Sanitation Financing and Regulation Training Module

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Session 1

The challenge of financing citywide inclusive sanitation

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The challenge of financing urban sanitation

- **Overall, insufficient financing for the sector**
  - Sector is under-prioritised, taboo element
  - Economic and social impact of poor sanitation under-estimated
  - Difficult to charge for a service with low or unexpressed demand
- **Lack of clarity about who and what should be financed**
  - Fragmented responsibilities for service delivery, weak operators
  - Fragmented responsibilities for sector supervision
  - Lack of clarity on how financing can be channelled
- **Lack of clarity on what funds should be used for**
  - Evidence of “wasted” hardware subsidies
  - Misallocation of funds across the value chain: “too much” for wastewater treatment rather than basic sanitation
  - On-site sanitation: households supposed to be main investors but they get limited public support, despite strong externalities

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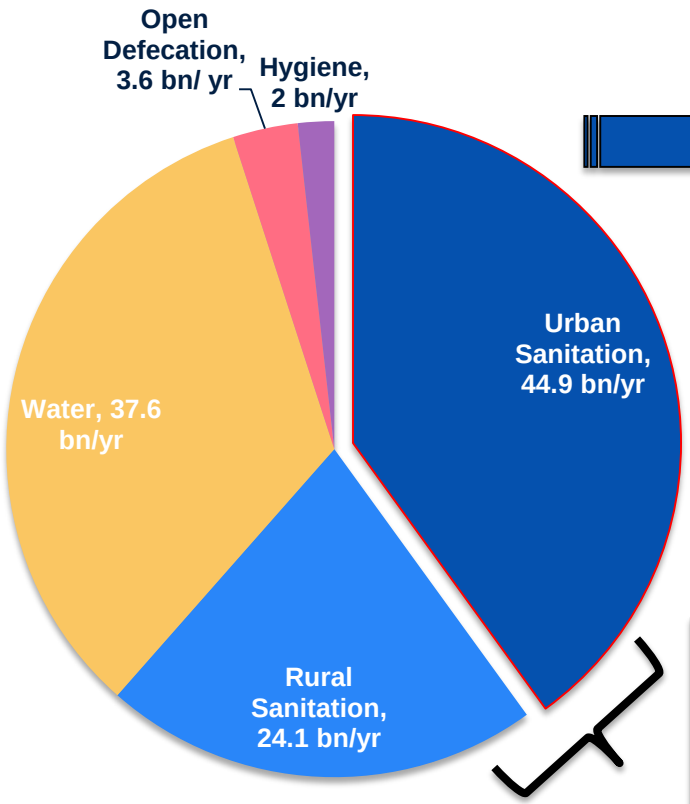
Common challenges in Sub-Saharan Africa

- Households are primarily responsible for household sanitation via on-site solutions
- Very little sewerage, virtually no working sewage treatment
- Few places have a structured agency or utility to provide sanitation services and when they do, the role of the utility is limited to network supply
- No obvious “channels” for external financing

Limited data and analysis is available on how sanitation services are provided and on efficiency, financing needs and creditworthiness of service providers

Estimated funding needs for urban sanitation



Total capital investment required to meet SDG 6.1 and 6.2 estimated at **$114 billion per year** (range: $74 to $166 billion)

Urban Sanitation accounts for **40%** of these estimated costs

Sanitation: 70% of estimated costs in urban areas

Total costs for sanitation (Urban & Rural)
$69 billion or 60% of total projected costs

- Basic sanitation: $19.5 billion
- Safe fecal waste management: $49 billion

Source: Hutton and Varughese. 2016. The Costs of Meeting the 2030 Sustainable Development Goal Targets on Drinking Water, Sanitation, and Hygiene. Washington, DC. World Bank.

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Underlying assumptions and estimation range

Geographical scope

- 140 developing countries (85% of world population)

Assumptions

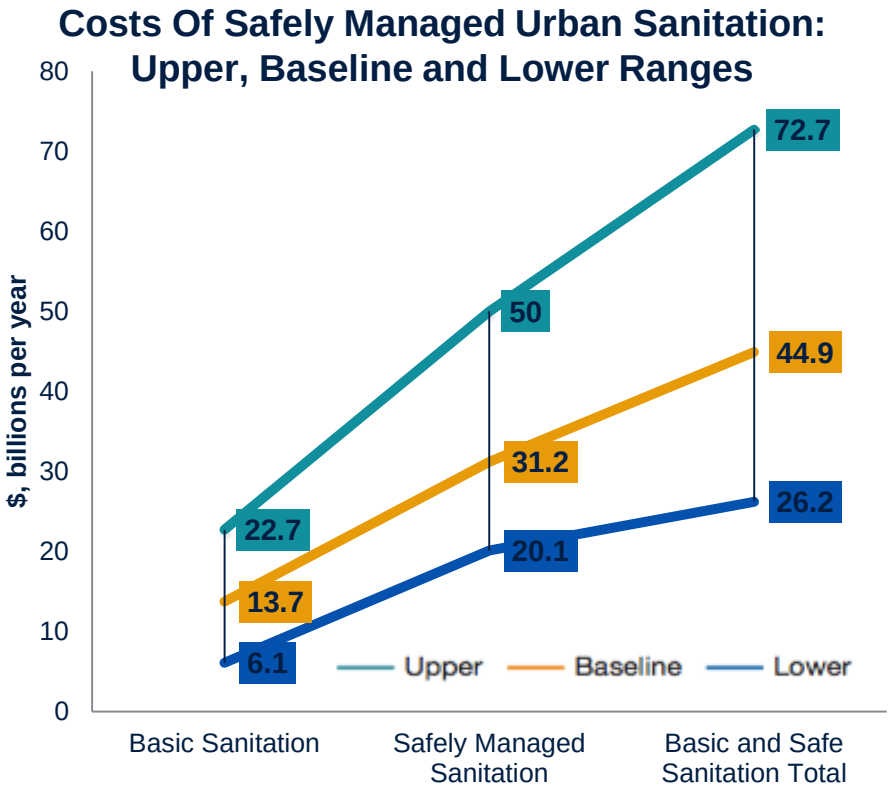
- Basic sanitation: improved toilet
- Safely managed: toilet with safe management of fecal waste

Costs included

- Capital investment, program delivery, operations and major capital maintenance for new infrastructure only

Costs NOT included

- Costs of operating & maintaining existing infrastructure
- Costs of meeting other water SDGs: 6.3. (reducing pollution and increasing wastewater treatment), 6.5. (IWRM)



Source: Hutton and Varughese. 2016. The Costs of Meeting the 2030 Sustainable Development Goal Targets on Drinking Water, Sanitation, and Hygiene. Washington, DC. World Bank.

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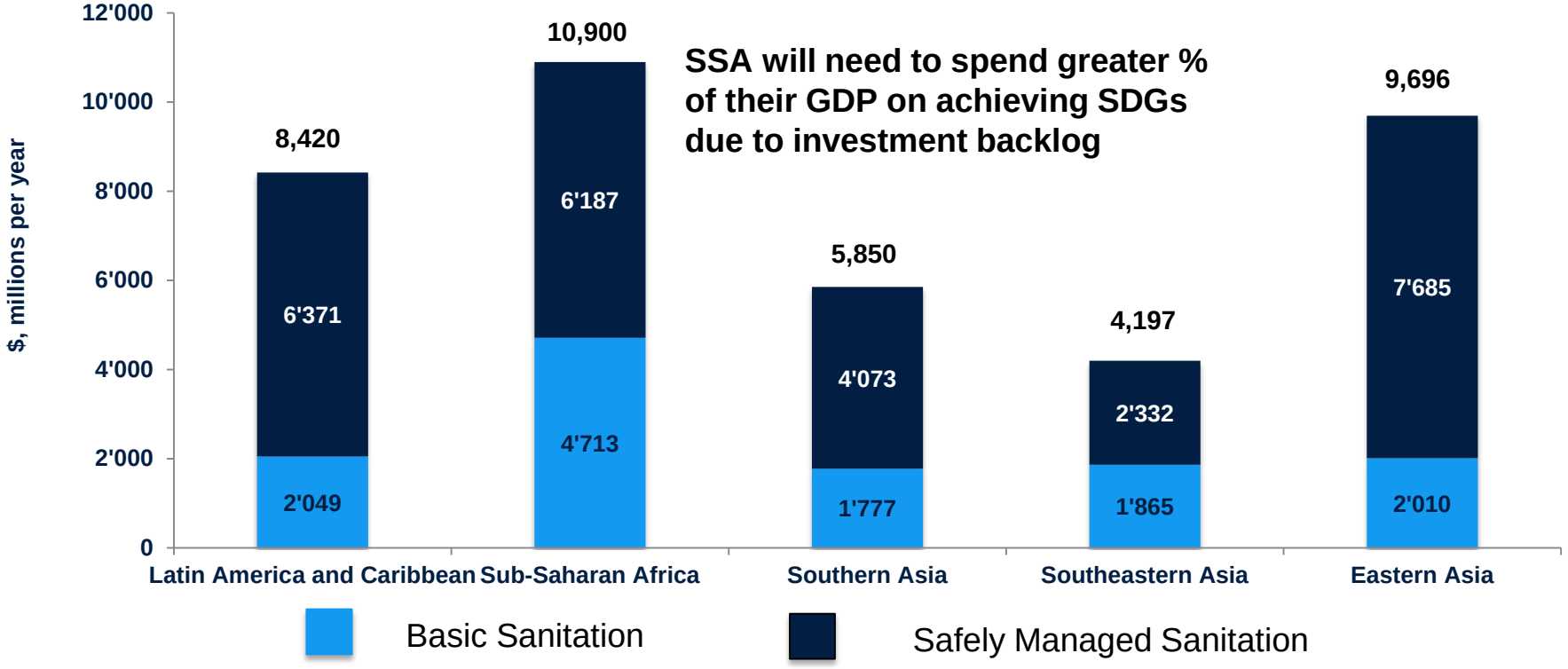
Projected sanitation costs highest in Sub-Saharan Africa



Source: Hutton and Varughese. 2016. The Costs of Meeting the 2030 Sustainable Development Goal Targets on Drinking Water, Sanitation, and Hygiene. Washington, DC. World Bank.

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How much was spent on achieving the MDGs?

- **Investments overall will need to at least triple compared to MDG period**
- Global figures hide substantial regional discrepancies: the lowest the GDP per capita, the highest in terms of % GDP
- These figures are substantially lower than overall financial flows in sector, shown for 3 countries below AND than what is needed to meet all sanitation-related SDG

Investments on extending access		
	Estimated during MDG era (2000-2015)	Projected during SDG era (2015-2030)
$ bn / year	35bn	114bn
% GDP	**0.12%**	**0.39%**

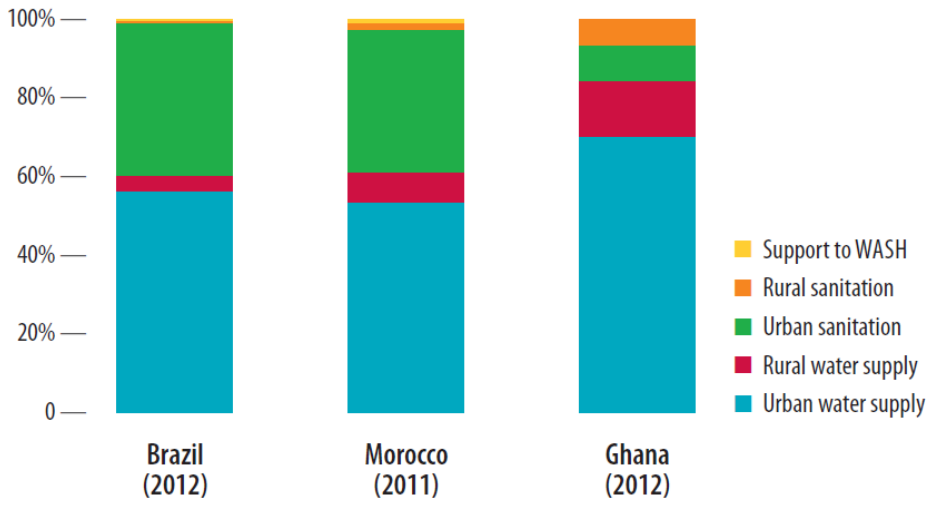
Source: Hutton & Varughese (2015)

	Brazil (2012)	Morocco (2011)	Ghana (2012)
Total expenditure to WASH (million USD)	26,911	2,219	521
Total expenditure to WASH per capita (USD per capita)	137	69	21
Total expenditure to WASH per capita as a % of GDP	1.2%	2.2%	1.3%
Total expenditure to health as a % of GDP (Source: Global Health Expenditure Database)	9.3%	6.3%	5.2%

Source: WHO / TrackFin (2015) Global Synthesis

In SSA, funding is currently misallocated

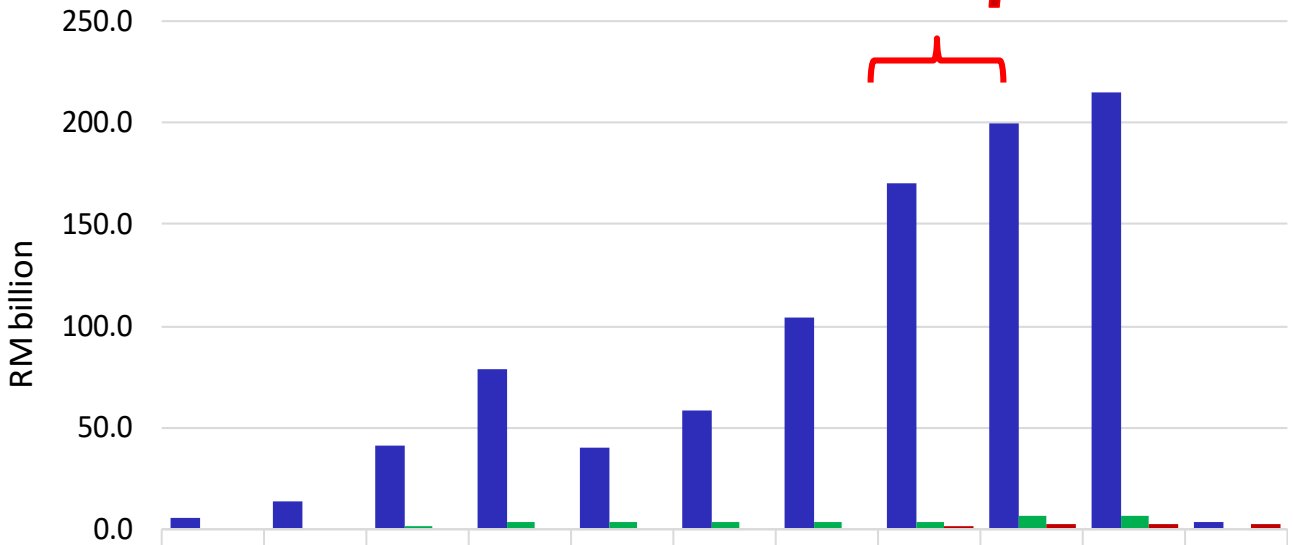
- **TrackFin:** data on past investments for 3 countries (Brazil, Morocco and Ghana) at different stages of water sector development
- **Ghana**: no sewerage networks, limited investments in on-site sanitation mostly by hh, poor urban sanitation performance



