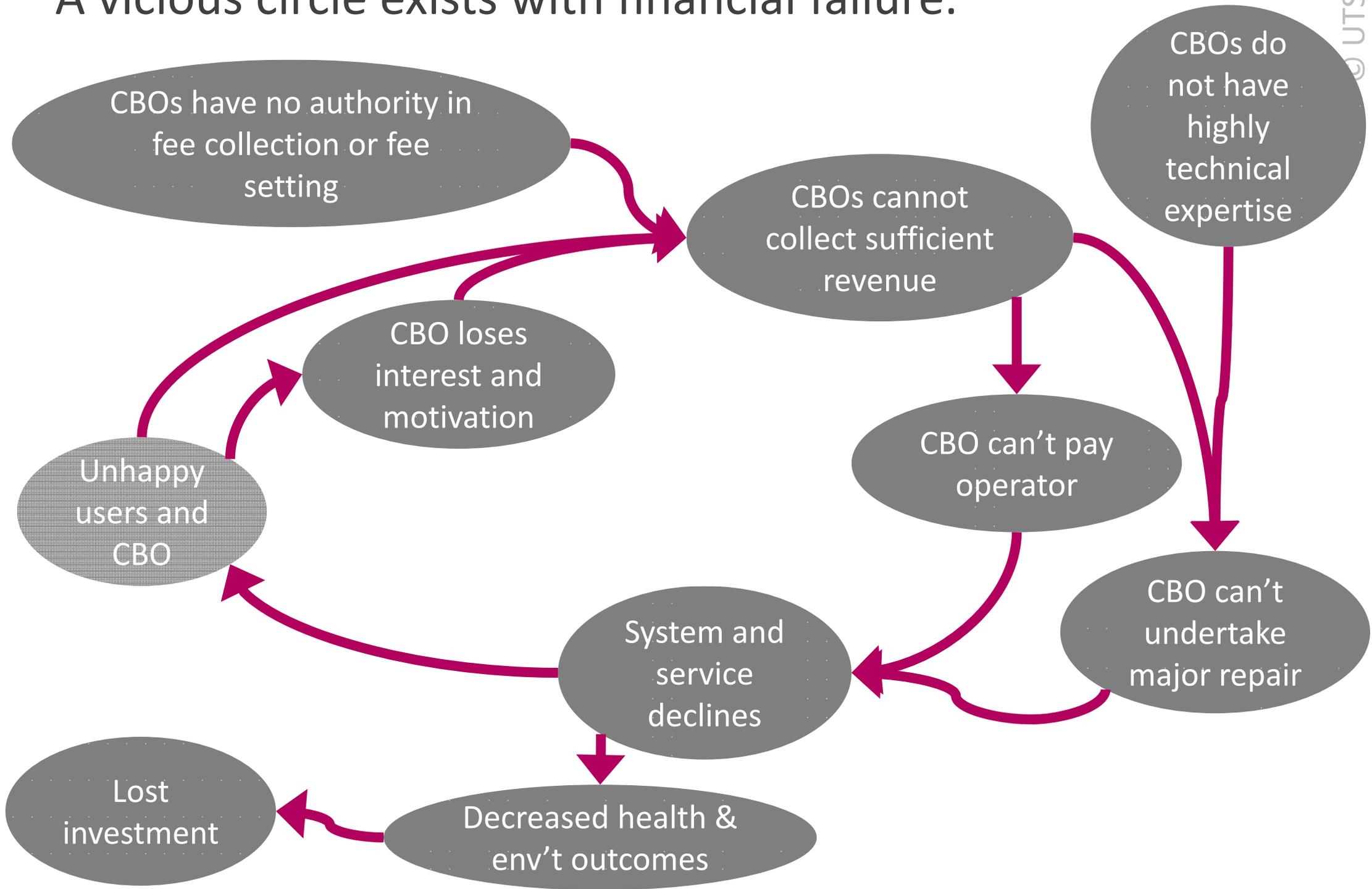
Formalise fee levels:

- Who currently sets fees and how much authority do they have?
- Who has enough authority to set higher fees and incentivise users to pay?

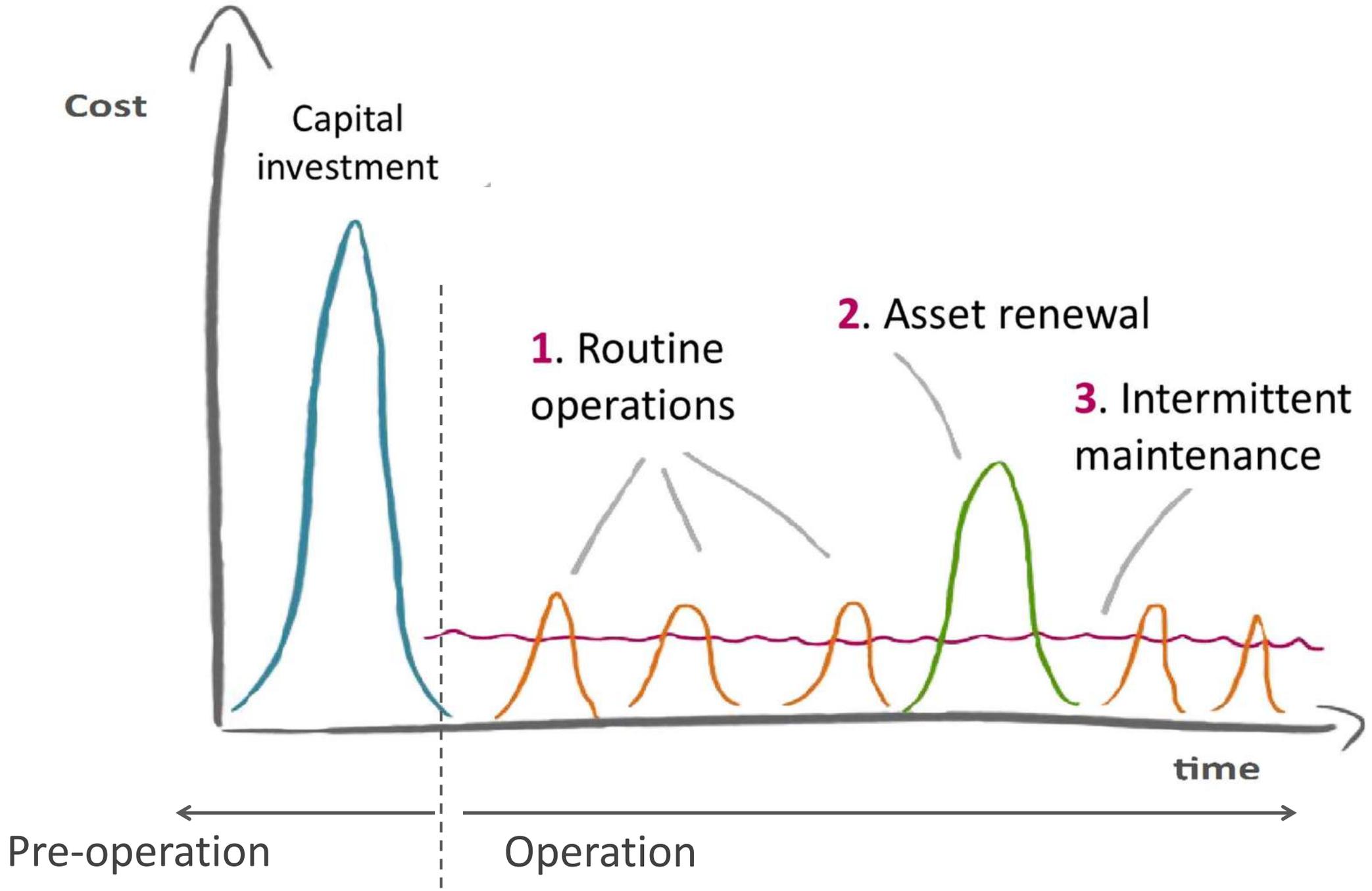
Fee collection:

- Who currently collects fees?
- If a community member, what if someone else, with authority, collected the fee?
What could that look like? Who could that be?

A vicious circle exists with financial failure.



There are **three** types of costs to pay during Operation.



Typical user fees are insufficient to meet routine costs, or CBO voluntary time.

ROUTINE COSTS	IDR/month	Voluntary time (days/month)
Administration		10
Operator	IDR 200,000	9
Electricity	IDR 120,000	
Goods	IDR 40,000	
Total	IDR 370,000	19
Total per hh	IDR 6,000 / hh	
USER FEE	IDR 5,000 / hh	

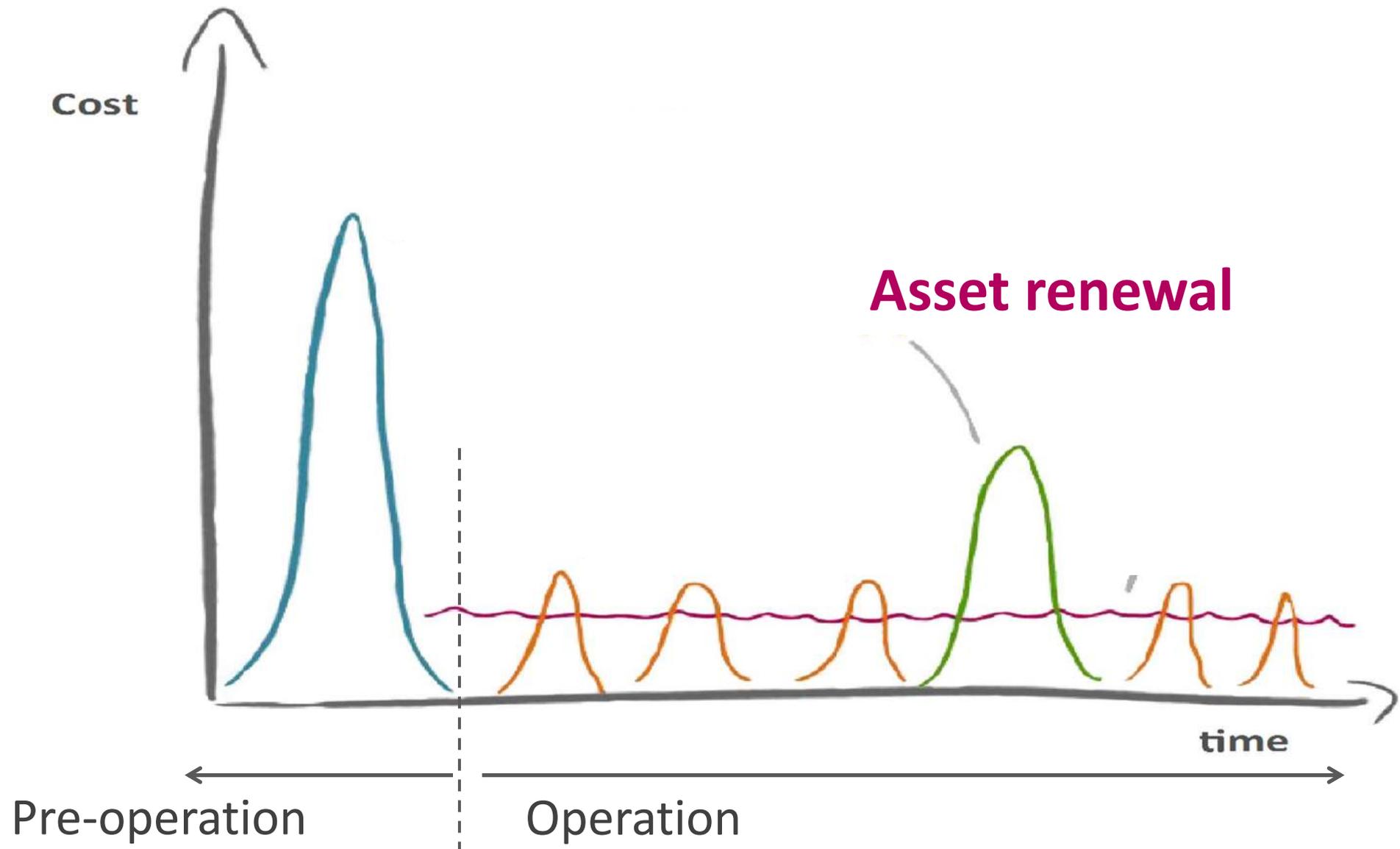
Source: Bogor CBO Workshop. Communal system (MCK) focus. Only medians are shown.

Intermittent costs can be as high as IDR 3M and are generally beyond CBO revenue / finances.

	Cash (IDR)
Pump repairs	100,000 – 500,000
Pump replacement	500,000 – 3,000,000
Pipe repairs	100,000 – 600,000
Desludging	100,000 – 1,000,000

Source: AKSANSI members and Bogor CBO Workshop. Communal system (MCK) focus.

Asset renewal costs are the largest, and also beyond CBO revenue.

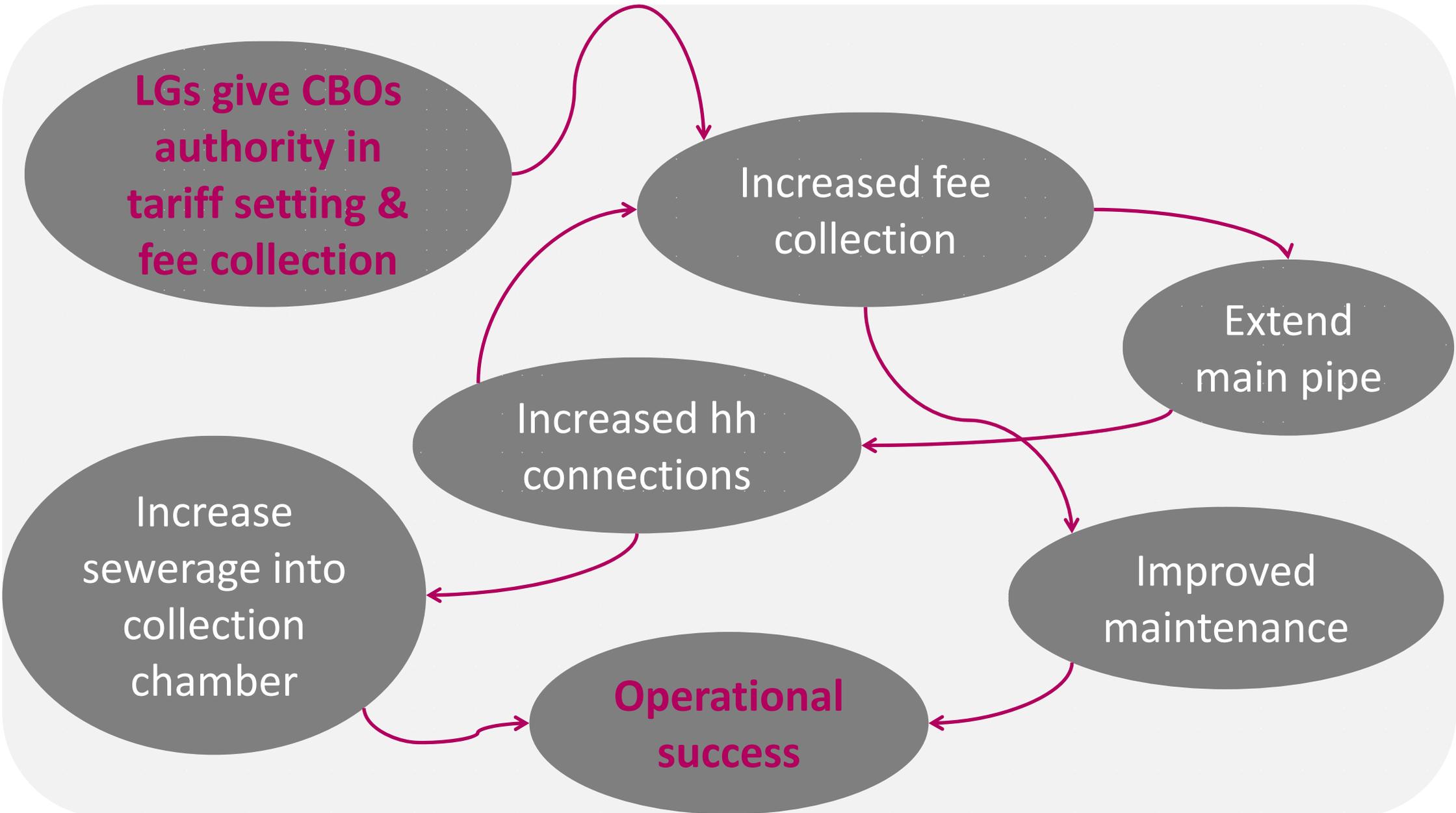


Increasing the **tariff** and **collection rate** from users can help CBOs meet routine and intermittent costs.

Costs (IDR)		Income per month (IDR)	
Operator	200,000/mo	A) Lower rate (IDR 2,000) & 80% collection	
Desludging	1 M/yr	TOTAL	160,000
Effluent testing	300,000/yr	OR	
Other (eg gloves)	50,000/mo	B) Higher rate (IDR 5,000) & 100% collection	
TOTAL	400,000/mo	TOTAL	500,000

Example only: For Simple Sewer System for 100 households

One suggestion is to **give CBOs authority** in tariff setting and fee collection. It can improve operational success in several ways.



CBO-led

Most CBOs in our research found income and revenue the biggest challenge.

They could not regularly pay the operator and the CBO members were volunteers.

O&M costs often could not be covered in full.

Intermittent costs and Asset Renewal costs were generally either not met or paid by CBO members.

IMAGINE IF THE OPERATOR AND THE CBO WERE PROPERLY PAID FOR ALL THEIR TIME AND EFFORT - HOW GOOD WOULD THAT BE?

DISCUSSION

For CBOs who experience financial problems, which options do you think could best help them increase revenue and why?

AUTHORITY IN FEE COLLECTION

- Collection by person of authority in uniform – who?
- Fee combined with other bill (e.g. electricity or water)
- Fee sent and received electronically (e.g by app)
- Pay through phone credits
- Pay at pay points
- Other? (What's your idea?)

AUTHORITY IN SETTING LEVEL OF FEE

- Heads of the neighbourhood, village, or local government parliament, or mayor setting the fee in local regulations?
- Other? (What's your idea?)

REPORT BACK

Which option do you think could best help CBOs increase revenue and why?

AUTHORITY IN FEE COLLECTION

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Matching
innovative
financing to
need

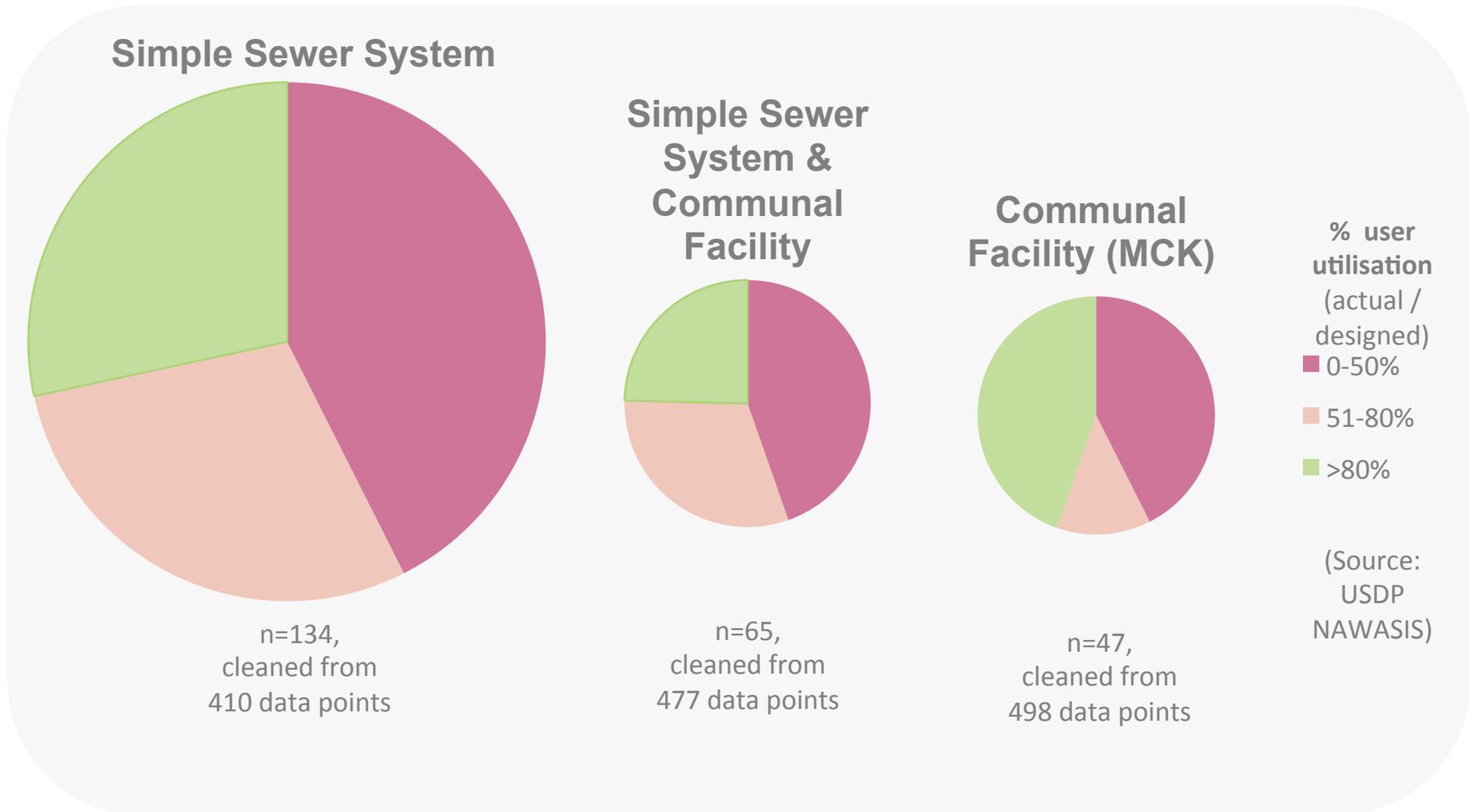
Identify funding required

- Additional household connections
- Major repair
- Retrofitting communal to hybrid
- Revenue generation

Raise funds in innovative ways

- Micro-finance
- Credit cooperative
- Arisan (shared local lottery)
- Corporate social responsibility

The actual use of local scale sanitation systems could be about **half of design capacity** for many systems



After systems are constructed, most CBOs do not have finances to extend to new households.

Our research collected examples of innovative financing.

- Micro-finance
- Credit cooperative
- Arisan
- Corporate social responsibility

Micro-finance

- **Kandiri has “programmatised” micro-credit.** As part of an election commitment, the mayor has promised that every RT will get IDR 50M per year to support basic needs, including sanitation. This is allocated from APBD for community empowerment. This is a possible source of funds for household connections and to optimize connections. On average there are less than 10 household connections per system, but there should be about 40.
- **Bandung and Jombang** provide funds to the local bank (~IDR 5B/yr). The Java Bank then provides the microfinance scheme for sanitation.
- **Water.org** collaborate with local micro finance institutions (e.g., banks) to conduct market research and design new financial products to enable households to invest in accessing water.

Tangerang has a credit cooperative.

- People have to pay in for the first year before they get credit from the cooperative.
- The first credit provided to a member must be for an activity that generates money.
- They are building about 25,000 septic tanks, funded through the credit cooperative.
- Is it possible to do the same for local scale sewerage systems?

Arisan (lottery)

- A mechanism for financing through the community
- Case study in East Java for septic tanks
- A group of people contributed IDR 10,000 every month into a pool of funds and then draw to see who gets to use the total pool of funds first
- The families were drawing for a place in line to have a septic tank built
- This type of pooling of funds allows work/construction to begin immediately and people do not have to pay interest

DISCUSSION

CBOs need funds for repairs, connecting additional households, retro-fitting communal to combined systems

For CBOs who experience this, what form of innovative financing could work well and why?

- Micro-finance
- Credit cooperative
- Arisan
- CSR
- Other (What's your idea)?

REPORT BACK

For CBOs who experience this, what form of innovative financing could work well and why?

- Micro-finance
- Credit cooperative
- Arisan
- Corporate Social Responsibility
- Other (What's your idea)?

Building innovation entrepreneurs

- Renting additional stalls
- Micro-loans for fisherman
- Catfish ponds
- Fertiliser
- Services for others (desludging)
- Cassava and banana fields
- Biogas

Fruit and catfish ponds, South Sulawesi



Coordinated flushing to casava and bananas, Sleman, Java



Micro-credit, fish pond, soft loans, donors to community, Bogor Java



Women farmers, Sleman, Java



Other examples

- Renting space for additional stalls e.g., food
- Micro-loans for fisherman
- Services for others (desludging)
- Bottling and selling biogas
- Childhood office and classes, kitchen, social hub

DISCUSSION

Many CBOs have developed entrepreneurial activities in order to attract users and/or increase income, social acceptability and local economy.

Which of these options might be most interesting to CBOs you are familiar with and why?

- Renting additional stalls
- Micro-loans for community needs
- Catfish ponds
- Fertiliser
- Services for others (desludging)
- Agriculture, e.g. cassava and banana fields
- Childhood office and classes, kitchen, social hub
- Other??

REPORT BACK

Which of these options might be most interesting to CBOs you are familiar with and why?

- Renting additional stalls
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- Other??

KEY MESSAGE

Are these 'CBO-led' strategies and tools helpful for Local Governments?

CBO-led

Co-management

Institution-led

It depends on the needs and strengths in each area!

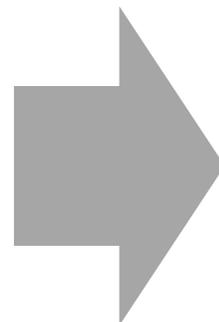
Reflection questions for determining relevance to LGs:

How many CBOs struggle to pay operators and routine operations?



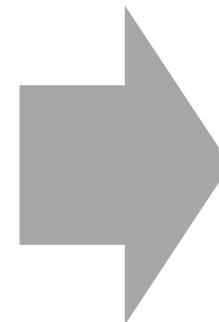
Authority in tariff setting and fee collection

How many CBOs would benefit from additional household connections, communal retrofit, etc?



Matching innovative financing to need

How many CBOs are enthusiastic and looking for other methods to 'grow' their services?