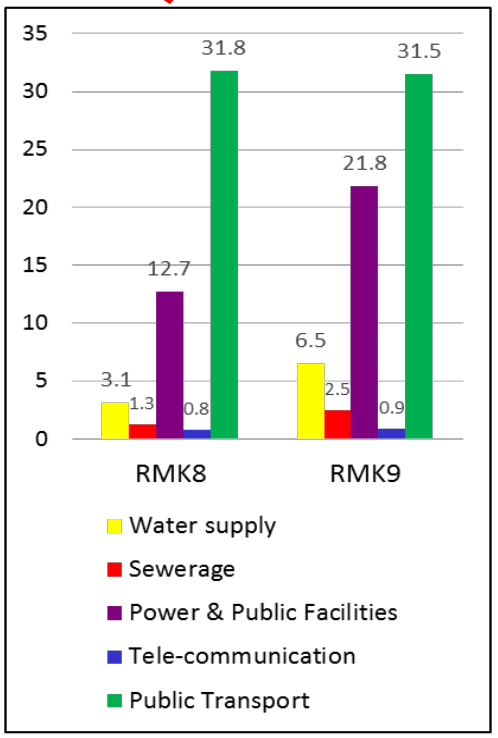
Source: WHO / TrackFin (2015) Global Synthesis

In Dar Es Salaam, the Municipality spent only 0.3% of its budget on on-site sanitation in 2009 to serve a population of about 1 million. 99% of public spending went to sewerage, which serves 10% of the population (WaterAid, 2013)

MALAYSIA: DEVELOPMENT PLAN ALLOCATIONS



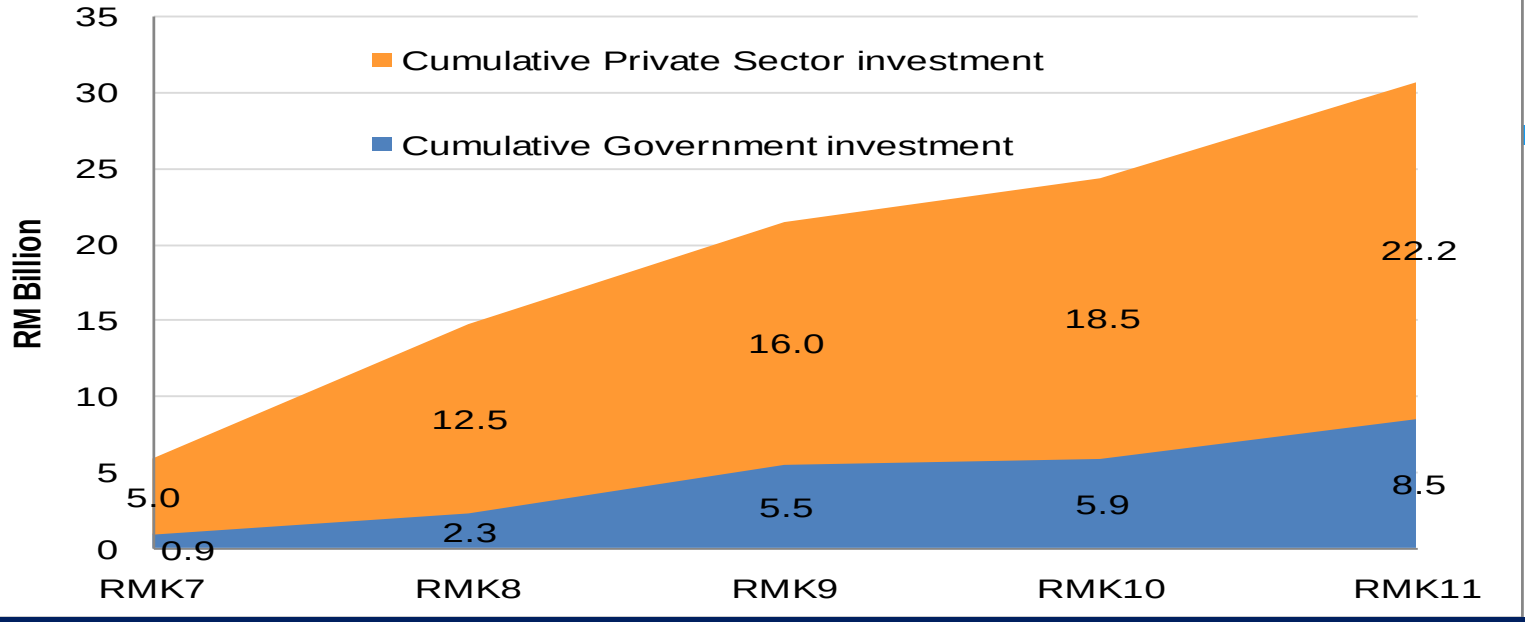
	RMK1	RMK2	RMK3	RMK4	RMK5	RMK6	RMK7	RMK8	RMK9	RMK10	RMK11
Total Allocation	5.3	13.1	41.1	78.5	40.0	58.5	103.6	170.0	200.0	215.0	2.6
Water Supply	0.2	0.3	0.9	2.8	3.2	3.5	3.1	3.1	6.5	6.5	0.0
Sewerage	0.0	0.0	0.2	0.3	0.1	0.5	0.6	1.3	2.5	2.3	2.6



Note:
**Amount allocation for water supply is not available*
***For RMK-11, amount refers to shortlisted project for Rolling Plan No. 1 and subject to approval by EPU/KETTHA.*

Sources:
Laporan Rancangan Malaysia, RMK 1-10 issued by the Economic Planning Unit (EPU).
Official website of *Kementerian Penerangan Komunikasi dan Kebudayaan (KPKK), Kementerian Tenaga, Teknologi Hijau dan Air (KeTTHA), Pejabat Perdana Menteri (PPP), Malaysian Administrative Modernisation and Management Planning Unit (MAMPU), Utusan, STAR, New Straits Times (NST), Wikipedia*, etc

MALAYSIA: INVESTMENT IN SEWERAGE INFRASTRUCTURE (PAST 2 DECADES)



FUTURE INVESTMENT FOR SEWERAGE INFRASTRUCTURE

Base on current goals and approach:

- Estimated of RM 50 billion for the next 30 years (about RM 1.7 billion annually)
- Collection from Sewerage Contribution funds averaging about RM 250 million annually (only 15% of the actual need)
- Investment from private sector averaging about RM 450 million annually – diluted and not used strategically. May cause more problems than delivering solutions
- Financing of on site facility:
  - new works – private sector (through development control)
  - existing works – user (a very marginal funding through Ministry of Health and Department of Indigenous People)
  - Operations – users (through tariff setting)

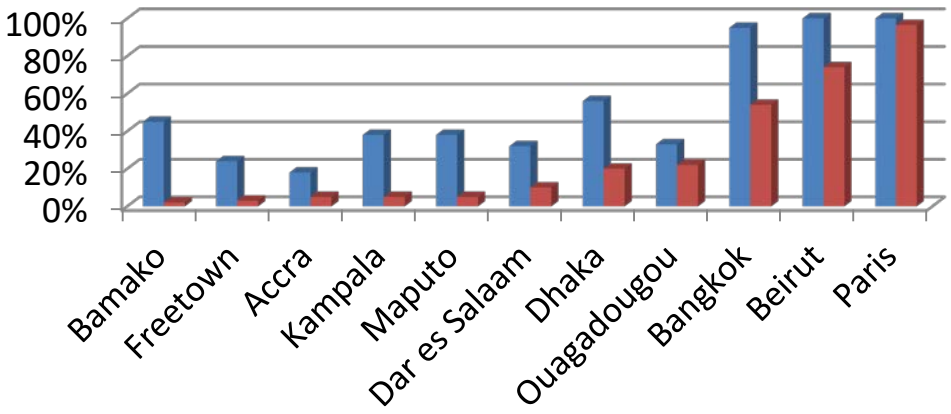
South Africa

- South Africa: Spending $700 million to $2billion a year over the past 15 years on operating and capital spending in sanitation
- Current estimate: a further $ 3.5 billion in capex is needed to eradicate the backlog

What will funds need to be spent on?

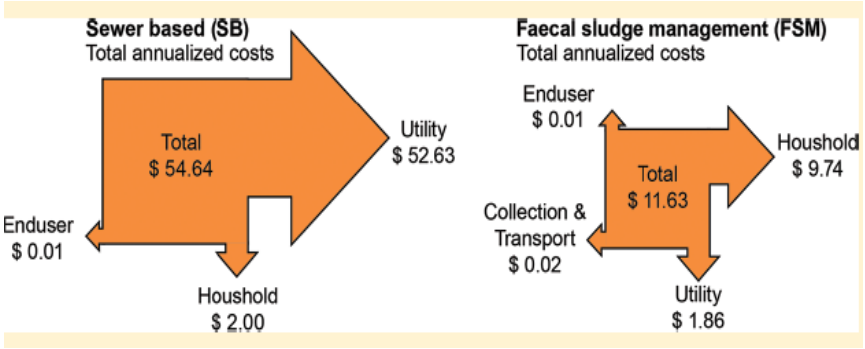
Investments will likely need to continue to focus on on-site sanitation & Faecal Sludge Management (FSM) for many SSA cities going forward

Sewerage vs improved sanitation coverage



- Most SSA cities are starting from a very low base in terms of sewerage coverage

Comparative costs of sanitation technologies in Dakar



Source: Dodane, Mbéguéré, Sow and Strande (2012)

- The Africa Infrastructure Country Diagnostic (AICD) study, conducted by WB found that using lower-cost technologies would allow reducing the funding gap by 60%
- Well-managed FSM services are significantly cheaper than sewer-based services: ex. from Senegal

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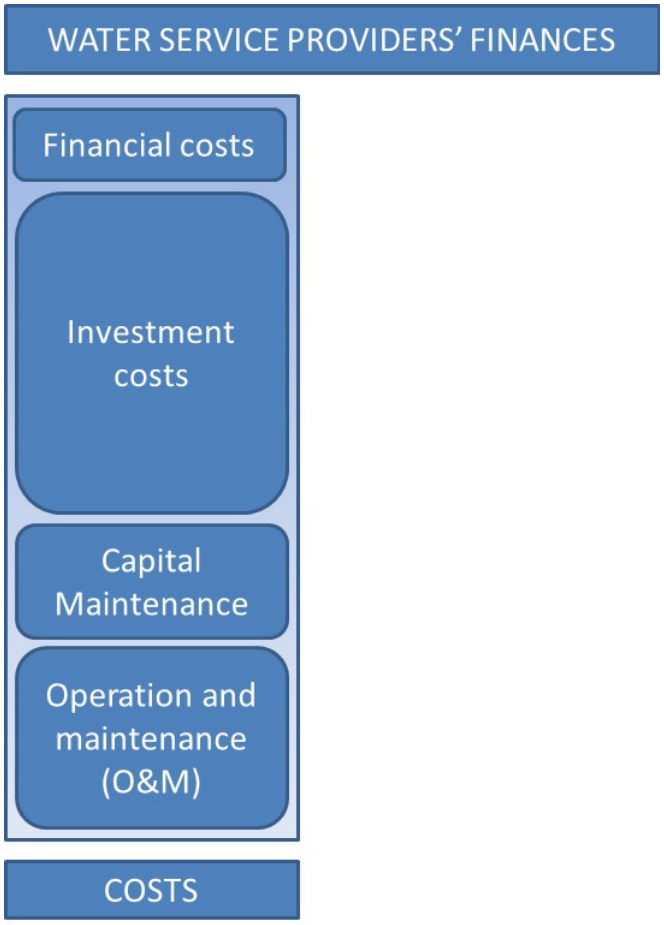
What costs need to be covered?

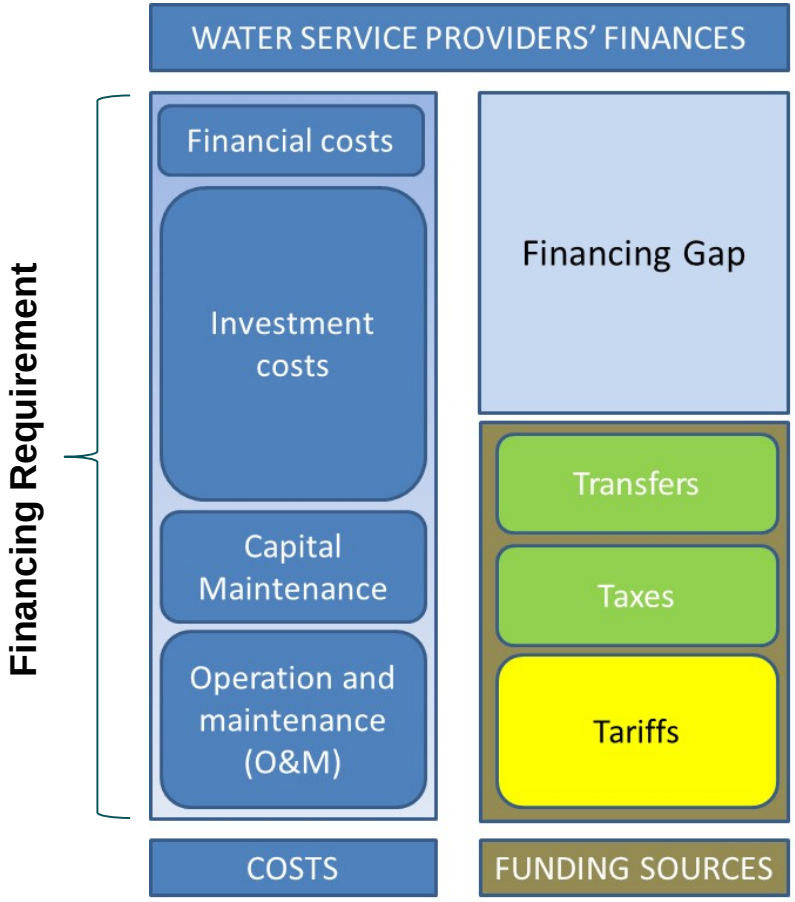


"Financial costs" are costs incurred by service providers and include:

- Costs of operating and maintaining the services (O&M)
- Costs of capital maintenance, for large repairs and for asset rehabilitation
- Costs of investing in new assets
- Financial costs associated with borrowing for such investments
- Taxes associated with the provision of such services

In addition – sector management costs (for policy, regulatory, monitoring functions) should also be estimated and funded

Where will funding come from?