Building innovation entrepreneurs

3. WHO SHOULD GOVERN? AND HOW?

Drivers for increasing Local
Government's role

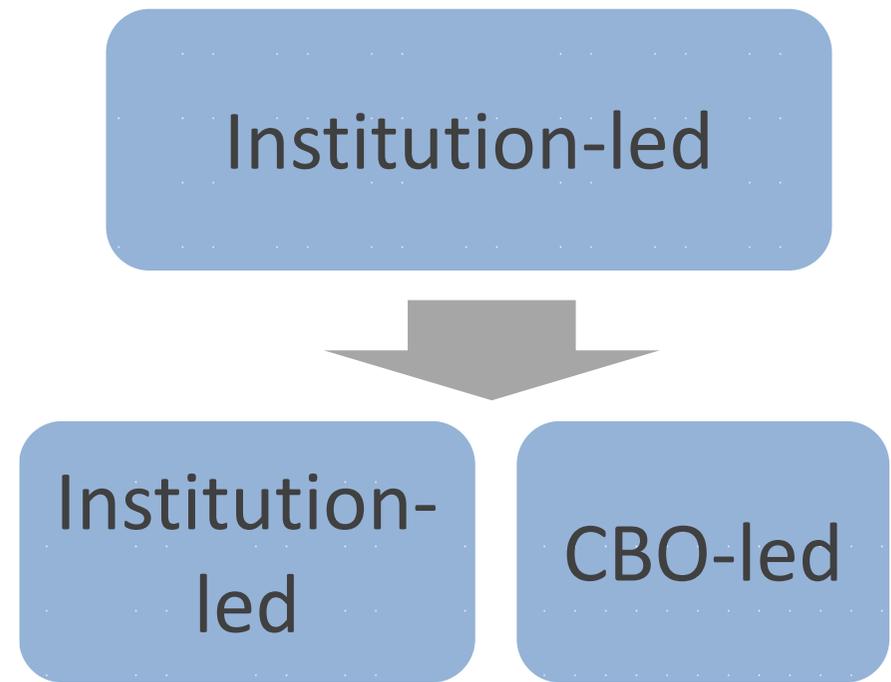
There are many different reasons for increased local government participation in Indonesia:

- Legal responsibility
- Institutional pressures
- Equity considerations
- Continued existence of effluent hazard during Operation
- CBO ability reasons
- Efficiency reasons
- Community-empowerment justification is changing

Legal reasons for increasing LG's role

Before 2003, Local Government was responsible.

The 2003 *community-based water supply and environmental sanitation policy* created a duality in national regulation.



This duality created challenges, for example:

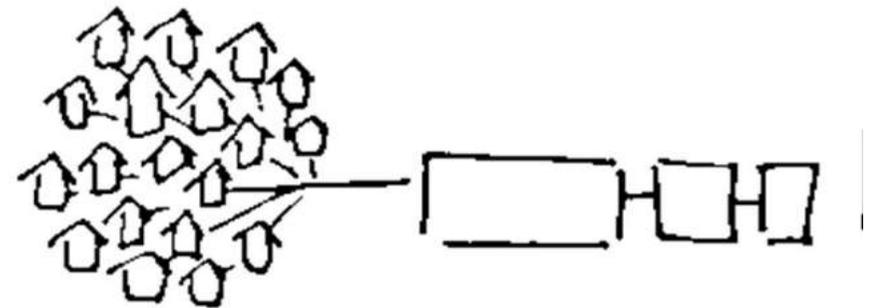
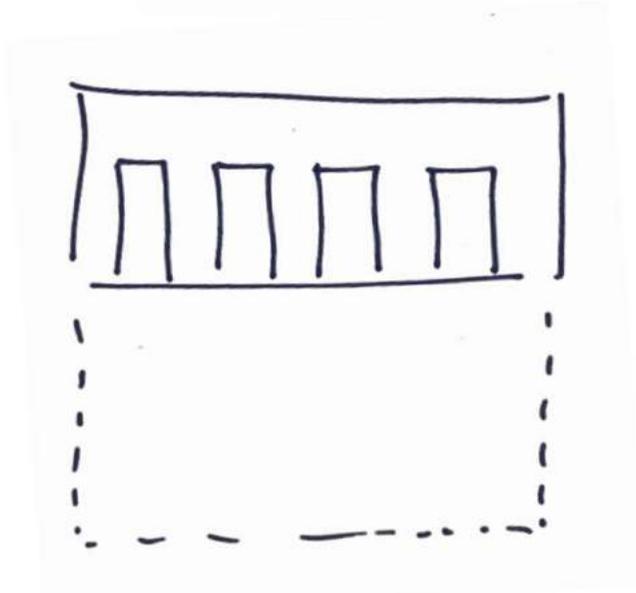
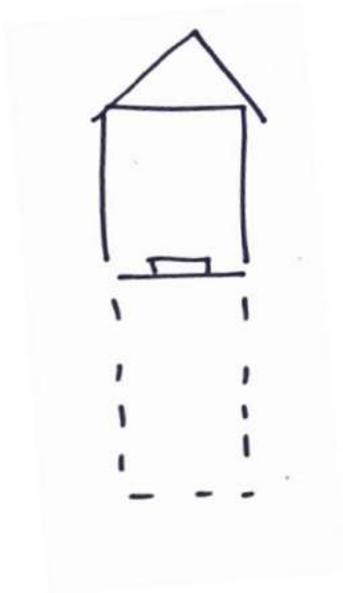
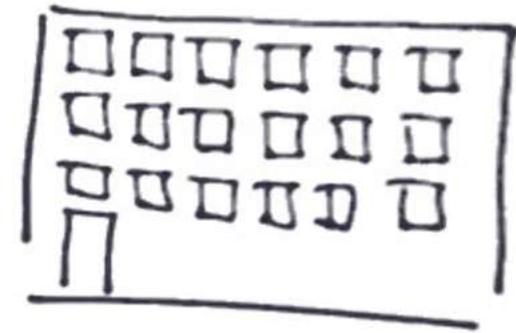
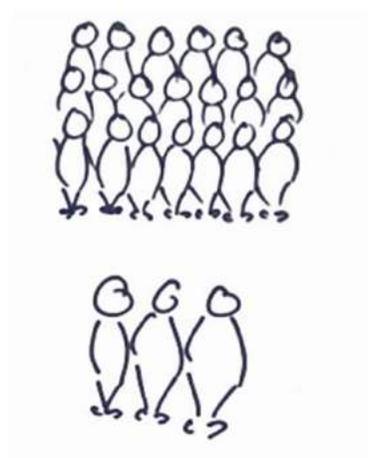
- The legal framework favours institution-based systems
- Ownership is legally unclear for community scale systems
- Enforcing service standards for CBOs is challenging and perhaps unreasonable
- CBO management is a significant burden and different from other scales of technology

Across service scales, governance is often described as...

On site =
householder

Local scale =
CBO on behalf of community

Centralised =
Local Government

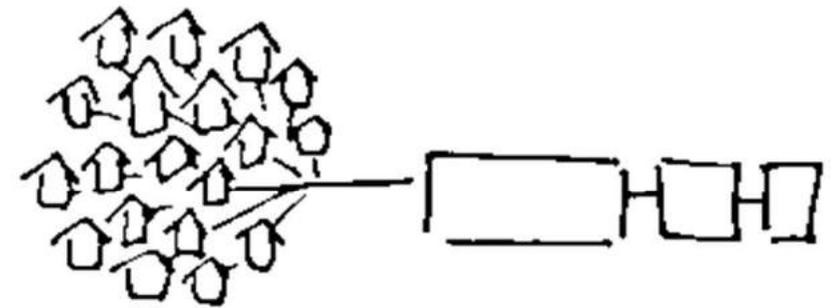
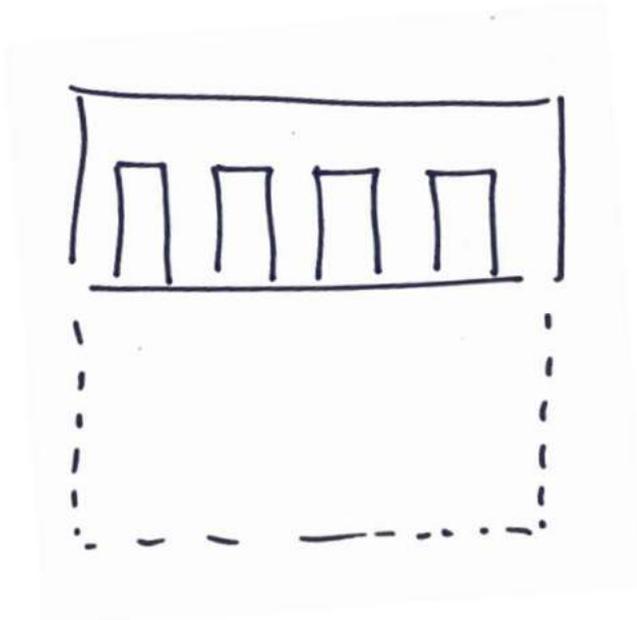
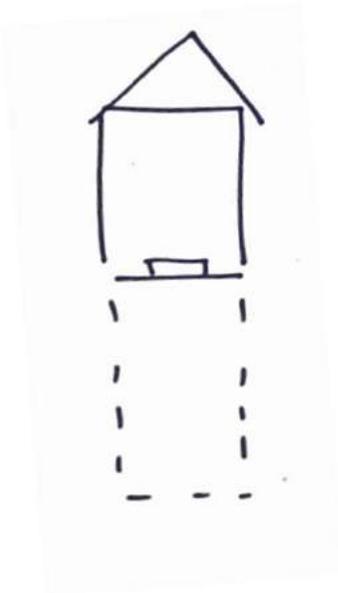
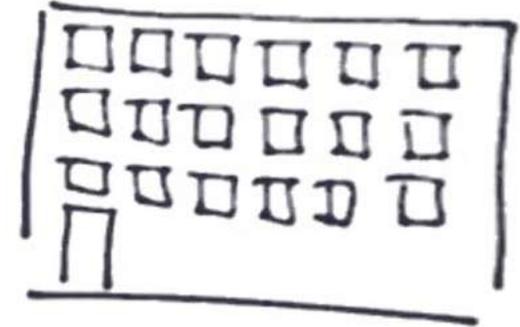
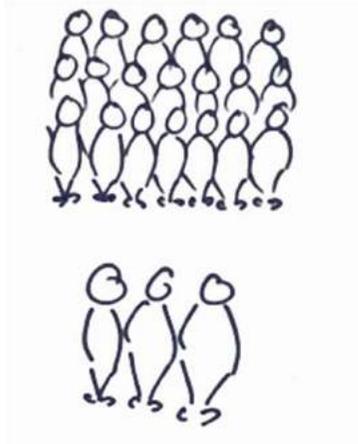
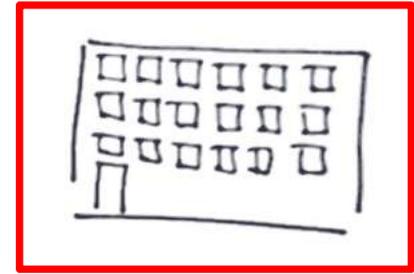
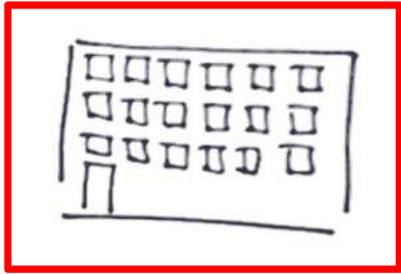


(Figure: T. Rosenqvist)

But, legally, local government is responsible.

Sanitation is described as a:

- Basic service (must be provided by local government)
- Mandatory (every region must carry it out)
- Concurrent affair (carried out by central + local government)



(Figure: T. Rosenqvist)

KEY MESSAGE

Governance should move beyond CBO-led because Local Government is legally responsible.

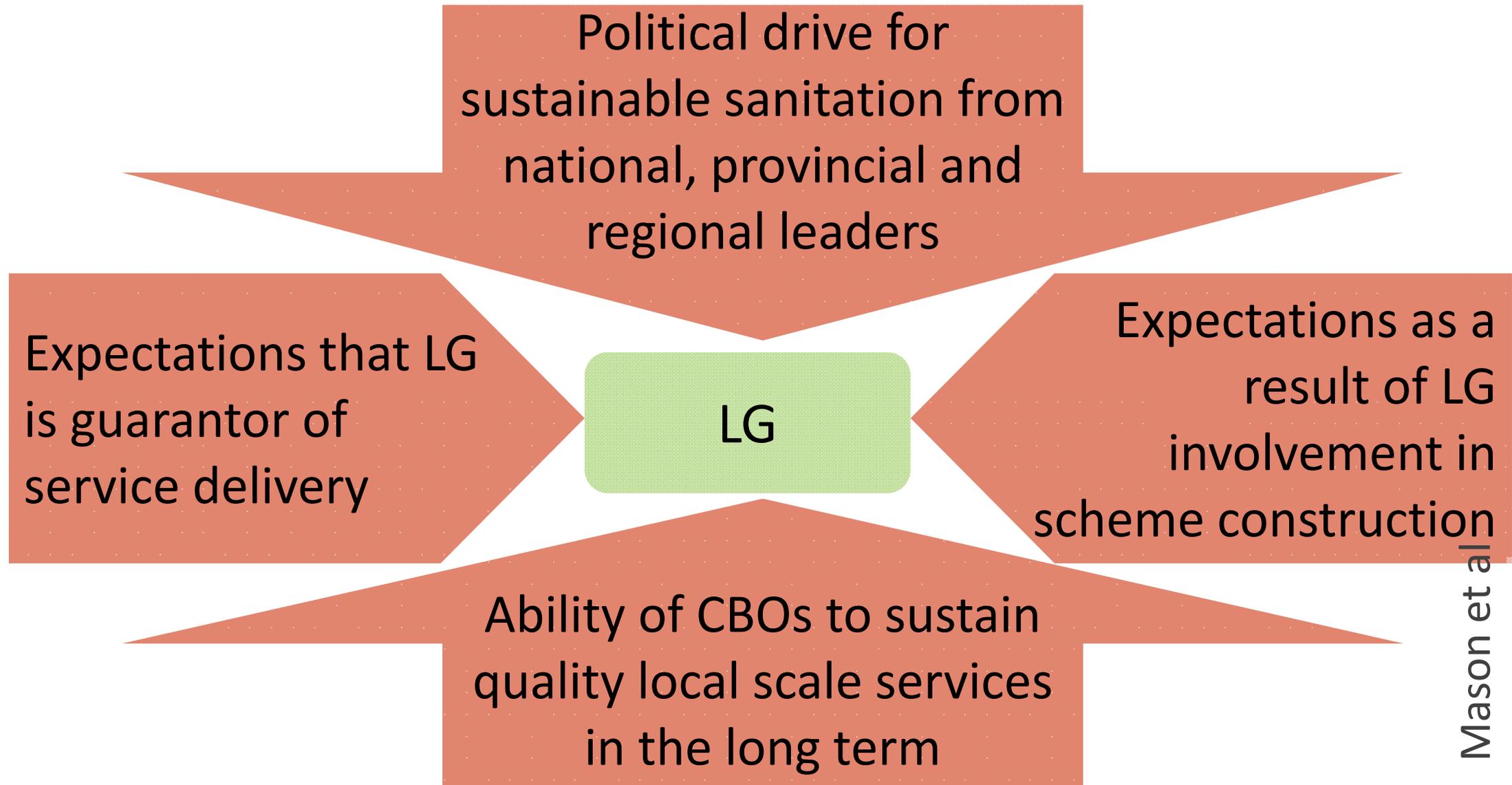
Therefore Local Government should be the “backstop”, making sure services happen. This should not be left only to the community.

At a minimum, all Local Governments should:

1. **Map the status** of existing local scale systems' technical, financial, management and user satisfaction performance
2. Ensure **support (financial, technical, physical)** is delivered to local scale systems for optimisation (e.g. 100% capacity, communal retrofit, effluent monitoring, desludging, major repairs, etc)
3. **Formalise fee setting and fee collection** in line with cost-recovery principles
4. Develop a **priority list** of new investments and corrective actions for systems/areas that have a high Pathogen Hazard (see Mitchell et al 2016, Waterlines)

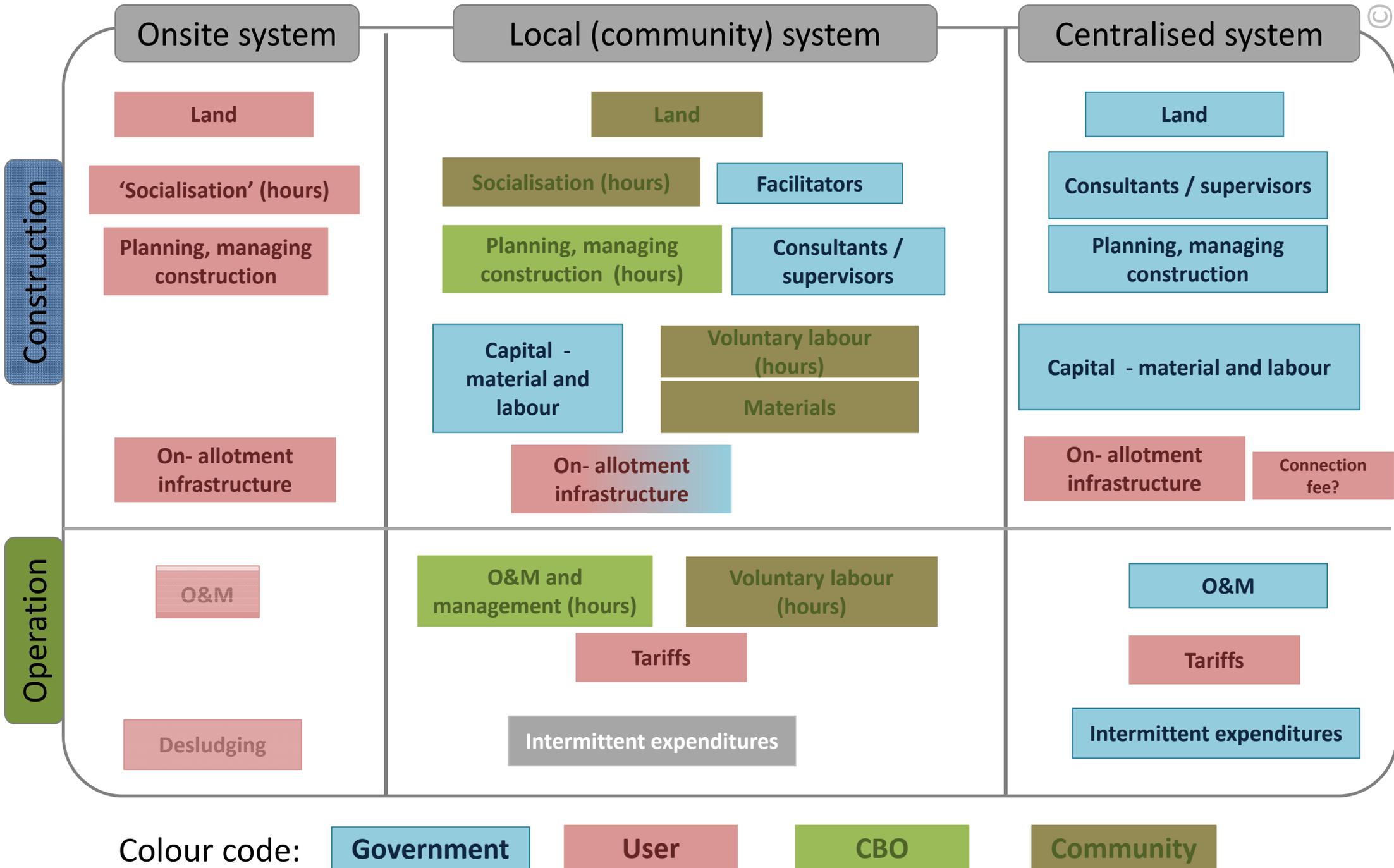
Institutional reasons for
increasing LG's role

In the medium-term, institutional arrangements put Local Government in a pinch for supporting local scale services

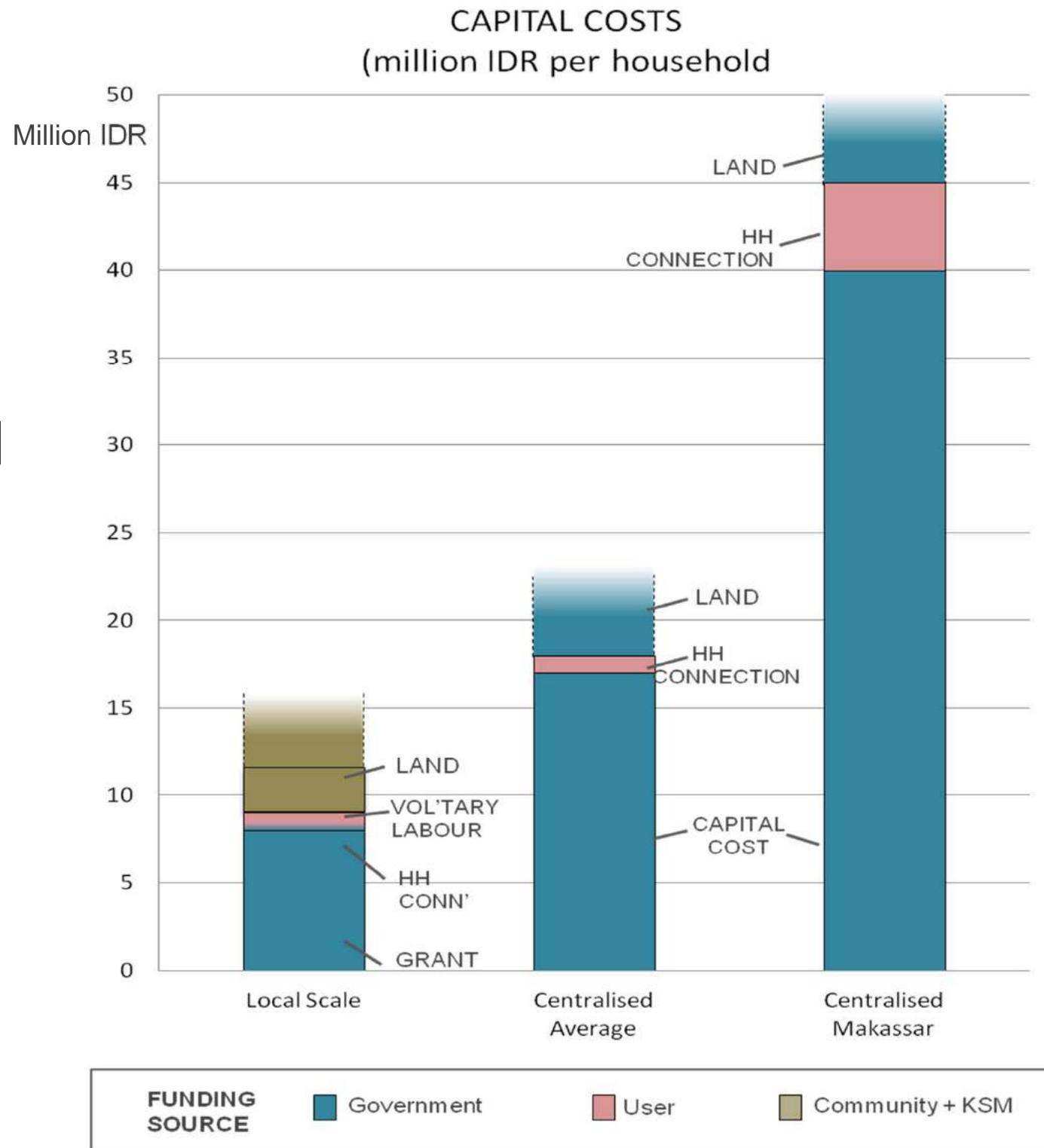


Equity reasons for
increasing LG's role

Poorer communities are typically asked to contribute more.

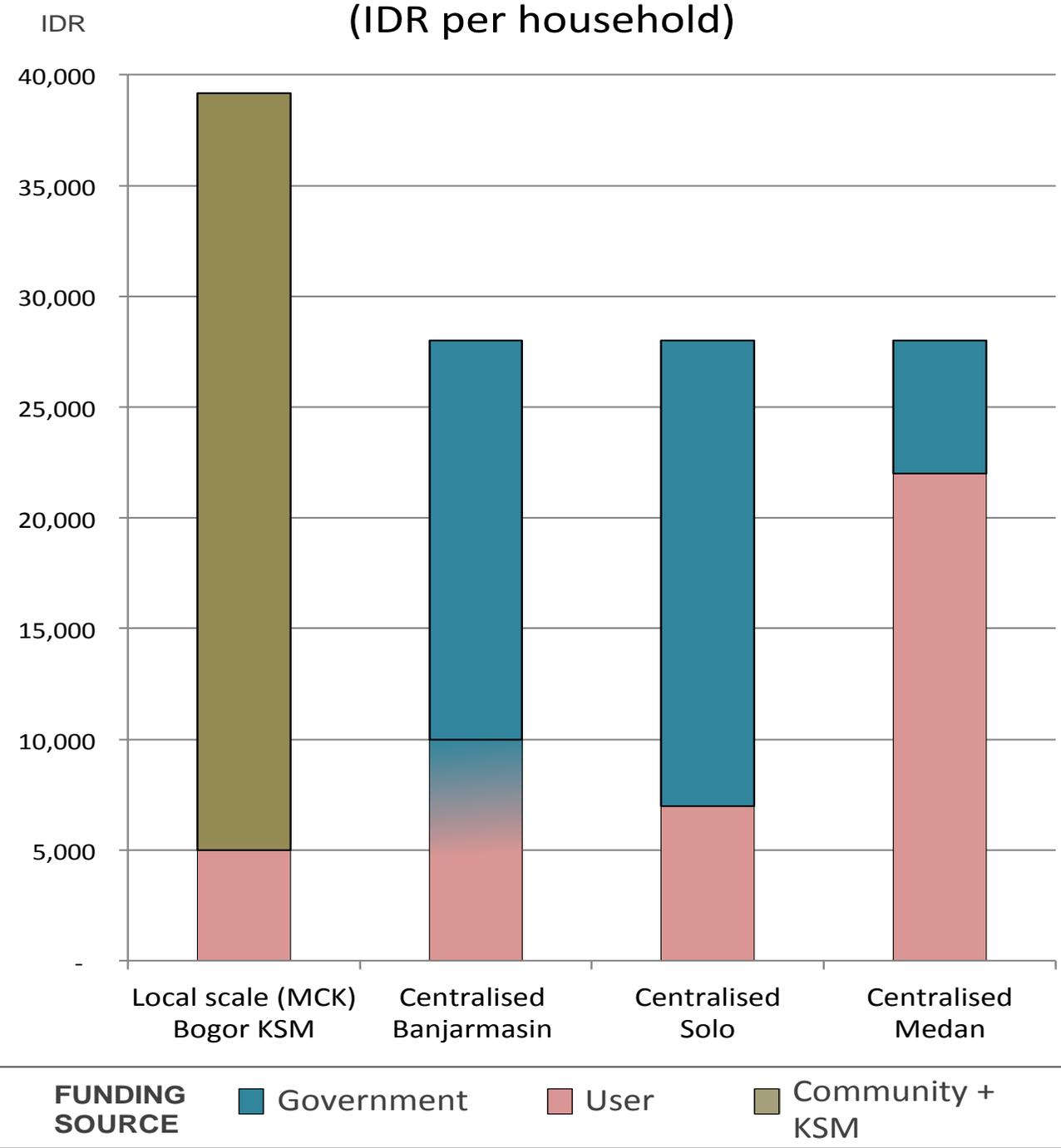


Poorer communities may receive less capital support and be asked to provide more.