"**Funding**" are financial resources that can cover the financing requirement

Three main funding sources (the "3Ts)

- **Tariffs:** from households' investment for self-supply in on-site sanitation for example and tariffs for services provided
- **Taxes**: domestic taxes levied by local and central governments and provided to the sector as grants, subsidies, etc.
- **Transfers:** transfers from other sources, such as international donors (grants), foundations, NGOs, remittances

Private funds

Public funds

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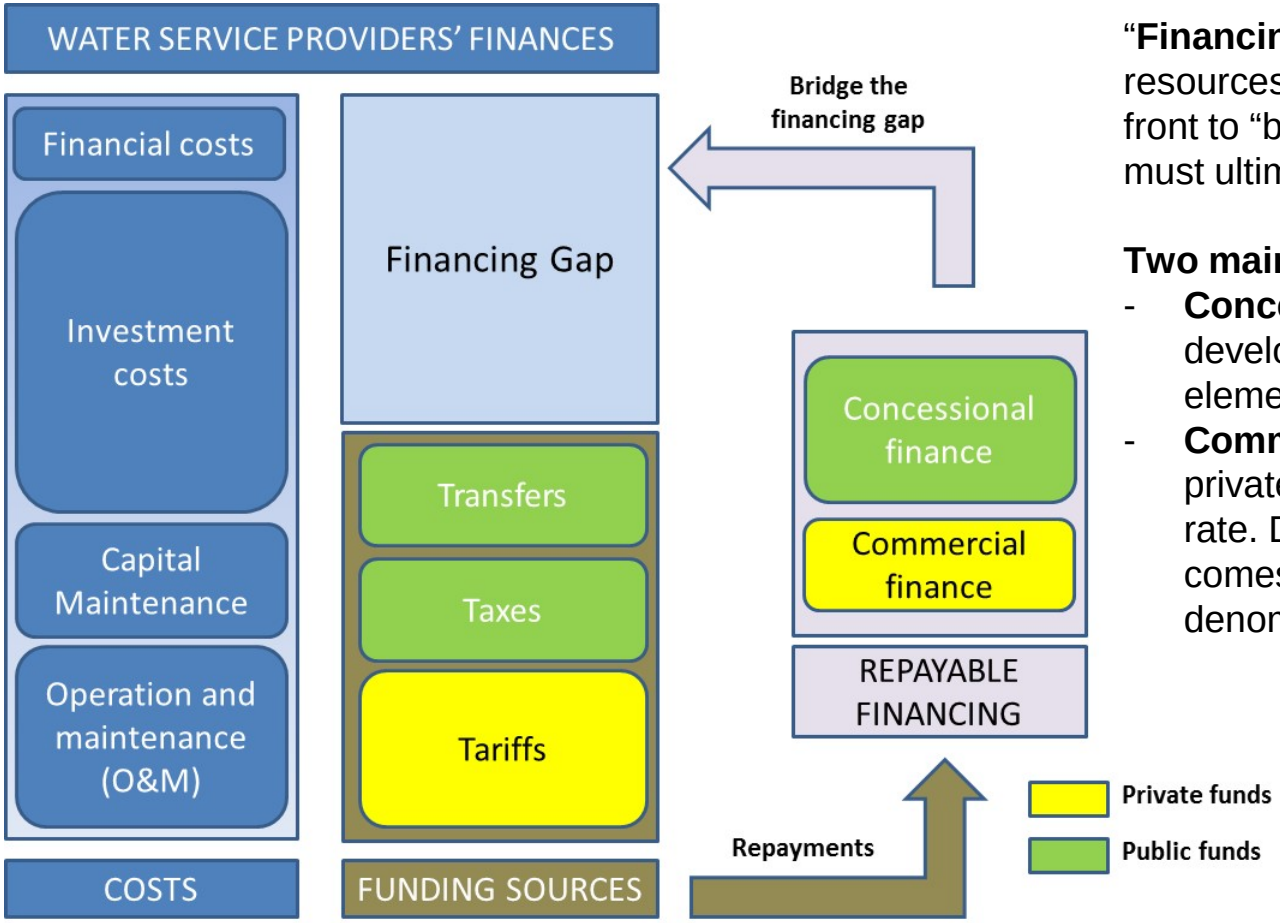
How can financing help bridge the gap?



"**Financing**" are repayable financial resources which can be provided up-front to "bridge" the financing gap but must ultimately be repaid

Two main types of financing:

- **Concessional finance:** provided by development agencies with a grant element (e.g. "soft loans")
- **Commercial finance:** provided by private sector financiers at market rate. Domestic commercial finance comes from local financiers and is denominated in local currency

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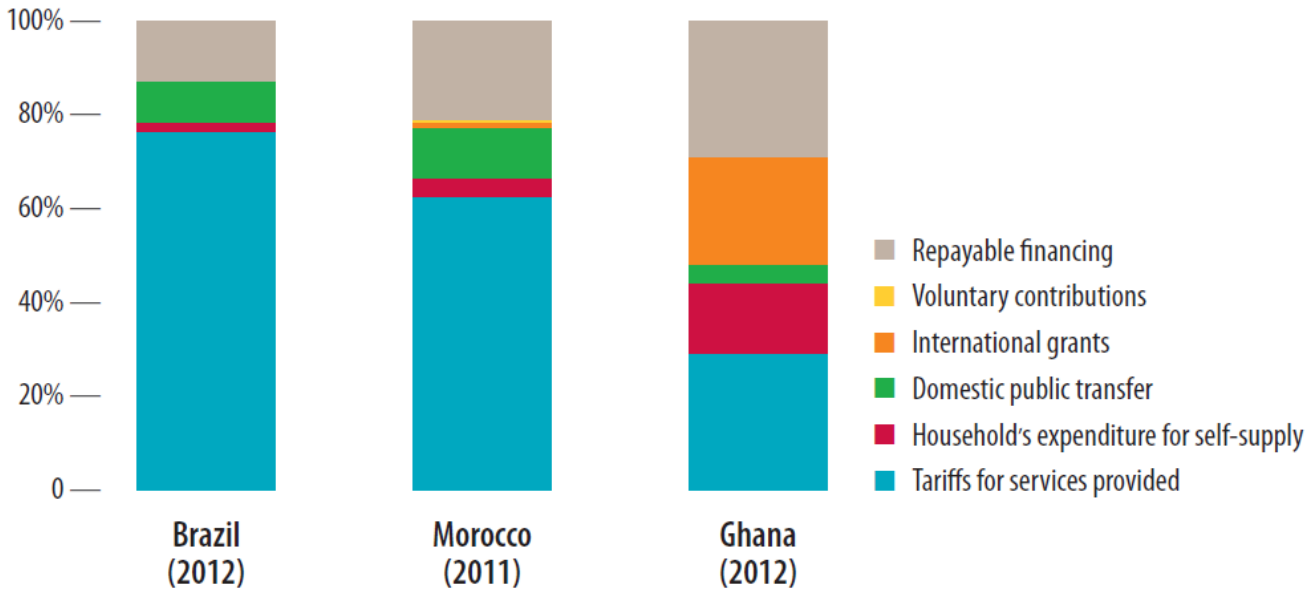
How do countries combine these sources?

- **How these funding and financing sources are combined depends on the level of maturity of the sector in each country**



Households (via tariffs, including hh expenditure for self-supply) are the largest contributors in more developed / financially sustainable environments

Mobilizing domestic public transfers (taxes) and commercial finance = key focus of Addis Ababa Financing for Development Agenda, HLPoW & WB strategy

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Applying the financing framework to urban sanitation

Financing urban sanitation tends to be more complex than financing water supply, for the following reasons:

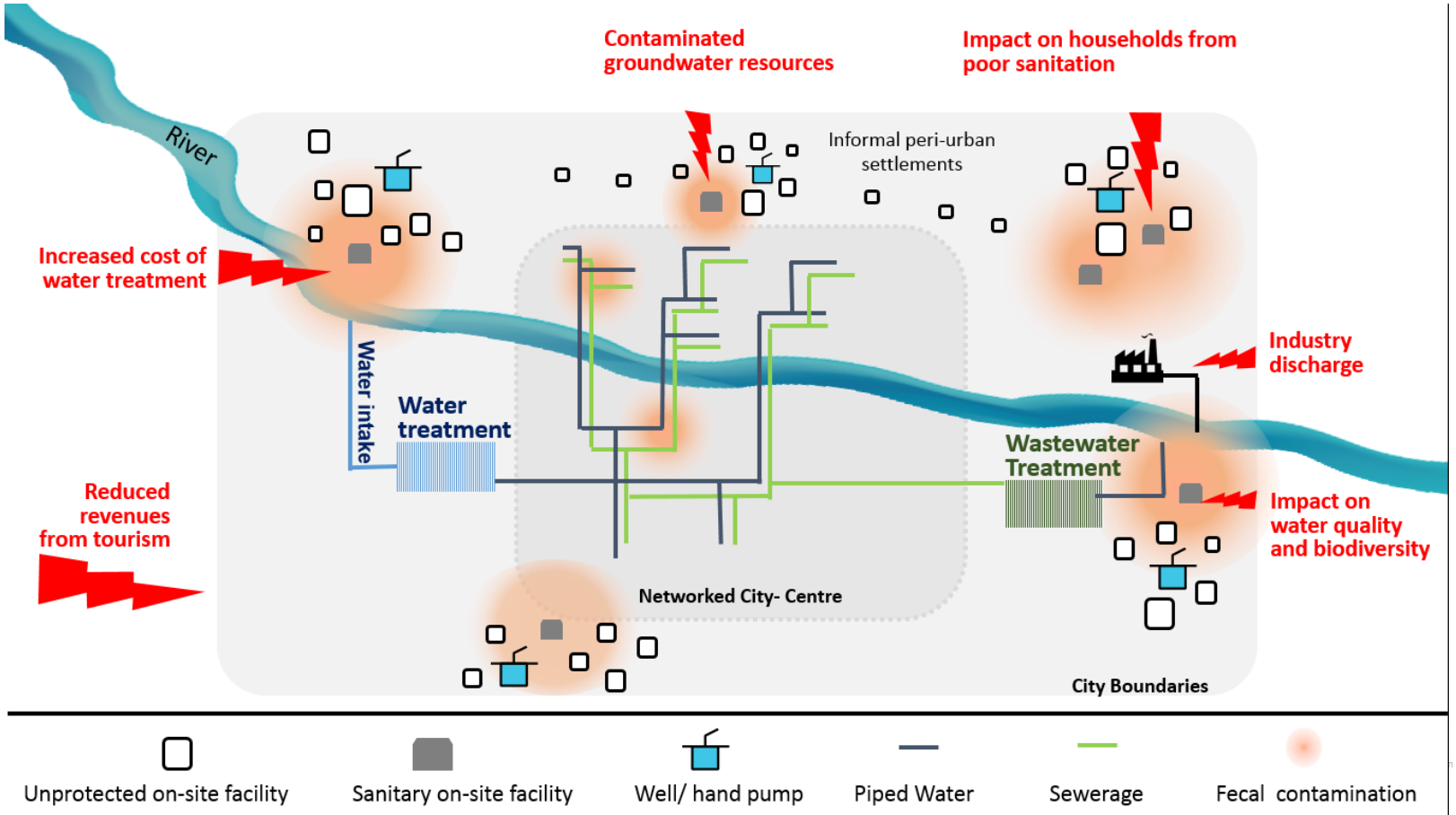
- It is more difficult to charge / mobilize funding for sanitation
- Interconnected services are provided along the sanitation service chain
- A multitude of actors / funding sources are involved

Multiple actors need better guidance on

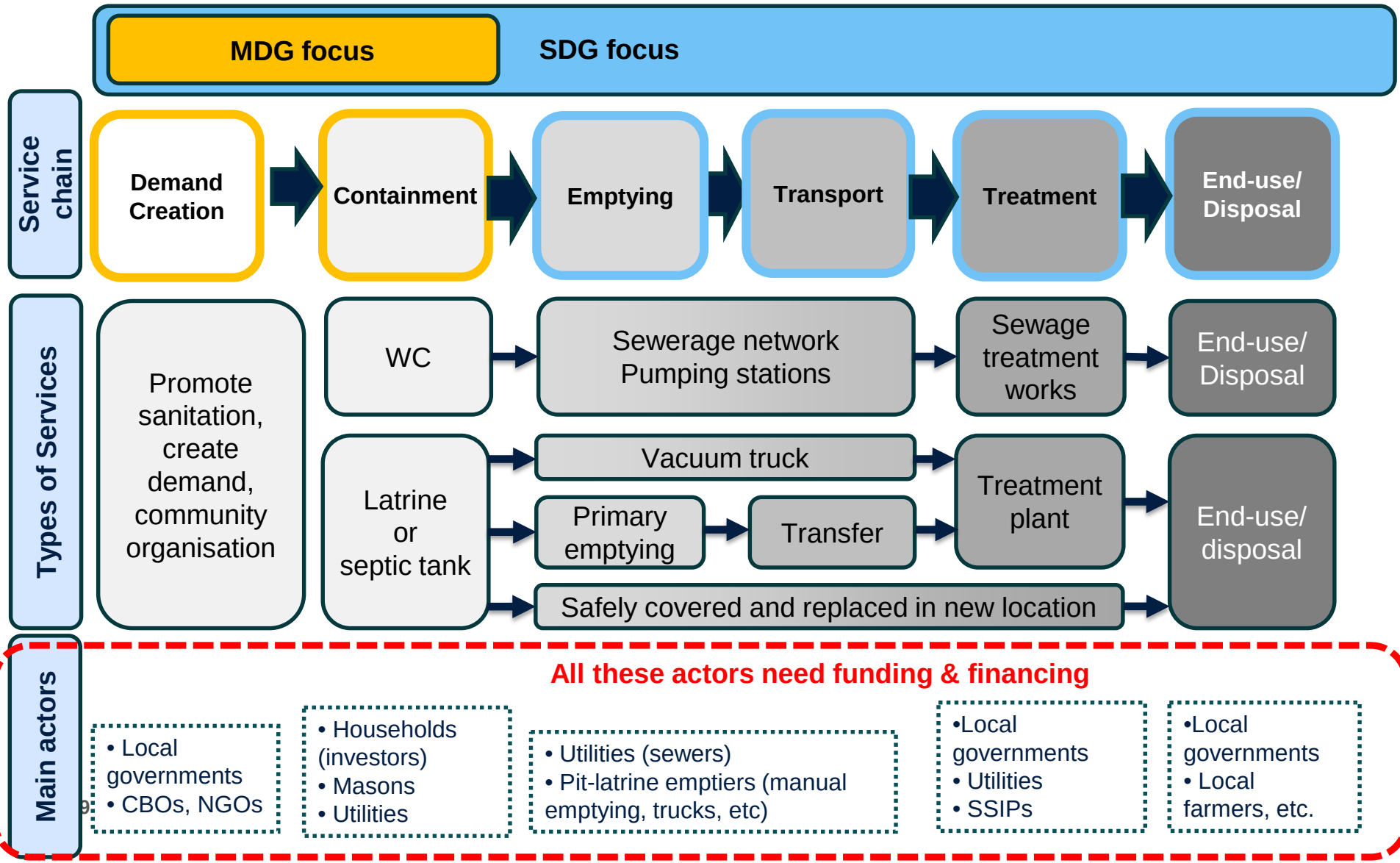
- How financing for urban sanitation can be mobilized
- What it can be used for

Who benefits from ≠ who pays for sanitation

- The ***economic case*** for urban sanitation differs substantially from the ***financial case***
- **Investments do not always benefit those who realize such investments**: when this happens, they are less likely to invest because their financial interest ≠ economic benefit



Different services along the Sanitation Service Chain



Financing needs and revenue sources

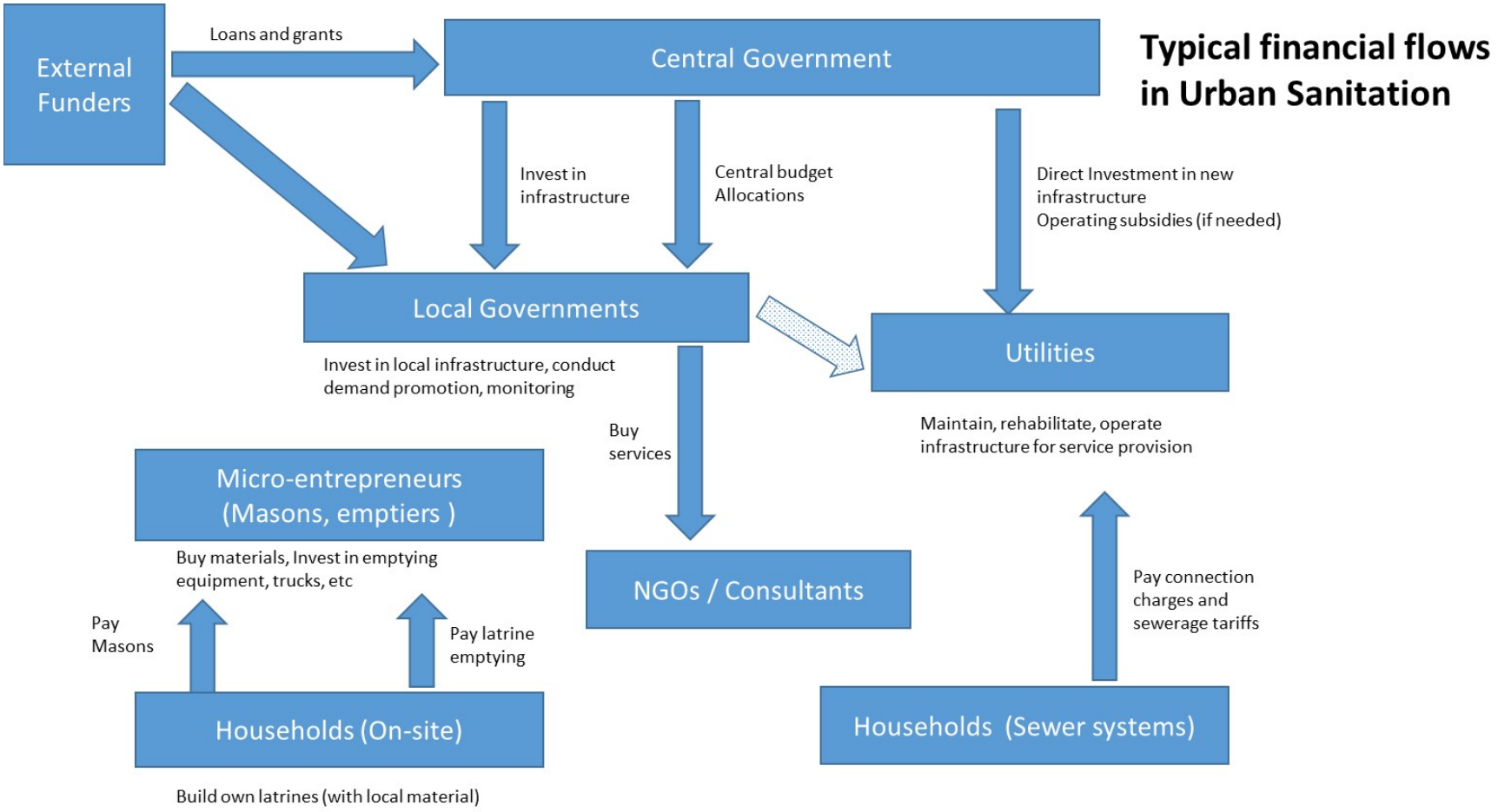
Frequently a bottleneck: identify alternative financing approaches?

On-site + FSM	Revenues required	Revenue sources	
Service chain		Common approaches	Alternative approaches
Containment	Capex: investment in on-site facility Opex: maintenance	• Households • Households	• Households, partial subsidies, cross-subsidies & facilitated access to credit • Households & partial subsidies (e.g. vouchers)
Emptying / Transport	Capex: - Emptying equipment - Transfer stations Opex: emptying costs	- Emptiers' own capital - Hh emptying charges	- Microfinance, leasing - Repayable finance - Reduced emptying charges
Treatment	Capex: - FS treatment plants Opex: - FS treatment plants opex: staff, electricity	- Public subsidies - Tipping fees & subsidies or cross-subsidies	- Public subsidies, repayable finance (concessional & commercial) - Reverse tipping fees - Revenues from re-use
Disposal / Re-use	Capex: Re-use plants Opex: operations of re-use plants	- Limited	- Subsidies, re-use revenues

Financing needs & revenue sources

Sewerage	Revenues required	Revenue sources	
Service chain		Common approaches	Alternative approaches
Containment	Capex: sewerage connections Opex: running costs	- Households & cross subsidies (water users, other sewerage users)	• Households, partial subsidies, cross-subsidies & facilitated access to credit
Transport / Treatment / Disposal	Capex: Sewerage networks O&M costs	- Utilities own-investments - Household tariffs - Public subsidies	- Household tariffs - Utilities investments from tariffs, partial public subsidies, repayable finance
Treatment	Capex: sewage treatment plants Opex: staff, electricity	- Household tariffs - Public subsidies	- Utilities' own funds, public subsidies, repayable finance (concessional & commercial) - Reverse tipping fees - Revenues from re-use
Disposal / Re-use	Capex: Re-use plants Opex: operations of re-use plants	- Limited	- Subsidies, re-use revenues

A multitude of actors provide & need funding



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Financial flows for sewerage in Malaysia

WATER SERVICES INDUSTRY FUND

Contribution by water and sewerage operators

SEWERAGE CAPITAL INVESTMENT

GOVERNMENT FUNDED

- 5 years National Plans
- G to G, PPP and PFI
- Funding for poor (MOH)

CONCESSIONAIRE FUNDED

- Soft Loan & Grants
- Built into Tariff Structure

DEVELOPER FUNDED

- Through Land & Property Development
- Makes Sewerage Capital Contribution

O & M INVESTMENT

GOVERNMENT FUNDED

- Subsidy

SERVICE LICENCEE FUNDED

- Tariff Collection

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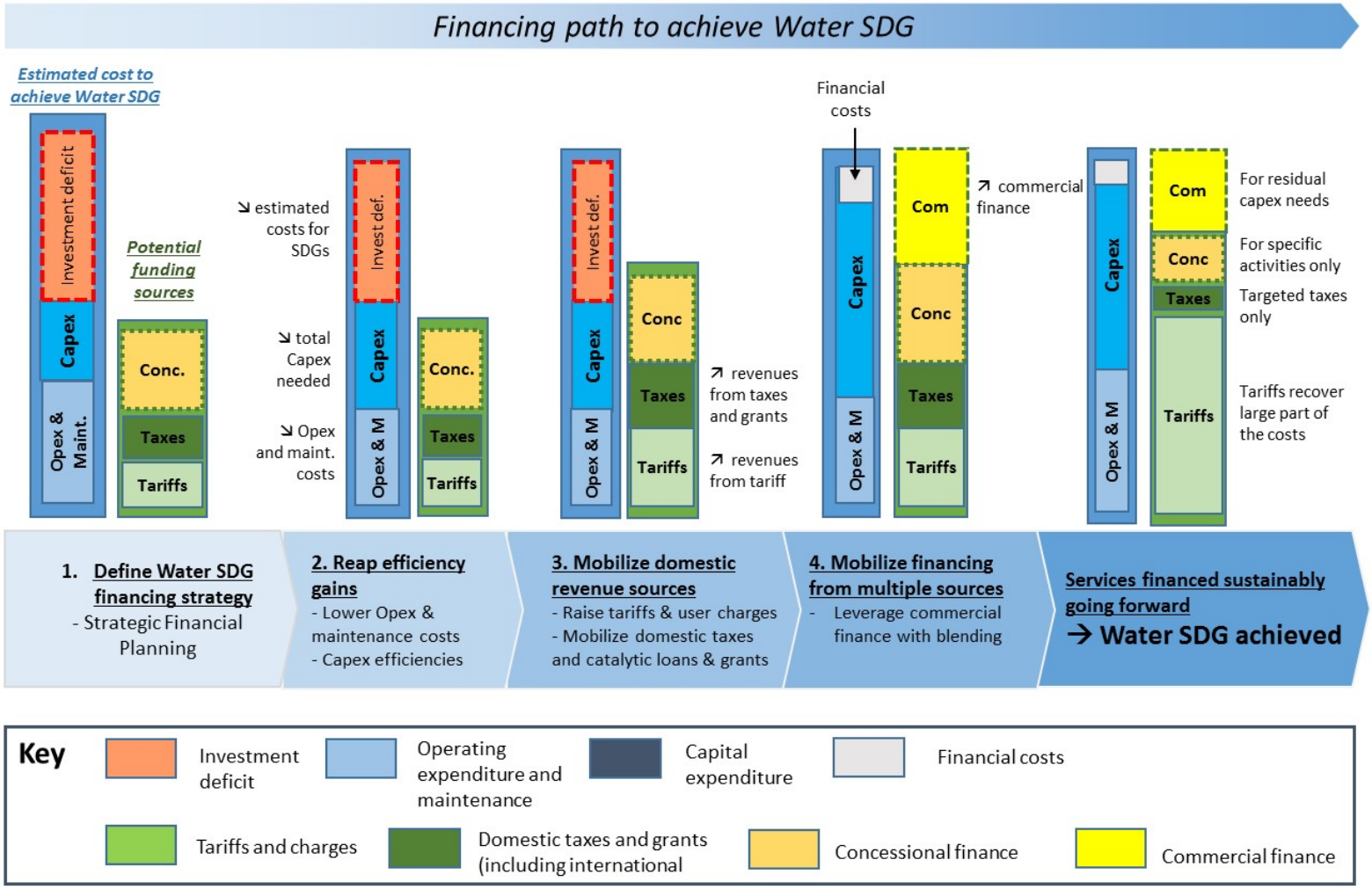
Key messages

- **Spending requirements are substantial** and substantially higher than for the MDGs
- **Investment needs / revenue sources need to be assessed rigorously in each country/ city:**
  - Preparatory process for SWA Finance Minister meeting in April 2017 will include a "quick-and-dirty" assessment tool to assess investment needs at country level – make them aware of this, particularly if their countries are SWA members
  - More in-depth planning (and monitoring of plans) needed going forward to meet SDGs
- **Strategic Financial Planning** exercises should be done at city / region / country level to estimate:
  - Investment costs and associated O&M costs to achieve and sustain the SDGs
  - Sources of revenues to cover such costs
- **Financing strategies will need to mix different sources of funding, different types of financial instruments and financial channels**
  - Estimate the costs of meeting the SDGs
  - Extract sources of sector efficiency first
  - Mobilize domestic funding: tariffs and taxes
  - Leverage repayable financing, concessional and commercial financing
  - Achieve the SDGs and establish the basis for a financially-sustainable sector going forward

Defining a Financing Strategy



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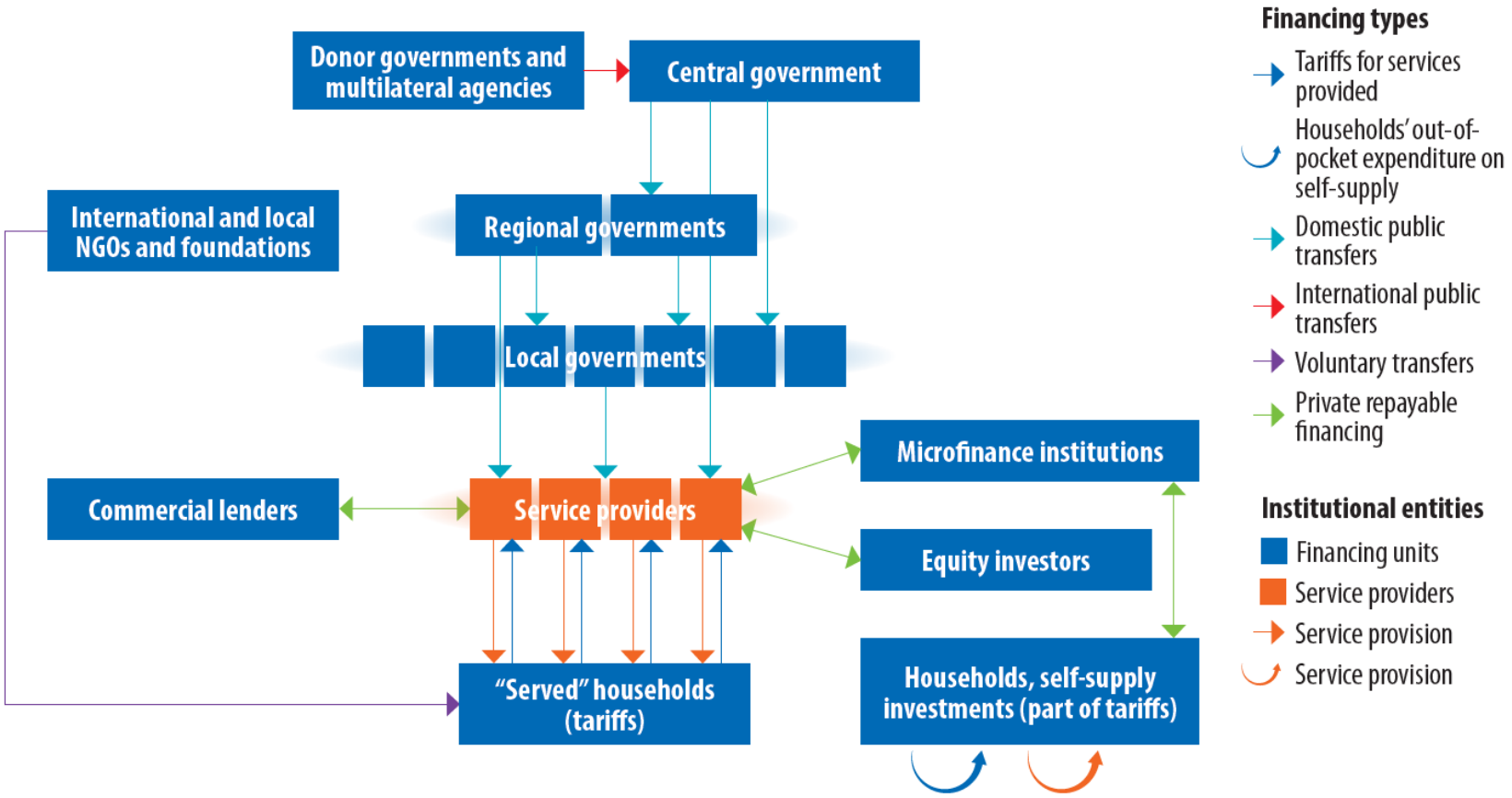
Group exercise