Operation and Maintenance (O+M) costs are similar for MCK and centralised systems, but poorer communities are expected to fill the revenue-cost gap.

MONTHLY O&M
(IDR per household)

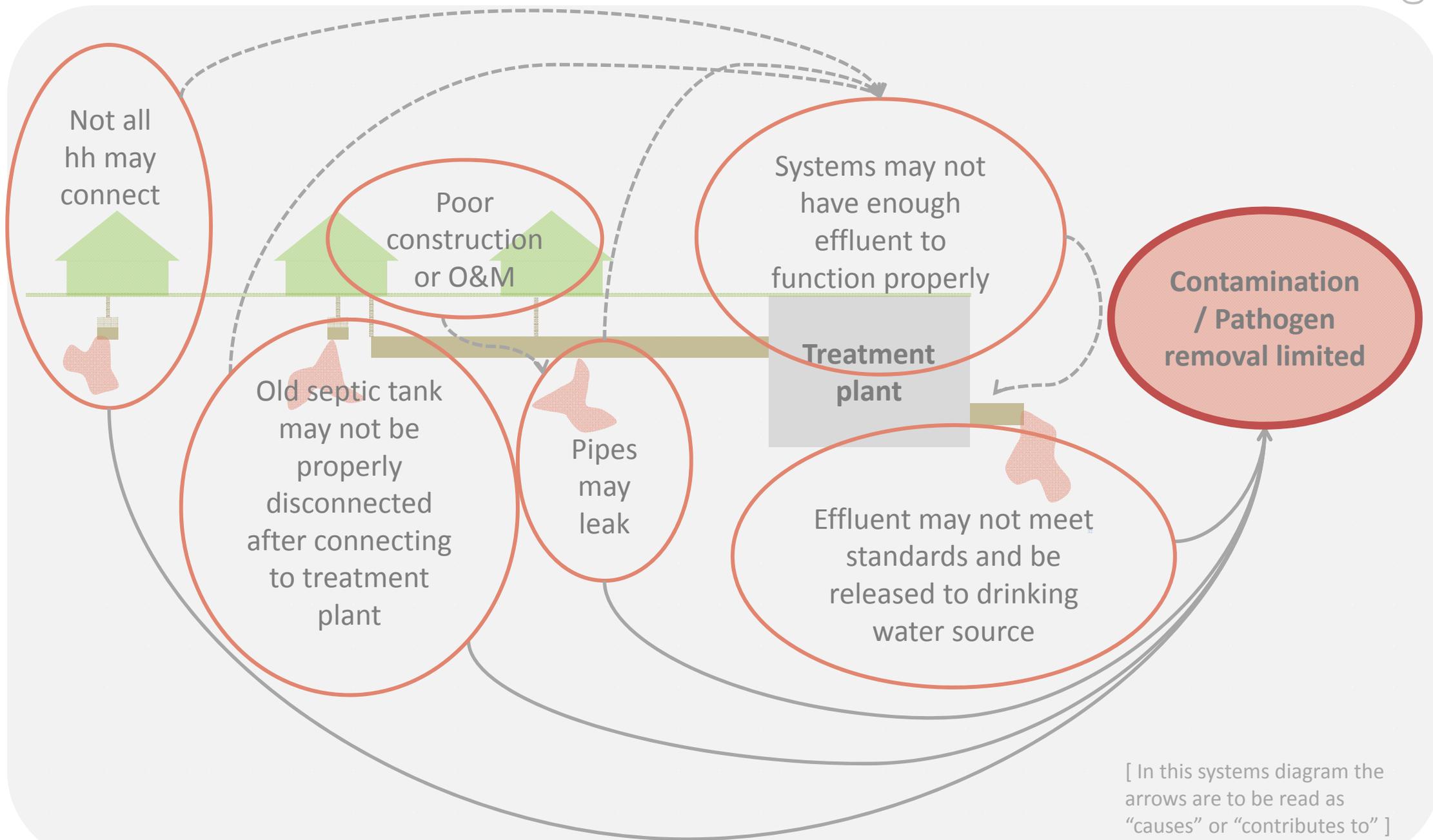


“...the people who are involved [in the operation and management of community-based sanitation] are not always people who are fully concerned about this issue. They cannot be focused on this, they have children, life, if they take care of this then they cannot eat.”

Community Empowerment Officer, Bulukumba, Aug 2015

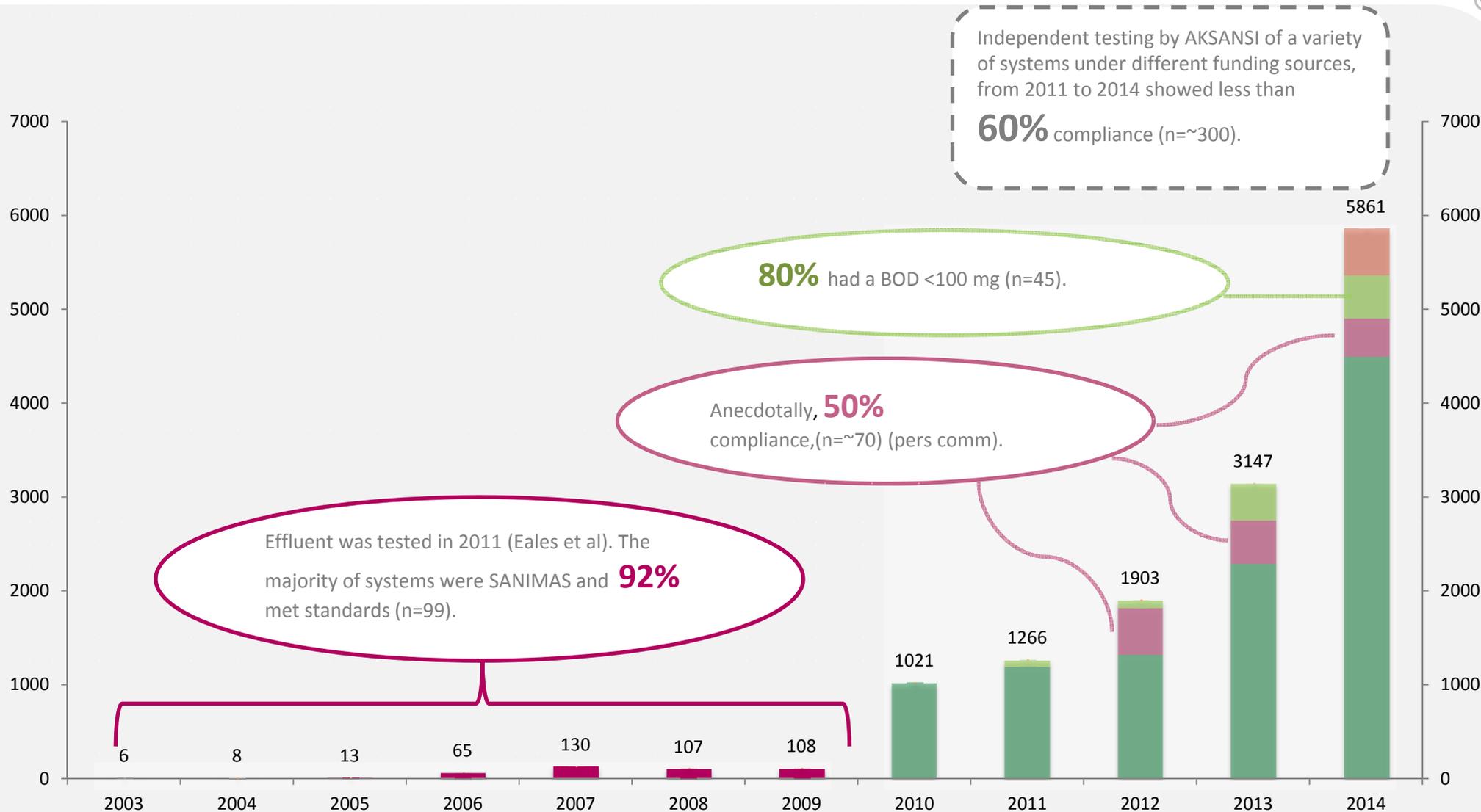
Effluent hazard reasons for
increasing LG's role

Contamination can still occur after system construction.



The available data indicates that technical performance is decreasing with increasing scale of implementation.

Number of systems funded for installation per year



Stakeholders suspect this decreased performance is because of the decreased time communities have with facilitators and for their capacity building.

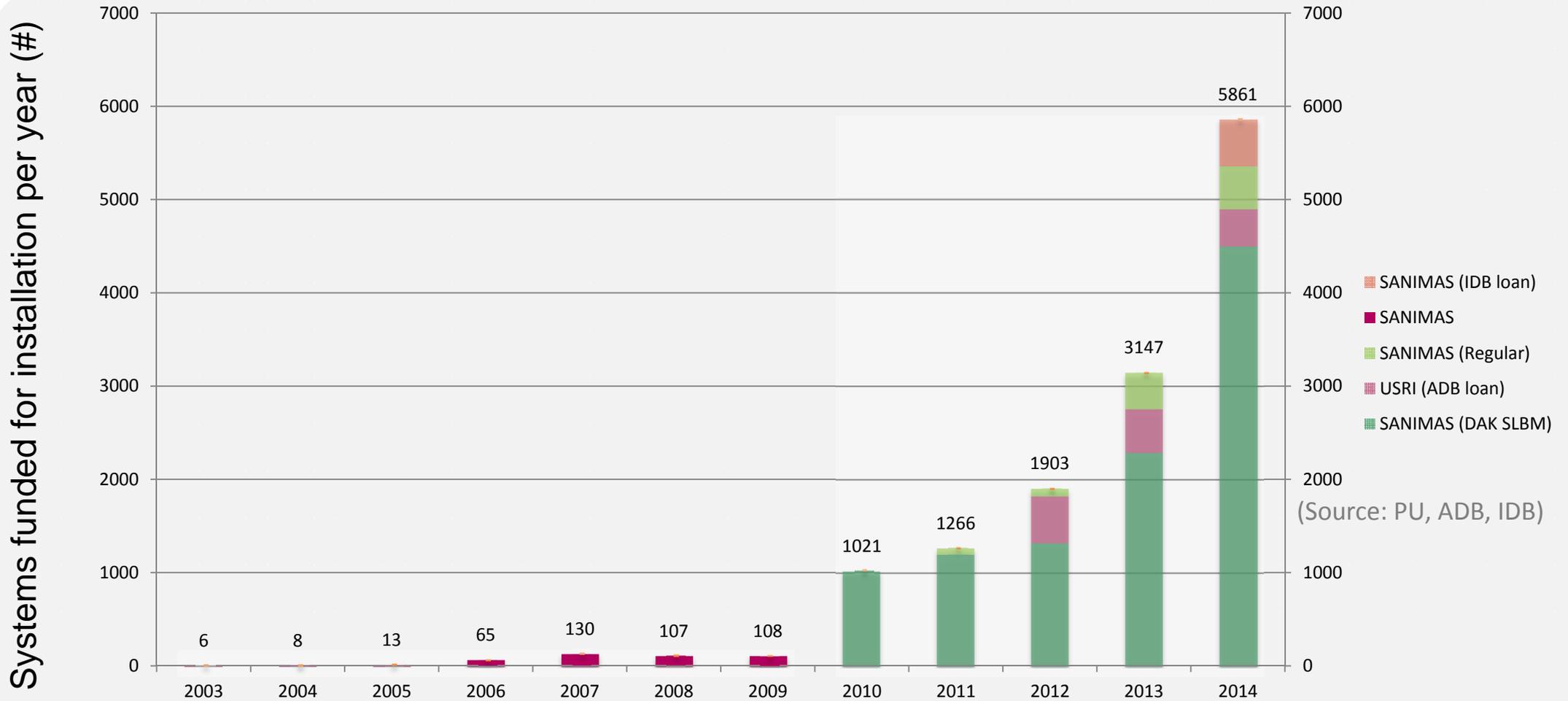
CBO ability reasons for
increasing LG's role

CBOs has difficulty managing many important tasks, which can compromise on-going system performance.