- Participants form groups of [5 to 7] people
- Agree on one country / city location
- Identify all the institutions that contribute financially to the sanitation sector in that country / city
- Map out financial flows for urban sanitation for that country / city. The objectives of the group exercise are:
  - To visualize the multiplicity of actors that are involved in financing sanitation
  - To understand the diversity of financial flows that are allocated to urban sanitation
- Estimate the breakdown between the “3 Ts”

Charting financial flows

Identifying key actors / Identifying financial flows



Source: WHO/ TrackFin (2016) Guidance Document

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Session 2

What can be done to mobilize additional funding for urban sanitation?

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Mobilizing additional funding for sanitation

Funding can come from different sources

- **Private sources: from service users = "tariffs"** for sanitation include:
  - **Households' contributions for self-supply**
    - Households' investments in on-site sanitation facilities
    - Payments for services to pit latrine emptiers
  - **Tariffs for services provided – paid to utilities or municipal service providers**

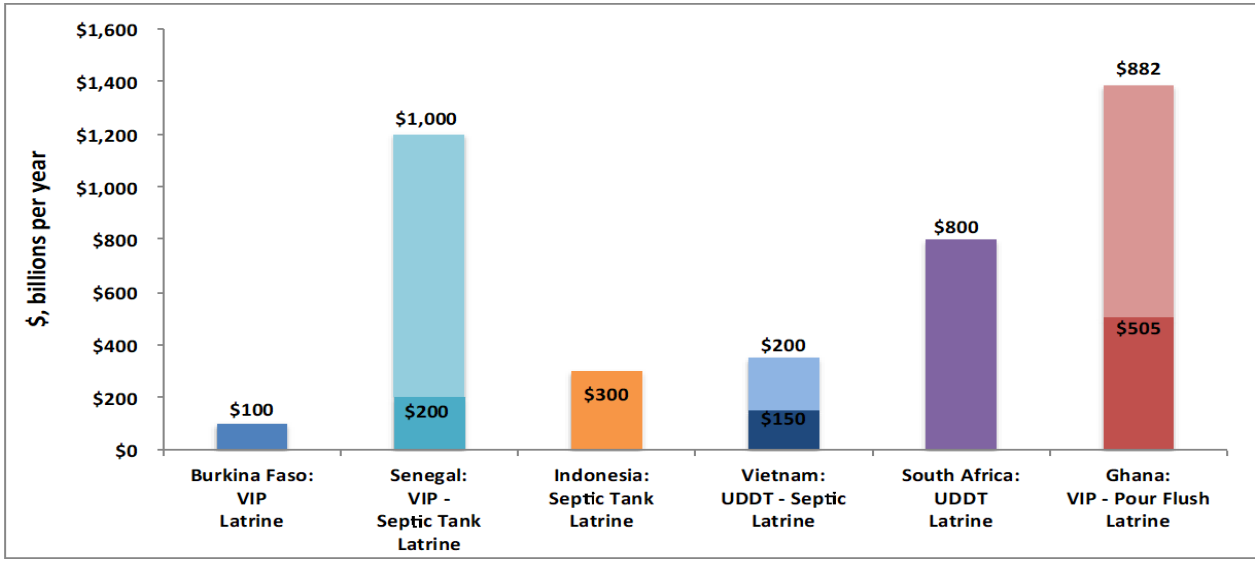
- **Domestic public sources via a tax/redistribution mechanism** = taxes
  - **National tax transfers**
  - **Local taxes: mobilized locally and used locally**

- **International transfers:** from ODA, Foundations, NGOs, remittances

Households' investments in on-site sanitation

- **Households' investments in on-site sanitation are very significant but difficult to estimate due to lack of reliable data sources**
- **Existing household surveys are not designed with the objective of assessing the one-off investments in household sanitation** (most household surveys ask questions about "monthly costs of water and sanitation services, which is not very meaningful when such services are self-provided")
- Existing estimates show that these can be significant
  - AICD estimated that 0.3% of GDP was spent on building latrines every year by households in SSA, more than 0.2% allocated by governments and 0.2% coming from ODA (see Banerjee & Morella, 2010)
- **Going forward: existing household surveys may need to be revamped** in order to make it possible to ascertain how much households are spending ; alternatively, specific surveys can be designed and applied, particularly in the context of project preparation to estimate:
  - How much households are currently investing in sanitation
  - How much households for regular maintenance
  - How much they are willing / able to pay for improved sanitation solutions

Wide variations in the costs of on-site sanitation solutions



On-Site Sanitation Solution Categories
Simple Pit Latrine
Ventilated Improved Pit Latrine(VIP)
Pour- flush Latrine
Latrine Connected to a Septic Tank
Composting/Urine Dividing Latrine (UDDT)

*On-site sanitation solutions vary across countries and within depending on the type of solution
** Price estimates span the past ten years

- **Trends emerging:**
  - Higher costs in urban sector than in rural sector:
    - Need solutions that provide partial on-site treatment
    - More durable solutions
  - Much higher costs in SSA than South Asia
  - Some circumstances call for different solutions aka container-based toilets

Frequent “no-subsidy” approach for on-site sanitation

- **Often directly “imported” from rural areas – with limited consideration for the additional costs for urban sanitation**
  - Prior rejection of hardware subsidies for on-site sanitation facilities based on lessons learned from prior application:
    - Insufficient emphasis on demand creation + some evidence that hardware subsidies can “dampen” demand (if populations “wait” for subsidies to be provided)
    - History of poor application of direct sanitation subsidies resulting in wasted investments (typical example: latrine used as chicken coop or grain storage)
    - Insufficient choice offered to households
    - Difficulties to target poorest households (high proportion of subsidy captured by the better-off)
    - Limited leverage ratios and difficulties to scale-up: high % of subsidies means that the money is “used up” more quickly and limits possibilities for scaling-up

- **Such rejection of hardware subsidies hides a number of critical realities**
  - The cost of software activities is often very substantial in overall program costs (although rarely fully costed up) and can also be considered as a subsidy
  - Other financing strategies needed to get households to adopt on-site sanitation because of:
    - Evidence of significant affordability constraints
    - Need to move up the sanitation ladder in the context of the SDGs: more durable sanitation solutions needed, with an emphasis on sanitation solutions in each household]

How can the funding gap for OSS be filled?

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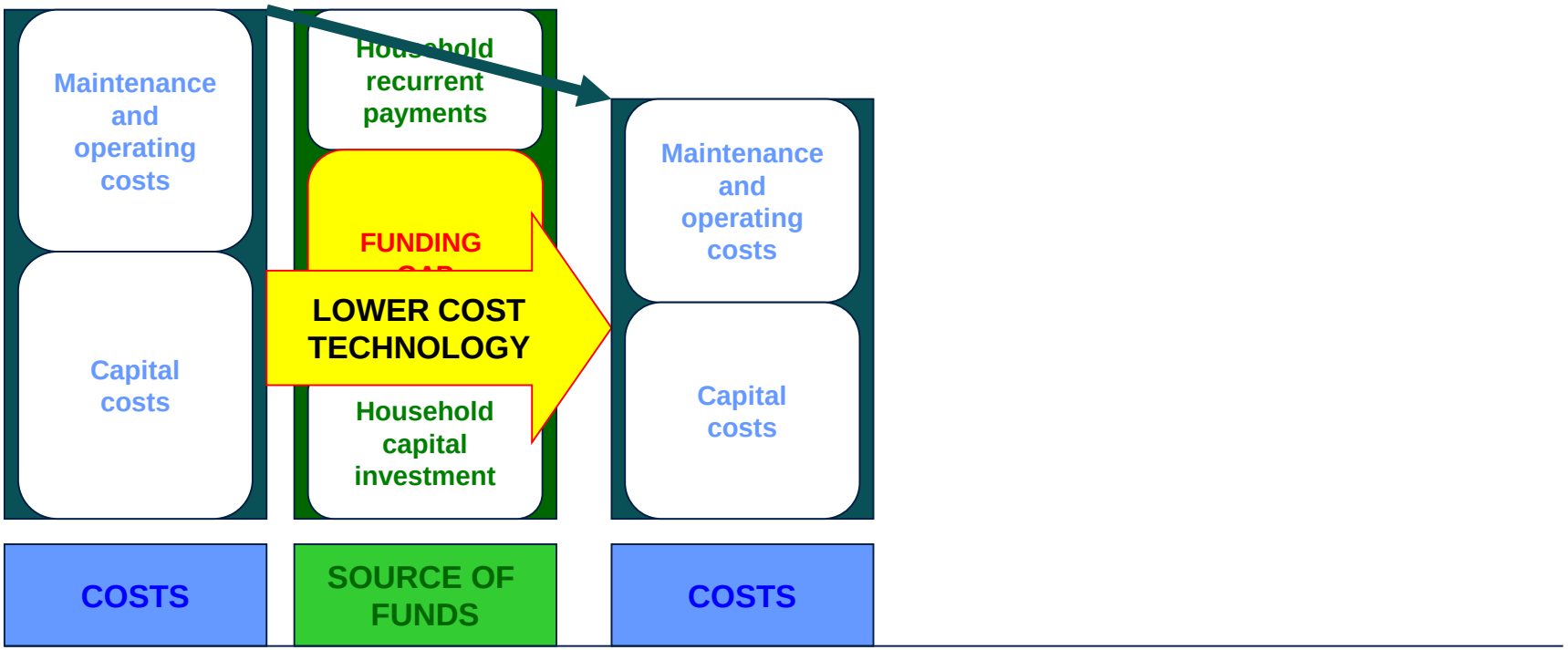
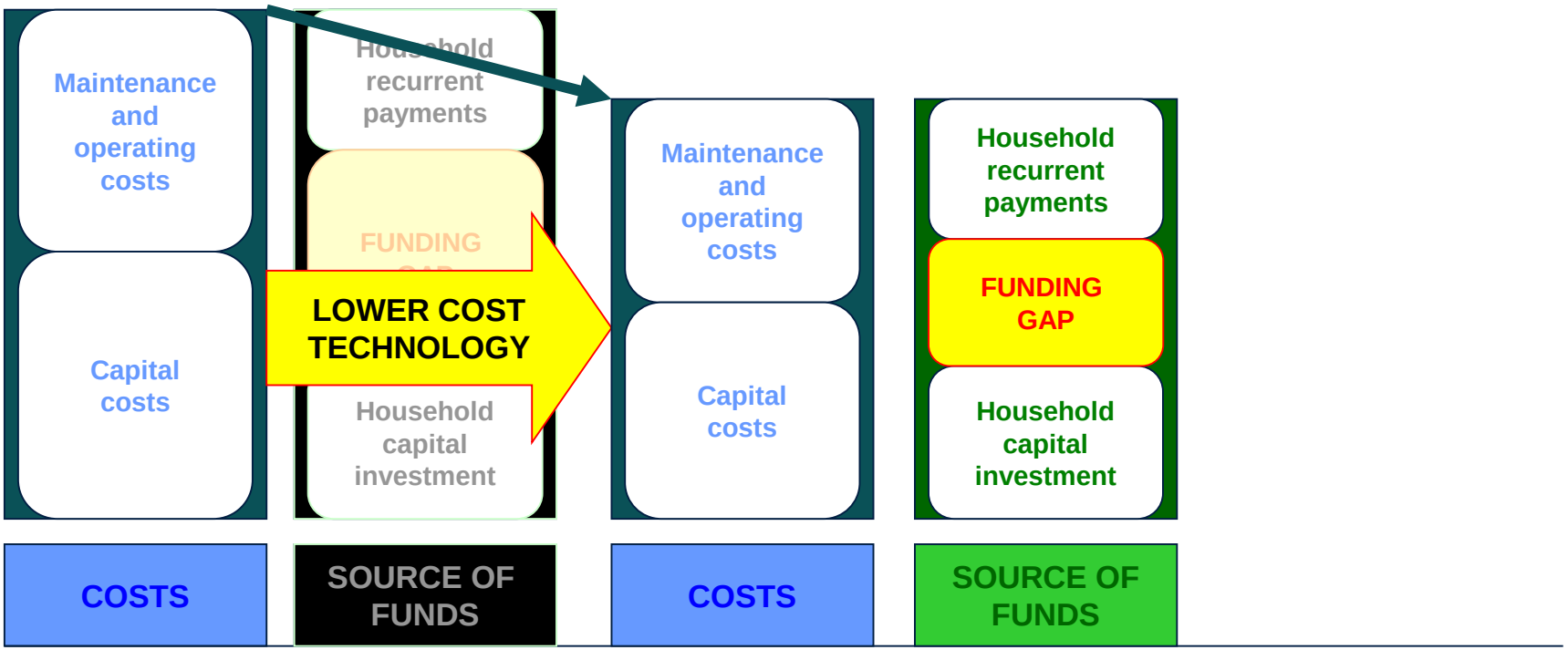
Interventions: 1. Lower cost technology



1. Lower cost technology



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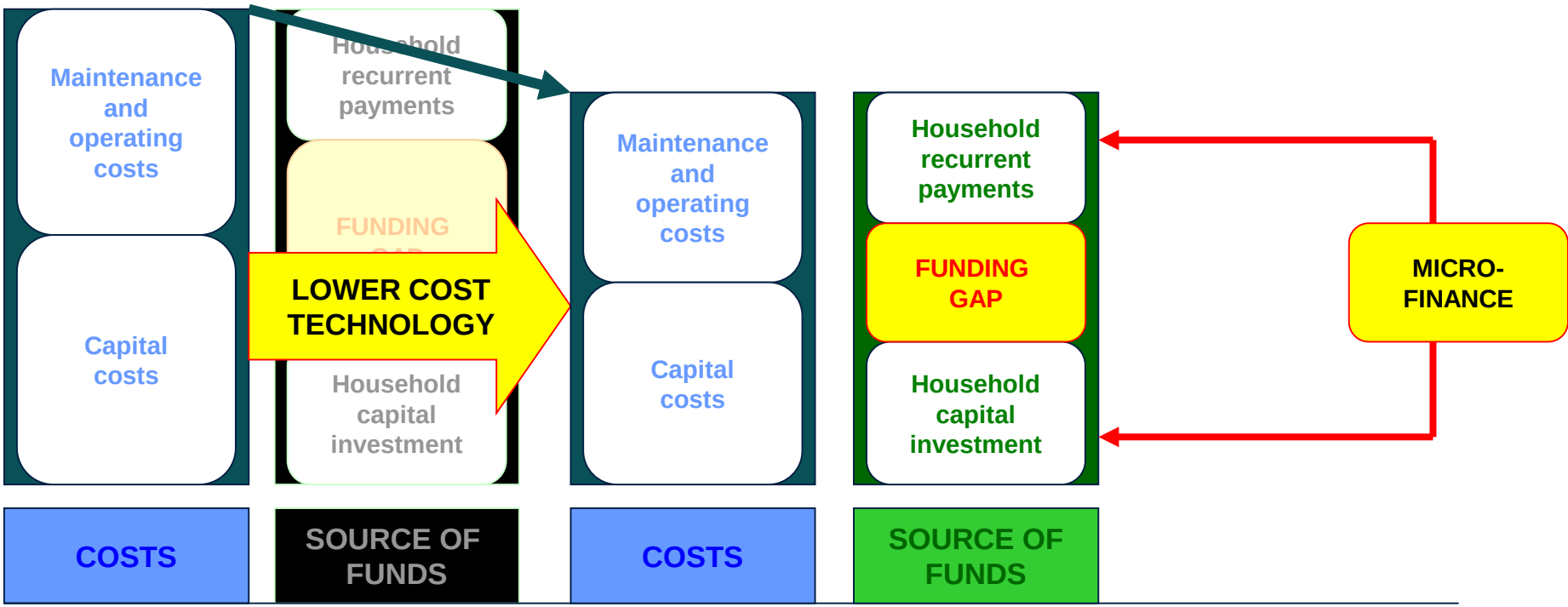
2. Micro-finance



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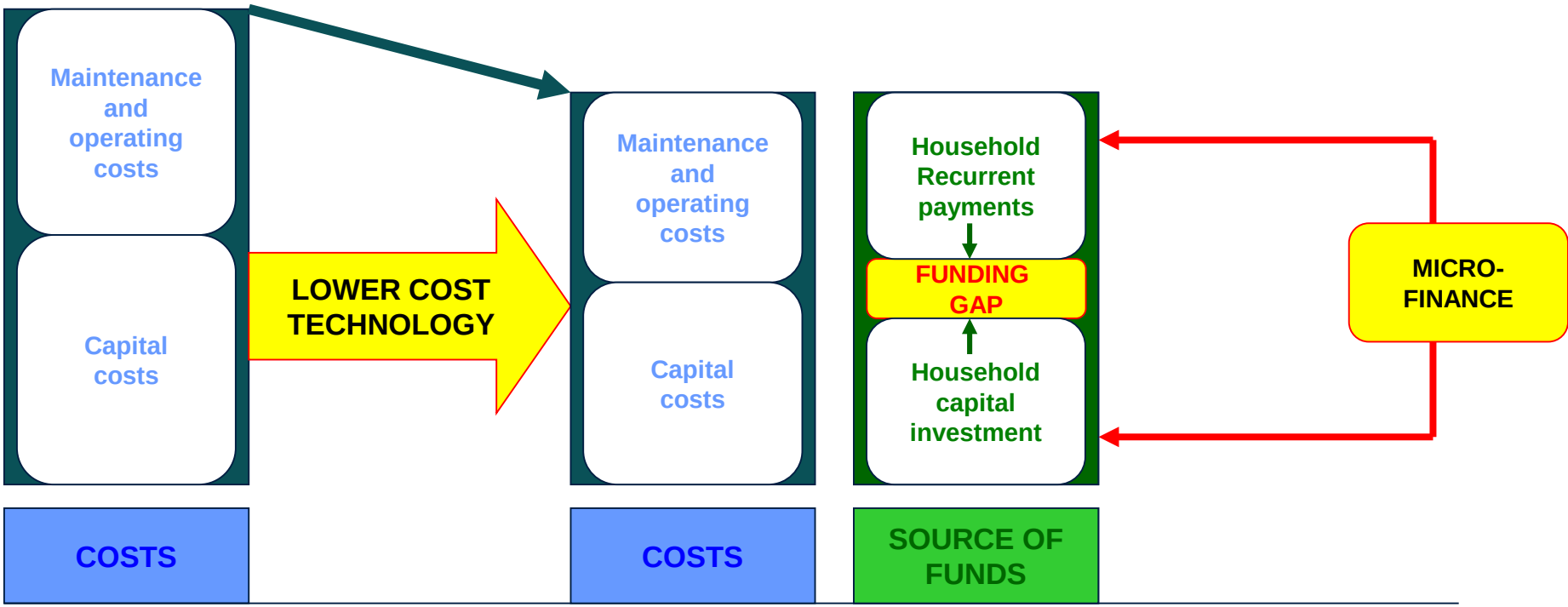
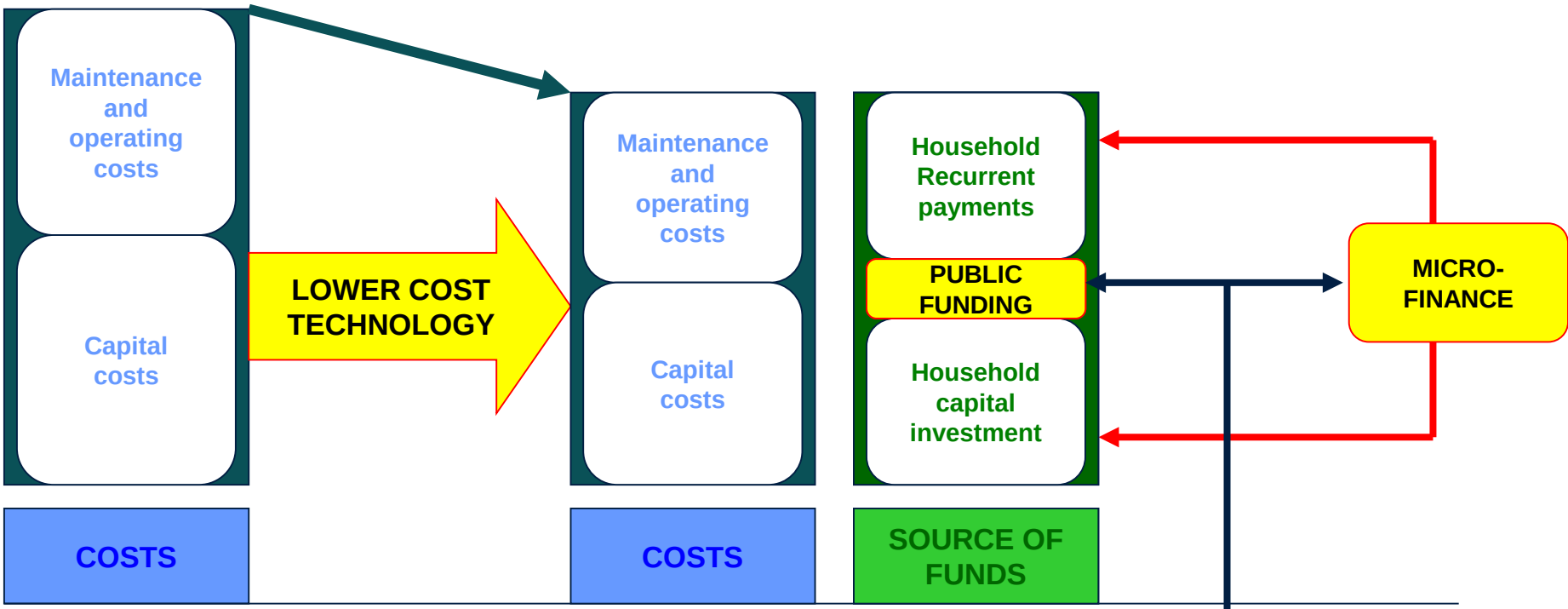


3. Public funding or subsidies

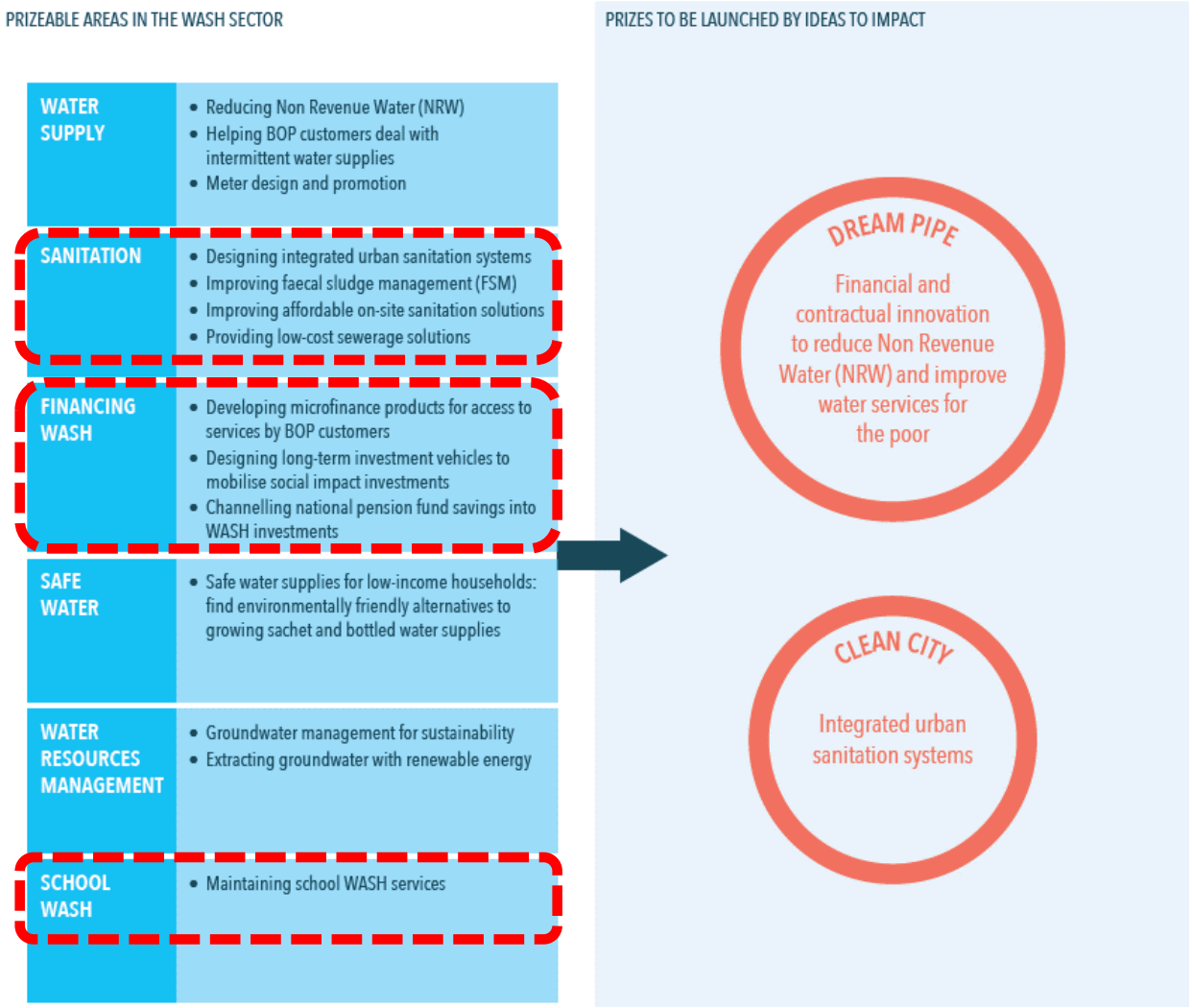


Sources of funding:
Development Bank concessionary funding
Government own resources
Commercial financing

Extracting capital efficiency gains

Potential reasons for high costs	Strategies to reduce costs
Lack of innovation • Technologies imported from abroad or adapted from rural contexts – may not be appropriate	• Encourage local innovation: launch domestic innovation prize for locally-suitable & cheaper technologies • Provide visibility on upcoming orders to allow reducing production costs: e.g. Advanced Market Commitments
"Proprietary" technologies • Reluctance to share for fear of losing market share • Emergence of copycat technologies: fragments the market, makes it more difficult to service these solutions, increased risk of system failure	• Work jointly at industry level to develop common standards that can be jointly marketed and developed: e.g. Mi Baño • Obtain dissemination of patents, encourage franchising agreements
Small market size	• Let out larger contracts to big providers – to reduce costs (requires having agreed terms in advance and obtained households to sign up)
Inefficient procurement	• Use different contracting methodologies: e.g. lowest-subsidy contracts

Innovation Prizes for WASH



DREAMPIPE II

http://www.dreampipe.org/

SANITATION CHALLENGE FOR GHANA

Rewarding Excellence in Urban Liquid Waste Management

http://www.sanitationchallenge4ghana.org/

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Source: Trémolet (2015), *Can Innovation Prizes help address Water and Sanitation Challenges?*

Advanced Market Commitments (AMCs)

What are they?