	Manageable tasks	Challenging tasks
Successful operation	<ul style="list-style-type: none"> ✓ Flush the system ✓ Check pipes for cracks ✓ Plan and track completed O+M tasks ✓ Fix blockages 	<ul style="list-style-type: none"> <input type="checkbox"/> Major repairs <input type="checkbox"/> De-sludge every 2-4 years <input type="checkbox"/> Rehabilitate unused facilities and systems <input type="checkbox"/> Monitor effluent <input type="checkbox"/> De-scum monthly <input type="checkbox"/> Conduct biogas maintenance <input type="checkbox"/> Deodorise the methane
Sustainable financing	<ul style="list-style-type: none"> ✓ Keep records of group assets 	<ul style="list-style-type: none"> <input type="checkbox"/> Collect user fees <input type="checkbox"/> Plan & budget for major expenses, uncertainty, emergencies <input type="checkbox"/> Source supplementary income streams <input type="checkbox"/> Manage the treasury book & bank account <input type="checkbox"/> Prepare financial accountability report <input type="checkbox"/> Forecast recurrent costs
Sustaining demand	<ul style="list-style-type: none"> ✓ Conduct health campaign ✓ Remind users of their responsibilities & provide support ✓ Conduct monthly users meetings ✓ Clean the MCK 	<ul style="list-style-type: none"> <input type="checkbox"/> Educate about the benefits of the system
Effective management	<ul style="list-style-type: none"> ✓ Keep complaint recording mechanism ✓ Host regular meetings 	<ul style="list-style-type: none"> <input type="checkbox"/> Pay operator <input type="checkbox"/> Ensure operator legitimacy in community

Efficiencies to be gained by
increasing LG's role

Might it be more sustainable and efficient for Local Government to work in partnerships rather than separately train up to 100,000 CBOs?



Community empowerment
justification is changing

Initially community empowerment was a key outcome of community-based sanitation. However, two key features of 'community empowerment' have little relevance in practice

1. Behaviour change

SANIMAS original intent: discourage open defecation behavior and encourage use of toilets and improved hygiene through Communal (MCK) systems.

Now, only simple sewer systems (SSS) or mixed (communal/SSS) systems are built. Communal only in exceptional situations.

Where SSS built, people already have toilets, therefore the original intent of changing behaviour from OD is not necessary.

For people with toilets and onsite treatment or disposal, the next step is sewerage. For these people, comparing SSS with centralised, SSS costs them more in time and money, and provides them lower level of service.

2. Community provides land

Because most systems are now SSS, where all the infrastructure can be underground, from 2016, having land is no longer a GoI (Ministry of Public Works) pre-requisite for a community to receive a system.

Local government is now able to provide public land (e.g., under roads or other public lands) which creates both a need and an opportunity for strengthening LG engagement and capacity.

KEY MESSAGE

Summary of reasons for increased Local Government participation:

- Legal responsibility
- Institutional pressures
- Equity considerations
- Continued existence of effluent hazard during Operation
- CBO ability reasons
- Efficiency reasons
- Community-empowerment justification is changing

These reasons for an increased Local Government role reveal opportunities for co-management and institution-led governance.



3. WHO SHOULD GOVERN? AND HOW?

Activity: Under a Co-management approach, how do you think responsibilities could be arranged?

Activity: Exploring what co-management could look like in your Local Government (or for Local Governments generally) using the Governance Game again

- Look at all of the activities and stakeholders. Add or change activities and stakeholders to suit your situation.
- Put each activity next to the stakeholder who **could be** responsible for doing it, under a co-management scenario.

Reflection: Exploring what co-management could look like in your Local Government (or for Local Governments generally)

- Discussion/reflection questions:
 - Was anything surprising about this activity?
 - Who has most responsibilities placed next to them?
 - How is this mapping different from your previous mapping of who has what responsibilities?
- Take pictures of your gameboard

3. WHO SHOULD GOVERN? AND HOW?

Strategies for Co-management
approach

Co-management

Strengthening
CBOs

Building
networks

Co-
management

Strengthening CBOs

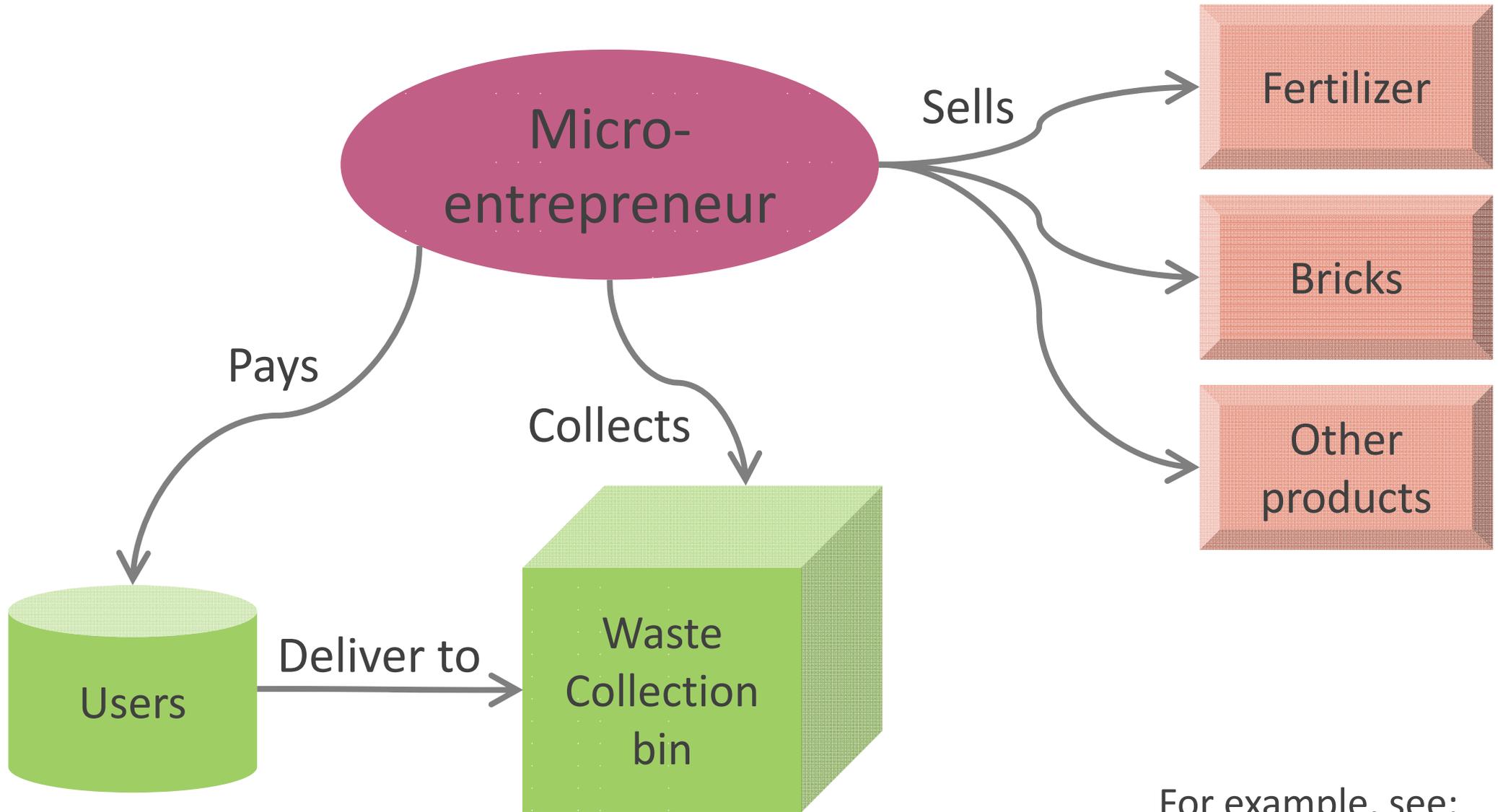
- Formalise entities (cooperative, association, village-owned enterprise) (see [Al Afghani 2015](#))
- Provide template and training for business model / work plan, as opposed to a volunteer plan (see [Business Model Canvas](#))

CBOs could legally incorporate as (see [Al Afghani 2015](#)):

- Association
- Limited liability company
- Village business entity (BUM Desa)
- Foundation
- Cooperative

- No legal entity is perfect
- Cooperatives and associations would be easiest
- Multiple CBOs could be amalgamated into a single legal entity at District or City level to simplify paper and procedure (but this also increases complexity)

Example: Flipping the incentives – micro entrepreneurs



- For example, see:
- [Peepople](#)
 - [Sanergy](#)

Co-management

Building
regional and
national
networks

Why:

- Coordinate across districts
- Achieve benefits of aggregating

Examples:

- **AKSANSI national organisation**
(organisation supporting CBOs for sanitation)
- **Brantas Watershed partnership**
(agreement among 16 LGs to address sanitation to improve the watershed)
- **East Java association**
(regional community of practice for CBOs)

Co-management with LG

How could LG provide support for supporting activities or activities challenging for CBOs, such as:

- Major repair
- Monitoring
- Training
- Incentives (awards)
- Legally securing the land
- Regulation

In 2014, at least 19 LGs were providing financial support, mainly for meetings and awards.

A few supported local system operations with intermittent and asset renewal costs e.g., site repairs (**IDR 170 M** / USD 12,500); extending communal systems to new house connections (**IDR 150 M** / USD 11,000).

1 USD = IDR 135,000 (August 2015)



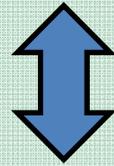
Small desludging vehicles and tanks purchased by LG for KSMs

Co-management case study:

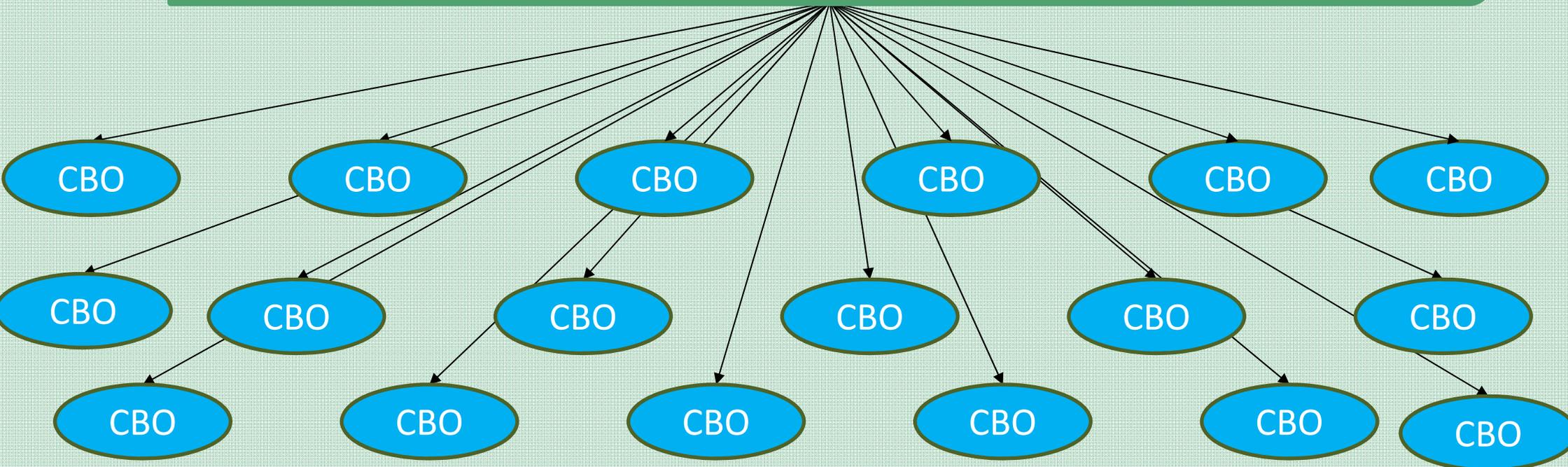
AKSANSI: Association for
Community-based sanitation CBOs

Co-management can involve partnering with an external service provider (NGO, private sector) to act as a coordinator between the CBOs and Local Government, e.g:

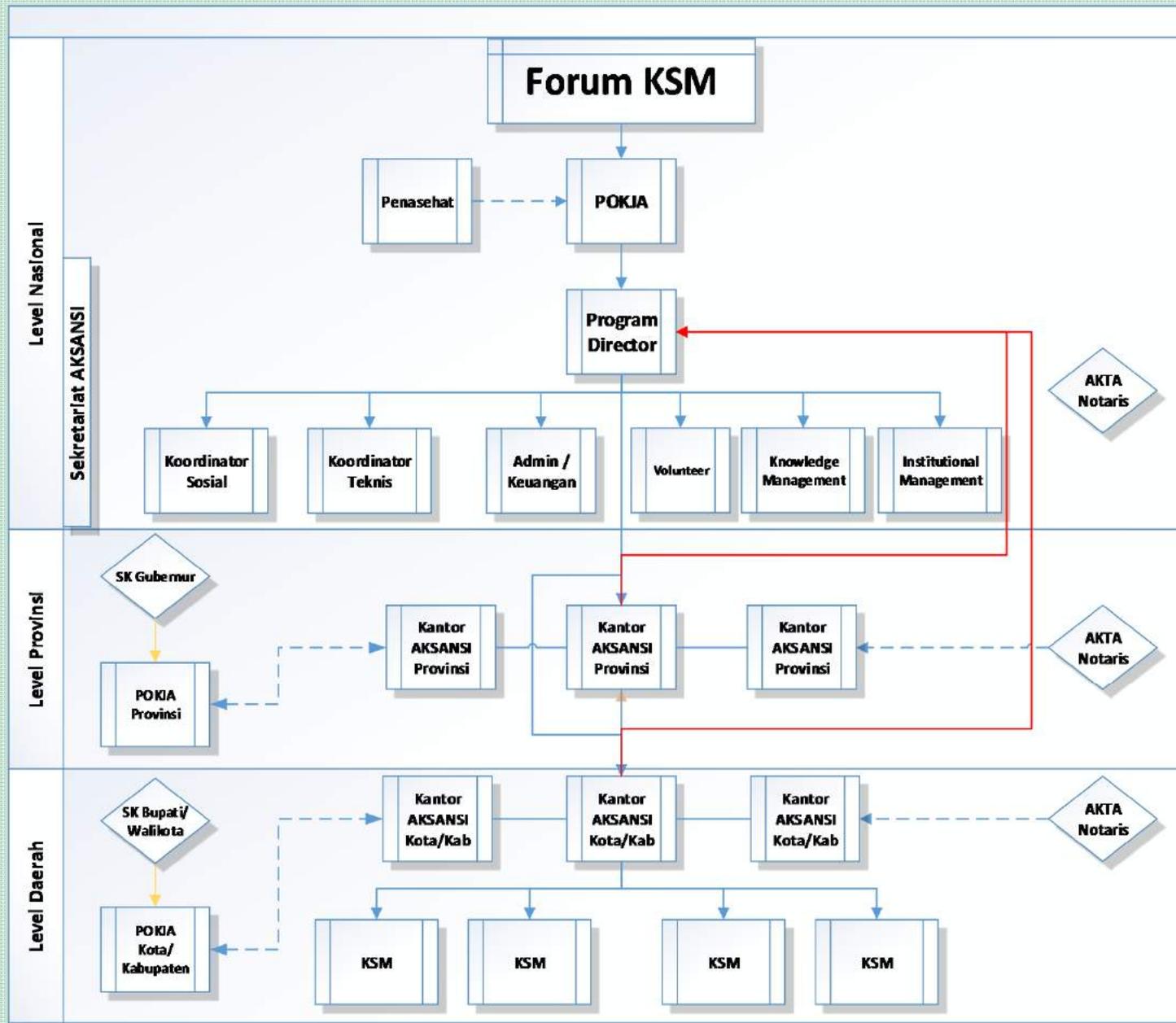
LG department or unit



AKSANSI



AKSANSI Organizational Structure and Operating Model mirrors Indonesian government structure and budget flow



Funding from government and donors

AKSANSI in 28 Cities (Kota)/Regencies (Kab)

Kota Mojokerto

Sleman Kab

Tangerang Kab

Blitar Kab

Kota Surakarta

Barru Kab

Bandung Kab

Serang Kab

Temanggung Kab

Kota Pare Pare

Jeneponto Kab

Lebak Kab

Kota Pekalongan

Pinrang Kab

Bantaeng Kab

Malang Kab

Kulonprogo Kab

Soppeng Kab

Bulukumba Kab

Kota Malang

Sukoharjo Kab

Takalar Kab

Kota Makassar

Kota Batu

Kota Kediri

Kota Bogor

Sidrap Kab

Magelang Kab

Key objectives of AKSANSI

1. Create momentum and enthusiasm for Operation stage
2. Build capacity of CBOs and Local Government
3. Collaboratively monitor sites with Local Government
4. Operation phase socialisation and facilitation with CBOs
5. Advocate to LG and Government of Indonesia

Key AKSANSI tasks

- Branch Office + equipment
- Stakeholder meeting
- CBO Meeting 3x/year
- Premonitoring + monitoring
- Kab/Kota Awards
- CBO Refresher Workshops
- Incentives for Aksansi Branches
- CBO Operation assistance/facilitation
- Regular sludge check
- Regular National Coordination
- Marketing material distribution
- Identify innovations for high achieving CBOs
- Develop strategies for less optimum CBOs
- Increase household connections
- Joint fundraising for events

AKSANSI designs and delivers technical and management capacity building for 400-600 community leaders/year



AKSANSI facilitates, contributes to and tracks system rehabilitation and extension activities

- Rehabilitation Biogas 10 cities/regencies, 53 HH Biogas
- Rehabilitation Proposal of 8 CBO approved and financed
- Approved Pilot Project on Additional system improvement from existing Communal -> Mixed (add simple sewer)
- Piloting Smell trap installation in 2 CBO

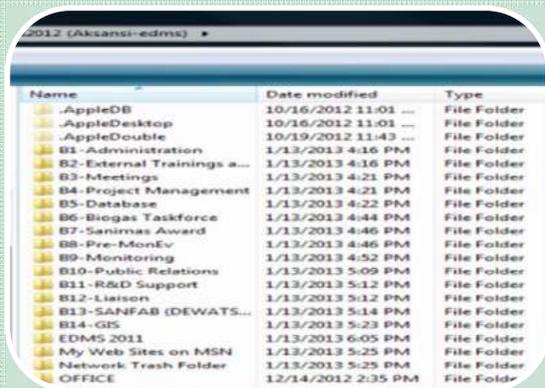
Propinsi	Jumlah Biogas	Satgas Biogas (Org)	Qty Biogas wt Biogas TF	Biogas Dikunjungi Satgas	Problem Biogas			Biogas Dipakai	Optimalisasi Biogas	Total SR hasil Optimalisasi
					Teknis	Sosial	Lain			
Jawa Tengah	44	5	29	16	10	2	1	3	12	25
DIY	21	2	17	3	3	-	-	-	3	3
Jawa Timur	121	9	87	15	8	6	-	1	8	16
Jawa Barat	50	8	34	50	41	1	2	6	6	9
BANTEN	19	3	16	-	-	-	-	-	-	-
Region Jawa	255	27	183	84	62	9	3	10	29	53
				46%				12%	35%	

AKSANSI's rapid assessment program provides best available data on system status

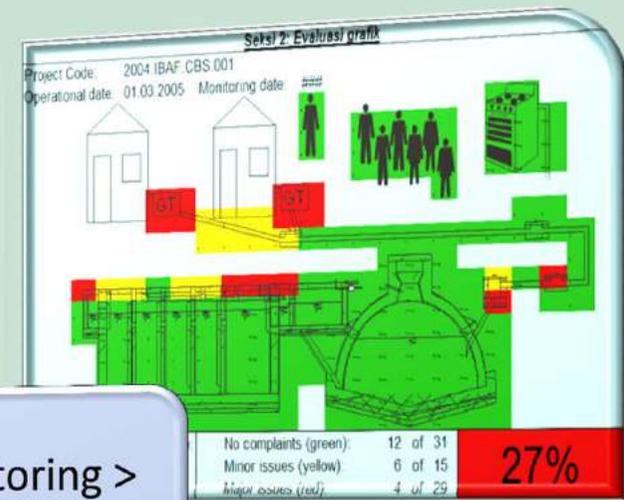
- AKSANSI trains branches to undertake and report on rapid assessment of local system functioning
- Data collected through on-site interviews and calls
- As branch numbers grow, capacity for rapid assessment grows

Pre-monitoring Form	2011	2012	2013	2014	2014 + 2015
Send & via Calls	70	184	300	600	600
Target returned	70	125	250	400	400
Actual returned	35	67	297	380	380
Percentage	50%	54%	120%		95%

Monitoring and evaluation data is stored centrally; entered into bespoke GIS Database for analysis

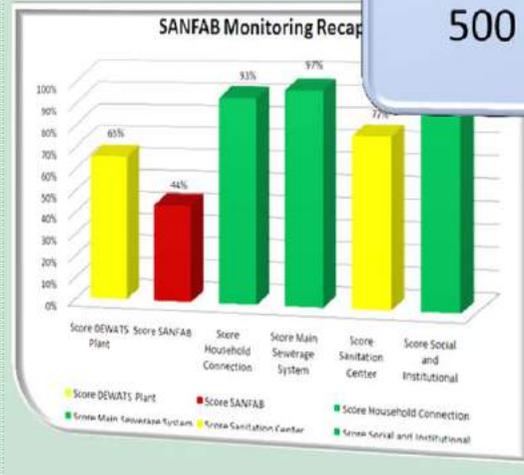


Score	Category
39%	Score SANFAB
56%	Score Household Connection
17%	Score Main Sewerage System
100%	Score Sanitation Center
100%	Score Social and Institutional



Database

Monitoring > 500 CBO



Performance scoring from rapid assessment shows where action is needed: a powerful advocacy tool for engaging LG and directing their activities

No	Nama KSM/KPP	Sistem	Tahun Proyek	Total	SR	SSS	MCK	Effluent	Biodigester	Kelembagaan
1	Bina Sejahtera	Kombinasi	2009	75%	75%	100%	71%	90%		63%
2	Al-Futuahaat	MCK	2013	94%			97%	90%	97%	67%
3	Al-Muttaqien	Kombinasi	2013	90%	83%	100%	100%	80%	82%	88%
4	Amanah	Kombinasi	2013	95%	100%		97%	80%	94%	100%
5	Amanah 4	Kombinasi	2013	88%			88%	80%	89%	88%
6	Baiturrohman	Kombinasi	2013	96%	100%	100%	97%	90%	97%	88%
7	Bojong Kidul	Kombinasi	2013	89%	83%	100%	100%	90%	81%	63%
8	Cemper Asri	Kombinasi	2013	88%	92%	100%	94%	100%	81%	50%
9	Flamboyan	Kombinasi	2013	85%	83%	100%	100%	90%	68%	63%
10	Kali Baru Timur I	Kombinasi	2013	81%	100%	100%	97%	100%	46%	63%
11	Kali Baru Timur II	Kombinasi	2013	58%			56%	90%	44%	50%
12	Kali Baru Timur III	Kombinasi	2013	88%	100%	100%	94%	100%	70%	88%
13	Mawar Bodas	MCK	2013	88%			97%	90%	73%	88%
14	Pabuaran	MCK	2013	73%			69%	100%	67%	63%
15	Pancuran	Kombinasi	2013	91%	100%	100%	100%	100%	81%	63%
16	Putra Karamat	MCK	2013	76%			83%	80%	58%	88%
17	Sejahtera	Kombinasi	2013	89%	100%	100%	91%	70%		100%
18	Sindang Sari	Kombinasi	2013	88%	100%	100%	81%	75%	89%	100%
19	Babakan Pasar	Komunal	2012	59%	33%	100%		70%		63%
20	Kemuning	Kombinasi	2012	80%	67%	100%	100%	90%	57%	63%
21	Mutiara	Komunal	2012	68%	100%	100%		70%		33%
22	Nurus Salam	Kombinasi	2012	91%	100%	100%	100%	100%	81%	63%
23	Sindangsari	Kombinasi	2012	83%	100%	100%		70%		75%
24	Alam Lestari	Kombinasi	2014	90%	100%	100%	94%	100%	73%	88%
25	Mekar	Kombinasi	2014	78%	88%		71%	88%		88%

CBO Award Event is actually an opportunity to engage and educate LG: LG must participate in site visits and monitoring to assess applicants



In Denpasar, Mojokerto, Surakarta, Bogor, Bekasi, Sleman, Temanggung.



Why Co-Management?

Benefit for LGs & CBO

- ▶ Helping LGs managing and ensuring sustainability of local scale
- ▶ Maximizing local scale investment
- ▶ Gaining technical, institutional & financing support and assistance
- ▶ Gaining M&E result as reference for future local scale post implementation planning

Benefits for AKSANSI & DONOR

- ▶ Extended O&M service packages coverage
- ▶ Active CBO, be able to improve and make innovation
- ▶ Gaining LGs budget allocation on managing local scale

KEY MESSAGE

Are these 'Co-management' tools
helpful for Local Governments?



It depends on the needs and
strengths in each area!

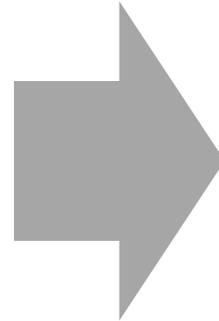
Reflection questions for determining relevance to LGs:

How many CBOs have the ambition and capacity to formalise, e.g. become legal entities or businesses to expand their service?



Strengthening
CBOs

What networks exist in your area? Or who in your region is also interested in joining together to support the Operation Phase?



Building
networks

Does LG accept their ultimate responsibility for sanitation service delivery and what types of support are they able to provide?