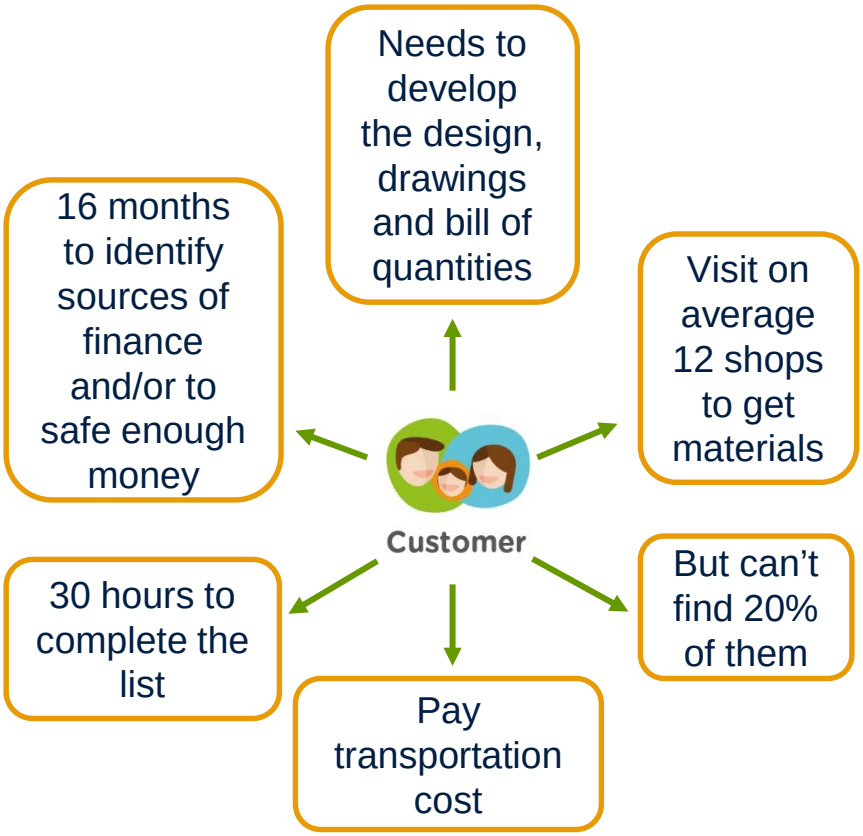
- **AMCs have been used primarily in the health sector** to give incentives for the development of vaccines that meet the needs of developing countries by guaranteeing a market for those products once they have been developed (it could be a price, a quantity or a revenue guarantee).
- **Example: GAVI (Global Alliance for Vaccination and Immunisation)** entered into an AMC with pharmaceutical companies for the development of a pneumococcal vaccine that is suitable to developing countries
- Of particular interest in the health sector because:
  a) product development is very expensive and takes place over a long period of time
  b) developing countries-related research only worth if there is a guaranteed market
  c) governments purchase those goods: vaccine market almost 100% subsidised

Possible applications to urban sanitation?

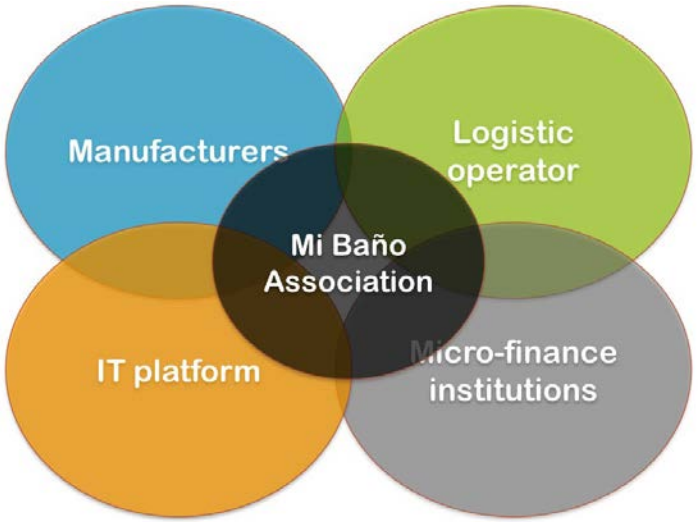
- **School sanitation:** AMC to sanitation entrepreneur who develops suitable solution – guaranteed roll out to state schools
- **Municipal sanitation**: public / community ablution blocks: design competition + guaranteed market

Mi Baño (Peru): reducing costs through industry coordination

High transaction costs for customers



Mi Baño: coordinated approach



Led to estimated 40% reduction in costs to customers

https://www.youtube.com/watch?v=pFvjQhCO4ac

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Defining a financing strategy for on-site sanitation

- **Overall principles for defining a financing strategy for on-site sanitation**
  - Costs can be reduced through capital efficiency gains
  - Access to finance can be facilitated in order to help households spread the costs over time
  - The burden of such costs can be shared more equitably between public and private, reflecting the nature of the benefits that can be extracted from urban sanitation:
    - **To compensate households for the costs of on-site treatment that is otherwise considered as a public benefit**
    - **For equity and inclusion:**
      - To assist the poorest households in gaining access
      - To reap benefits from universal coverage: recent study shows that benefits from sanitation materialize only after 70% of population has gained access to sanitation

        University of East Anglia / WHO study, 2016
  - Subsidies should be well-targeted, preferably ex-post based on results, to encourage choice, use and reduce risk

Payments for emptying services

- **Emptying charges can be very significant,** particularly in areas where water tables are high (thereby increasing frequency of emptying visits, e.g. Senegal), or where emptying markets are inefficient
- **These charges can represent a sizeable chunk of households' budgets:** inability to pay emptying charges can be a key factor for poor maintenance of on-site facilities and for them to ultimately falling into disrepair / being inadequately maintained
- **There is evidence that the size of the emptying charge is a key determinant of demand for emptying services, although it is not the only one.** Whether or not households are legally required to empty their facilities is also a key determinant
- Charges vary according to the type of emptying solutions: manual vs. mechanized emptying
  - Manual emptying
  - Mechanized emptying with small equipment (suitable for very dense slum areas where emptying trucks cannot penetrate – various technologies exist but none has really scaled up)
  - Mechanized emptying with trucks
- **The charges applied for emptying are a reflection of overall approaches to organizing / supervising to the FSM markets**.

Reducing emptying charges: potential ways

Potential reasons for high costs	Potential strategies to reduce costs
• Manual emptiers face high health costs and social exclusion – leading to higher charges	• Equip manual emptiers with protective equipment (which can be subsidized by municipality)
• Old / inefficient equipment (high fuel costs, high cost of repairs)	• Replace trucks with newer, more efficient trucks • Leasing or financing arrangements
• High water content of faecal sludge	• Innovation: eg. Gates' funded research on emptying trucks "omni-ingesters"
• Congestion / high transport costs	• Increase the number of transfer stations / intermediary discharge points
• High tipping charges at discharge points – reflected in end charges for end-consumers	• Consider reverse tipping charges (particularly if can use revenues from reuse)
• No or limited re-use of transported material	• Increase re-use and reinject financial benefits from re-use into the sanitation value chain (either as payments for services / subsidies)

The financial and economic case for container-based toilets

Georges Mikhael, WSUP

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Tariffs: Achieving Multiple Objectives

Macro level/Sector level

- Affordable and safe water provided to everyone achieves **social objectives.**
- The principle of 'polluters pay' is fundamental to achieving **environmental objectives**
- Signals to users regarding the **value of water (scarcity)**
- **Improve creditworthiness of sector**

Micro level/ Utility Level

- Incentives for **demand management**
- Full cost recovery to achieve the objective of **financial sustainability**
- Full cost recovery along with consistent operating surpluses to service debts and repay loans to achieve the objective of **being creditworthy**

There can be different structures and levels for tariffs in order to achieve the various objectives of the service provider.

Tariffs for Sewerage and Sewage Treatment Services

Tariffs for sewerage and sewage treatment services are charged by utility companies / municipal service providers for services provided. They can take many forms:

- **Charge for connecting to sewerage network**: this frequently includes "standard charge" (for standard connection) + charge reflecting actual costs of connecting the property (reflecting for example, distance to the network)
- **Charge for ongoing services**

Multiple approaches to applying ongoing charges:

- Charge included in municipal service charge (similar to solid waste collection charge)
- Flat fee
- Volumetric charge, whereby the volumes of wastewater discharged is usually estimated as a % of water consumed (where water consumption is metered, this is based on metered consumption; where water consumption is estimated, this is also estimated)

Tariff Structures: Advantages and Disadvantages

	Advantages	Disadvantages
One Part Tariff: Fixed Flat Rate	• Stable, Assured Revenue Stream • Easy to Understand and Implement	• Inequity of Cost Distribution • No water conservation • Operating margins (hence the creditworthiness) are uncertain as revenues are constant and operating costs vary
Two Part Tariff Volumetric	• Simplicity • Ease of Understanding and Implementation • Customer Acceptance • Affordability: pay only as much as used	• Revenue fluctuation due to demand variations • Potential Inequities - if applied broadly • Limitations on the extent to which specific policy objectives are supported
Block Tariff	Advantages	Disadvantages
Increasing Block Tariff	• Equity • Conservation	• Consumer understandability and acceptance is low: need careful consultation • Negative effect on revenue stability in case of seasonal changes • Negative effect on large users • Metering is a must – admin costs are high
Decreasing Block Tariff	• Reflects economies of scale • Promotion of Industrial / commercial development • Indirect way of charging rates to different customer classes whose unit cost of service differs • Makes added use less expensive on a unit basis	• Anti-Conservation • Deviation from long term utility cost

Tariffs for sewerage and sewage treatment

How sewerage tariffs are applied depends on market structure: i.e. whether water and sewerage services are supplied jointly, or separately + whether sewerage utility also provides onsite sanitation services

Advantages of joint provision of water and sewerage services:

- From an operational / cost perspective: joint service provision can help keeping costs down:
  - Joint maintenance of networks (although this can go either way: not necessarily in same place)
  - Economies of scope (joint support services, such as accountancy, billing, legal, advertising, etc.)
- From a tariff / financing view point: joint service provision can increase revenue collection for sanitation:
  - Reduces risk of non-payment (easier to disconnect water than sewerage)
  - Allows the service provider (typically a utility) to apply a “sanitation tax” on water bills, even to households that do not receive sewerage services:
    - Either because they are located in a “sanitized area”, close to sewers, to give them an incentive to connect (e.g. ONAS in Senegal);
    - Or because households with on-site sanitation solutions receive a maintenance service from the utility (e.g. Burkina Faso)

How can sewerage tariffs be applied more effectively?

In most developed countries:

- Sewerage tariffs are equal or higher to water tariffs
- Most ongoing and future investments are going to cleaning-up the environment / managing sewerage
  - Recent/ ongoing investments in European Union to meet the requirements of EU Water Directive adopted in 2001 (which builds and consolidates previous EU directives, such as the Urban Wastewater Treatment (UWWT) Directive adopted in 1991
  - Building resilience: ongoing construction of London " super-sewer": Thames Tideway has a total cost of GBP 4.2 billion – with planned bond issue to raise GBP 200 to 400 million)

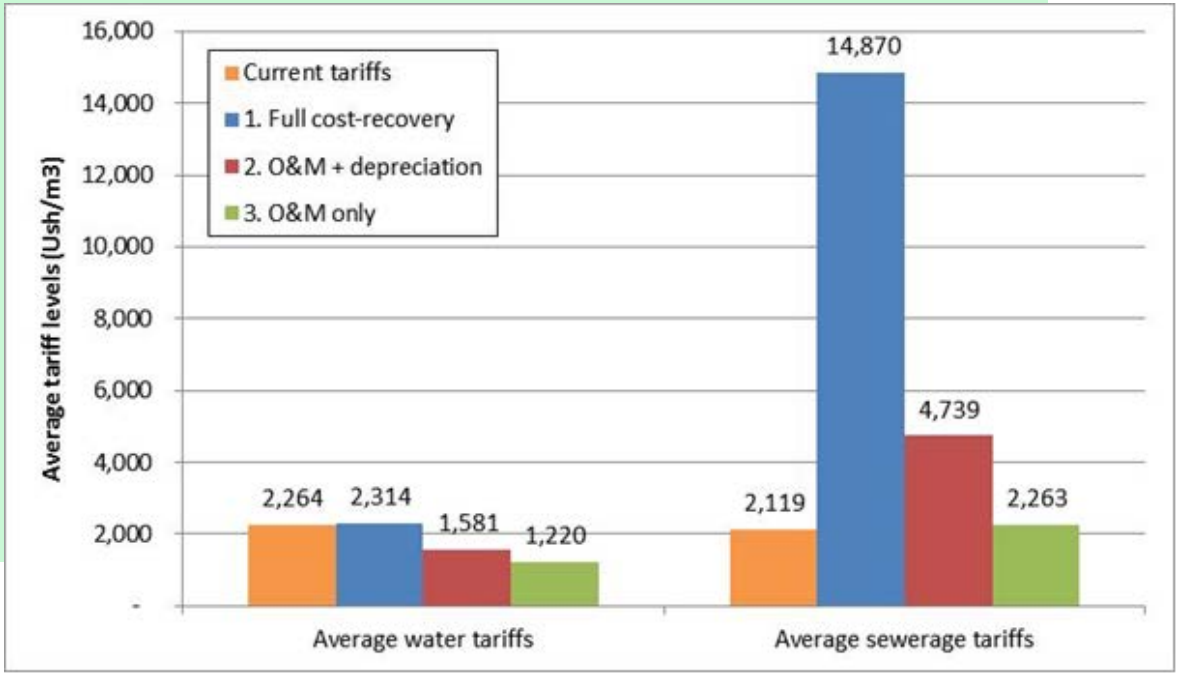
In most developing countries:

- **Where sewerage tariffs are applied, these are "symbolic" or very low:** do not reflect the true costs generated by sewerage services at present or the amount of investments that will need to be covered going forward to meet SDGs (not only SDG 6.2. but also 6.3.)
- **Mobilizing additional funding from sewerage services will require**:
  - Estimate the true costs of sewerage services (and associated wastewater treatment going forward)
  - Provide a basis for deciding whether this should be paid via tariffs or via taxes (as full cost recovery is likely to be unaffordable)

Estimating sewerage tariff levels

Uganda: Sewerage tariff levels

- ECA tariff study calculated sewerage costs under different cost recovery scenarios
- **Full cost recovery sewerage tariff (taking into account new investments and cost of investments) is ~ 6.5 times that of full cost recovery tariff for water supply**
- O&M + depreciation sewerage tariff is ~ 3 times that of water tariffs
- **O&M only sewerage tariff is ~ 2 times that of water tariffs**
- Reason for high sewerage tariff is the large investment requirements to rehabilitate assets and build new assets, combined with low number of connections: less than 6% of water customers are also sewerage customers