Co-management

3. WHO SHOULD GOVERN? AND HOW?

Strategies for Institution-led
approach

Next we'll explore institution-led governance.

CBO-led

Co-management

Institution-led

To provide some context for this approach, the key recommendation from the research is:

Local government takes ultimate responsibility for ensuring successful local scale sanitation service delivery.

This should be achieved through:

- National government setting clear minimum requirements for local government in this role.
- Each local government discerns its own path beyond these minimum requirements.

At a minimum, National Government should require all Local Governments to undertake the following to ensure all systems achieve intended outcomes:

1. Maintain post-construction and longitudinal records of system location, as well as technical and management performance
2. Fund major costs e.g. effluent monitoring, desludging, rehabilitation, extension and retrofitting
1. Formalise tariff setting and fee collection, e.g. through regulation or decrees in line with cost-recovery principles

Institution-led

Formalising
public /
private
partnerships

Collaboratively
assigning
responsibilities

Assigning risk-
based
responsibilities

Formalising public / private partnerships

How can duty-bearers formalise O&M entity from the beginning?

- Build – own - operate (Blitar City)
- Build-operate-transfer
- Build – own – operate – transfer
- Lease / purchase

Engage private or **public post-construction service providers:**

- LG service delivery agency, BLUD
- LG-owned company, BUMD

Case Study – Japan Johkasou system

- On-site treatment approach serving about 10% of Japan's population.
- Medium-scale Johkasou can serve 50-500 people.
- Johkasou Law (1985) was revised several times to improve environmental outcomes



Government support for technology standardization, phasing out older systems

New Johkasou treats to high standard

Financing for installation (up to 90% subsidy)

Outsourcing system for installation & operation

Monitoring system

Outsourcing System for Installation and Management of ~8 million Johkasou systems involves thousands of licenced companies

>90% have performance inspected

Installation



Installation

33,600 Companies

Performance Inspection



Inspector

65 Institutions

Johkasou Inspector

Operation/Maintenance



Operator

12,900 Companies

Johkasou Operator

Desludging



Desludging Expert

5,400 Companies

Johkasou Desludging Technician

Annual Inspection



Inspector

65 Institutions

Johkasou Inspector

~50% have annual inspection

Institution-led

Assigning risk-based responsibilities

If the goal is to reduce risk, who would do what? How would risk be defined?

“If I were mayor, the only thing that would move me would be risk [to public health]”

Ministry of Planning representative

Three questions for exploring the hazard

A. How many pathogens are in the influent?

B. How many pathogens are leaving in treated wastes?

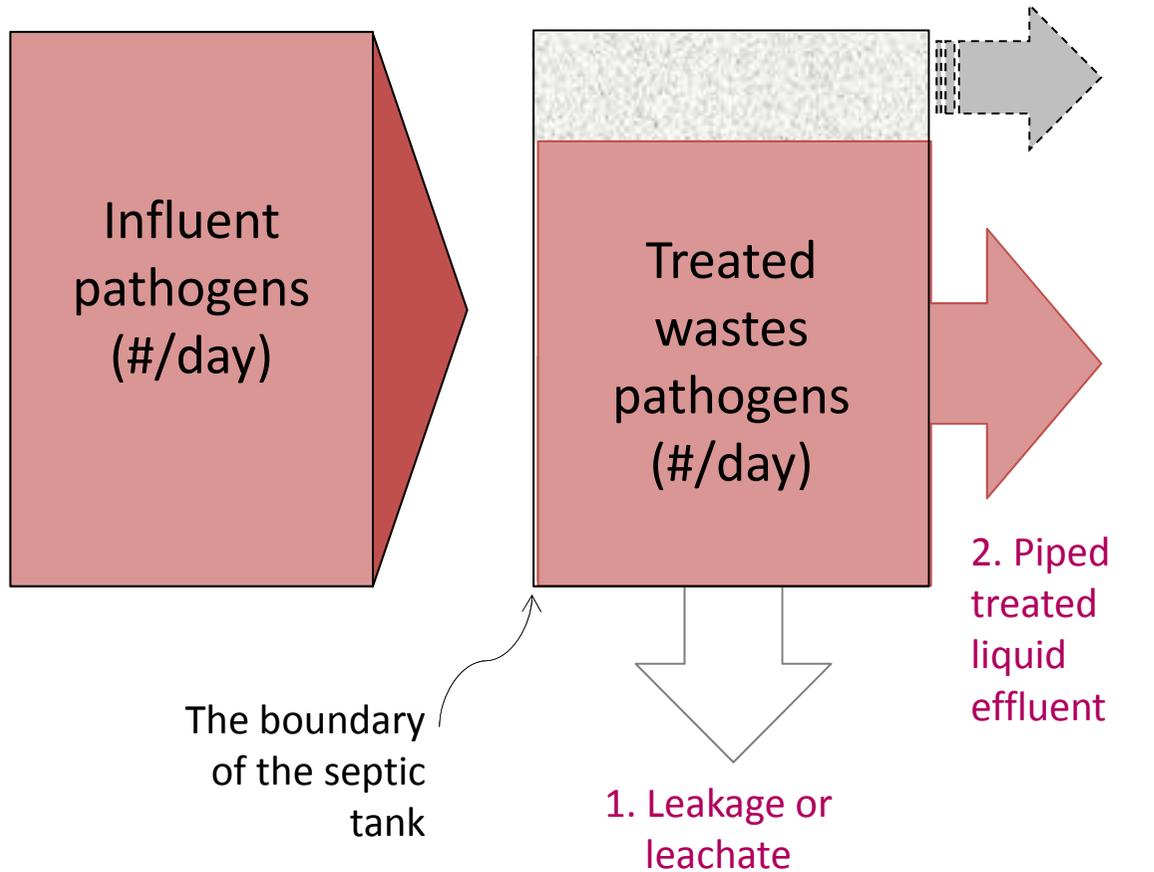
C. How much do the remaining pathogens matter?



Where does it go?

A. How many pathogens are in the influent?

B. How many pathogens are leaving in treated wastes (1, 2, 3)?



C. How much do the remaining pathogens matter:

	What is the minimum infective dose ^c	Potential hazard: # doses in treated wastes?
bacteria	$10^2 - 10^8$?
viruses	$10^0 - 10^1$?
protozoa	$10^0 - 10^2$?
helminth eggs	$10^0 - 10^1$?

Case study of management based on risk – [US EPA](#)

Responsible Management

Entity framework assigns responsibility based on the risk a decentralised sewage system poses to the local public health and environment

Management models

1. Homeowner awareness
2. Maintenance contracts
3. Operating permits
4. RME O&M
5. RME Ownership

Institution-led

Collaboratively
assigning
responsibilities

Stakeholders?

- LG
- Mayor
- NGOs
- Users
- etc

Responsibilities?

- Desludging
- Fee collection
- Monitoring & corrective action
- Major repairs
- etc

How can these be linked appropriately based on the unique context in each space?

This will be explored in the next activity.

KEY MESSAGE

Are these 'Institution-led' tools helpful for Local Governments?



It depends on the needs and strengths in each area!

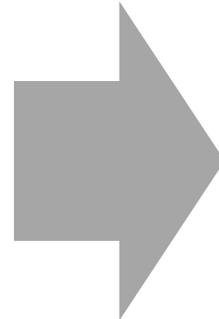
Reflection questions for determining relevance to LGs:

Does the desire exist to partner with private sector, or to develop CBOs to become private sector?



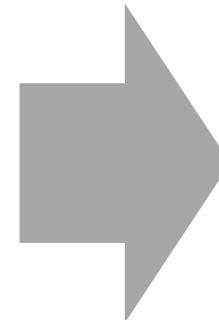
Formalising public / private partnerships

How willing are all stakeholders to come to the table to discuss who should do what based on their strengths?



Collaboratively assigning responsibilities

Is there a high potential health risk in the local area from harmful pathogens passing through the system?



Assigning risk-based responsibilities

3. WHO SHOULD GOVERN? AND HOW?

Activity: Under an Institution-led approach, how do you think responsibilities could be arranged?

Activity: Exploring what an Institution-led approach could look like in your Local Government (or for Local Governments generally)

- Look at all of the activities and stakeholders. Add or change activities and stakeholders to suit your situation.
- Put each activity next to the stakeholder who **could be** responsible for doing it, under an institution-led scenario
- Stretch you boundaries:
 - Try giving CBOs only small tasks
 - Try giving CBOs less than 3 tasks

Reflection: Exploring what an Institution-led approach could be in your Local Government (or for Local Governments generally)

- Discussion/reflection questions:
 - Was anything surprising about this activity?
 - Who has most responsibilities placed next to them?
 - How is this different from your previous mappings of responsibilities?
- Take pictures of your gameboard

WRAP-UP: Take home messages

- 14,000 installations and growing fast
- To achieve the public and environmental health outcomes that Indonesia needs, we need to strengthen governance arrangements.
- This means Local Government should take ultimate responsibility to ensure local scale sanitation services are delivered and sustained (see previous slide)
- Beyond this, LG should collaboratively explore with KSMs how to improve governance based on local strengths & opportunities using the Governance Spectrum

WRAP-UP: Making commitments

- Think about what you have learned during this process
- Based on this, what actions can you commit to?
 - Who would need to help?
 - What are the next steps?
- Report back

This guidance material was developed based on the project: Effective governance for the successful long-term operation of local scale sanitation systems

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Gol Partners BAPPENAS (Partnership Agreement)

Methodology Transdisciplinary Participatory Action Research

Collaborators Local Partner: AKSANSI
International Partners: BORDA Germany, ODI
Expert Advisors: Kathy Eales, Jeff Moeller, Chris Buckley



Project team details

<http://communitysanitationgovernance.info>

ISF-UTS Team:

Dr Cynthia Mitchell FTSE

Professor of Sustainability

cynthia.mitchell@uts.edu.au

Ms Katie Ross

Research Principal

katie.ross@uts.edu.au

Dr Kumi Abeysuriya

Senior Research Consultant

kumi.abeyasuriya@uts.edu.au

Tanja Rosenqvist

PhD Candidate

tanja.rosenqvist@student.uts.edu.au

Associated Researchers:

Prasetyastuti Puspowardoyo [Prast]

Program Director, AKSANSI

prast@aksansi.org

Fany Wedahuditama

BAPPENAS

Maren Heuvels

BORDA Germany

Miki Salman

Interpreter, translator

References

- Al'Afghani 2015 et al. 2015. *The Role of Regulatory Frameworks in Ensuring The Sustainability of Community Based Water And Sanitation (AIIRA Project – Center for Regulation, Policy and Governance UIKA)*. Indonesia Infrastructure Initiative, 2015.
- Al'Afghani MM, Paramita D, Mitchell C, Ross K, 2016. *Review of Regulatory Framework for Local Scale “Air Limbah”*. Prepared by the Center for Regulation, Policy and Governance, Universitas Ibn Khaldun Bogor and University of Technology Sydney as part of the Australian Development Research Award Scheme (ADRAS).
- Eales K, Siregar R, Febriani E & Blackett I. 2013. *Review of Community Managed Decentralized Wastewater Treatment Systems in Indonesia, Final Report*. World Bank Water and Sanitation Program.
- Kooiman J. 2003. *Governing as governance*. Sage Publications.
- Kooiman et al. 2008. “Interactive Governance and Governability: An Introduction” in *The Journal of Transdisciplinary Environmental Studies* vol 7, no 1 2008.
- Mason N, Ross K, and Mitchell C. 2015. *A case study analysis of formal and informal institutional arrangements for local scale wastewater service in Indonesia*. Prepared by the Overseas Development Institute and the Institute for Sustainable Futures, University of Technology Sydney, as part of the Australian Development Research Award Scheme (ADRAS).
- Mitchell C, Ross K, and Abey Suriya, K. 2016. *An analysis of performance data for local scale wastewater services in Indonesia*. Prepared by the Institute for Sustainable Futures, University of Technology Sydney, as part of the Australian Development Research Award Scheme (ADRAS).
- Mitchell C, Abey Suriya K, Ross K. 2016. *A review and comparative analysis of indicative service costs for different sanitation service scales in Indonesia*. Prepared by the Institute for Sustainable Futures, University of Technology Sydney, as part of the Australian Development Research Award Scheme (ADRAS).
- Mitchell C, Abey Suriya K, and Ross K. 2016. ‘Making pathogen hazards visible: a new heuristic to improve sanitation investment efficacy’. *Waterlines* vol 35 no 2, April 2016. Practical Action Publishing. Open access at <http://www.developmentbookshelf.com/doi/pdf/10.3362/1756-3488.2016.014>
- Ross K, Abey Suriya K, Mikhailovich N, and Mitchell C. 2014. *Governance for decentralised sanitation: Global Practice Scan. A working document*. Prepared by the Institute for Sustainable Futures, University of Technology Sydney as part of the Australian Development Research Award Scheme (ADRAS).
- Ross K, Mitchell C, Puspowardoyo P, Rosenqvist T, Wedahuditama F. 2016. *How to design governance for lasting service? Explanatory notes to accompanying presentation. Guidance Material Introduction*. Prepared by the Institute for Sustainable Futures, University of Technology Sydney, as part of the Australian Development Research Award Scheme (ADRAS).