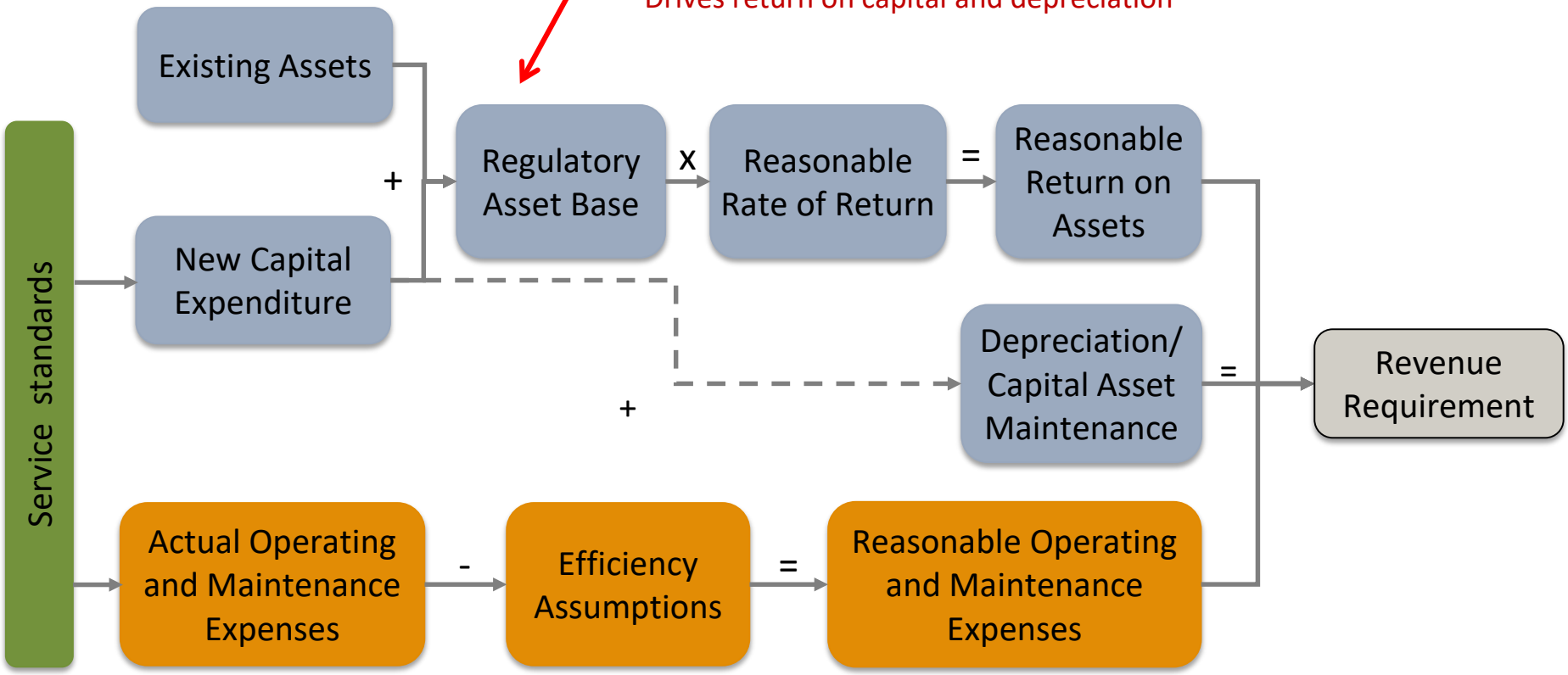
Source: ECA, Uganda tariff study, Quoted in report to NWASCO (2015)

Estimating sewerage tariffs

Number of sewerage connections	Accounting allocation of sewerage assets	Accounting allocation of sewerage costs
• Good customer data base • **Number of household sewerage connections** • Number of industrial connections • **Enforce Public Health Regulation requirements to connect to existing sewer network**	• **Identify sewerage assets** • Identify shared assets • Allocate percentage of shared assets to sewerage costs based on • Discuss with CU personnel on suitable percentage allocation of shared assets to sewerage costs	• **Identify sewerage operating costs** • Identify shared costs • **Allocate percentage of shared costs to sewerage** • Identify costs related to large industrial discharges into the sewer network

Counting all costs to be recovered

Regulatory asset base (RAB) = the measure of the net value of a utility's regulated assets used in price regulation:
Takes into account existing asset values and new capital expenditures
Drives return on capital and depreciation



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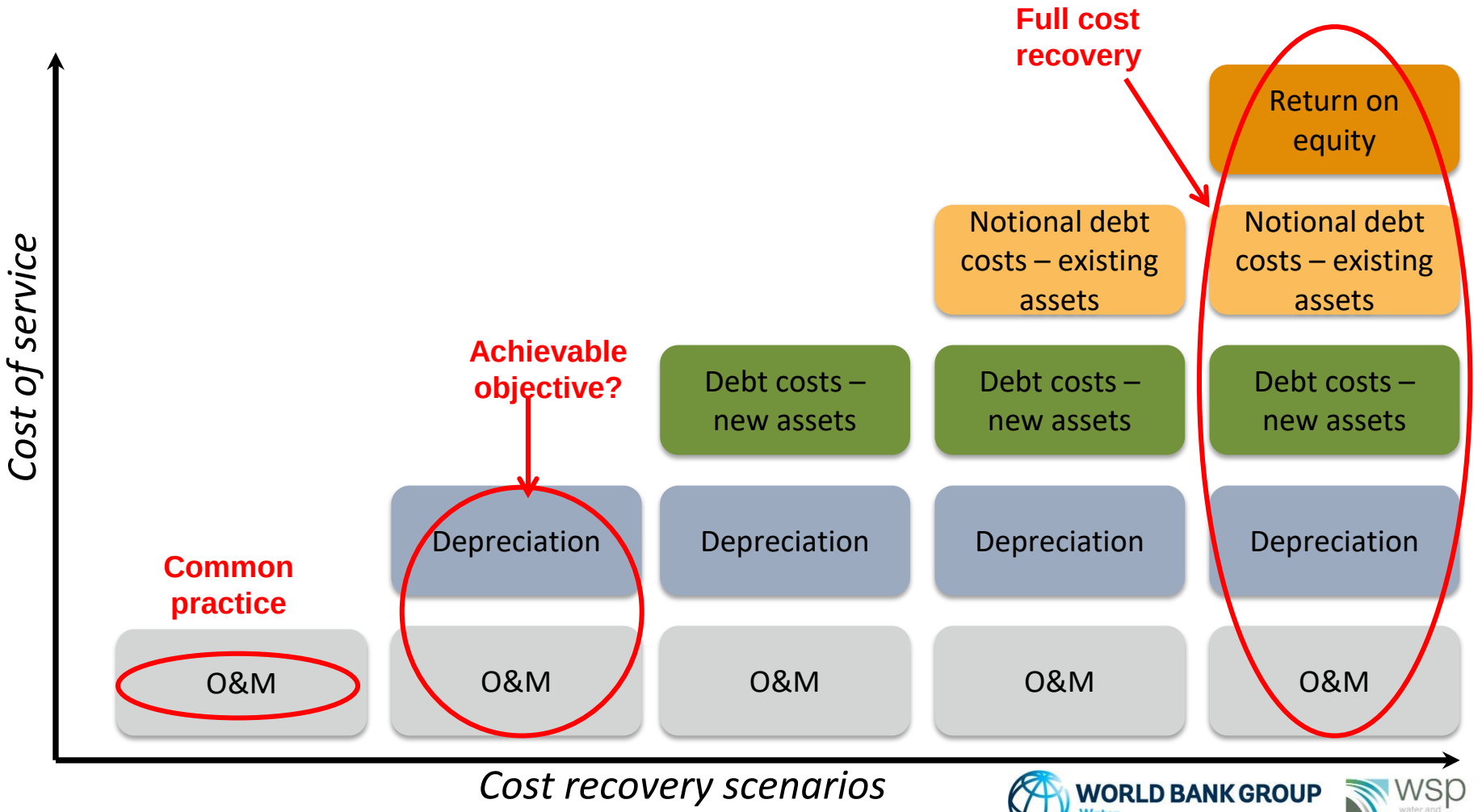
Defining which levels of costs to recover via tariffs



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Ways to mitigate sewerage tariffs for households

- Phase large sewerage investments over long periods
- Find concessional financing: including donor funds, government subsidies (at least for capital investments)
- Extend network to increase number of customers
- Obtain additional sources of revenue for sewerage:
  - Contribution from local authorities
  - Sewerage levies from other categories of customers
  - Industrial effluent charges and penalties

Using domestic taxes (subsidies) for sanitation

Potential rationales:

- **Create demand for the service and promote the consumption of "merit goods"**
  - Merit goods are a commodity or service, such as education or sanitation, that is regarded by society or government as deserving public finance, because consumers may not fully realize the value of such goods
  - Merit goods are different from public goods
    - The consumption of both types of goods can generate externalities (e.g. public health)
    - BUT the consumption of merit goods by one person reduces availability for others (rival and excludable, as in the case of toilets), whereas the consumption of public goods does not reduce availability for others (e.g. clean air)
- **Reward service providers for supplying merit goods and thereby generating external benefits for society** (e.g. avoidance of groundwater pollution thanks to construction of improved sanitation facilities)
- **Enable service providers to offer services at a lower rate to vulnerable groups** (in the case of self-provision of services, subsidies go directly to households)
- **Facilitate access to commercial finance for all who need access when observed market failures in financial markets**

Improving effectiveness of public taxes for sanitation

- **Identify sources of public funds dedicated to sanitation**
  - **Use % of property taxes?** (requires improving collection)
  - **Zambia:** sanitation surcharge applied by some utilities, to finance extensions in low-income communities
  - **Other mechanisms**: land value capture (e.g. Colombia), tax on property developers
- **Improve sustainability of investments**
- **Improve allocation of funds between services (e.g. sewerage vs onsite – although this requires being clear about how to spend)**
- **Improve subsidy design**
  - **Be predictable and transparent**: should generate stable revenues that can be integrated in medium-term financial strategies for local governments and / or service providers
  - **Well-targeted:** to reflect the specific rationale / motivation for providing such transfers
  - **Ideally**: phased-out over time and terminated when pre-agreed targets have been achieved
- **Use taxes in a more "catalytic manner", to leverage private sector financing via blending**

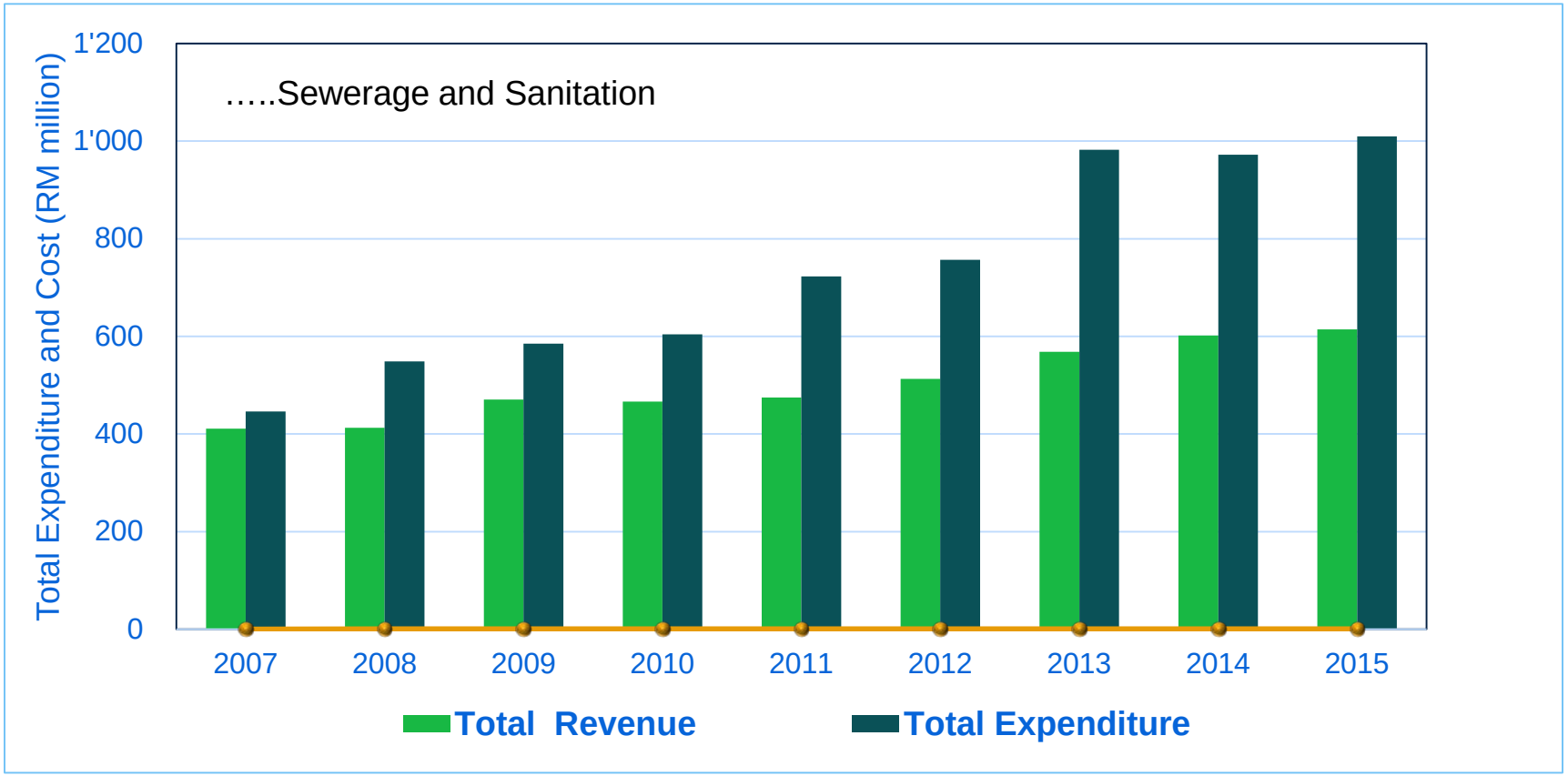
Financing sanitation provision in South Africa

- Capital funding is partly funded by grant funding from national government and own revenue from EWS
- Total operating and capex subsidy is 8% of revenue
- The national subsidy covers 79% of the cost of providing free basic water and 96% of the cost of providing free basic sanitation
- Over 280 000 poor families out of a total of 946 000 water customers receive free basic water and pay nothing for water each month (i.e. they use less than 9m³ per month and live in a house worth less than R250 000) ($1 = R13.60 currently)

Operating subsidy from government

- Operating financing for 2014/15
- Water operating expenditure : R5,9 billion
- National government subsidy : R558,0 million (9.4%)
- Actual cost of Free basic water : R705 million
- Sanitation operating expenditure : R2,1 billion
- National government subsidy : R268,0 million (12,8%)
- Actual cost of free basic sanitation: R279 million

In Malaysia: underpricing of services

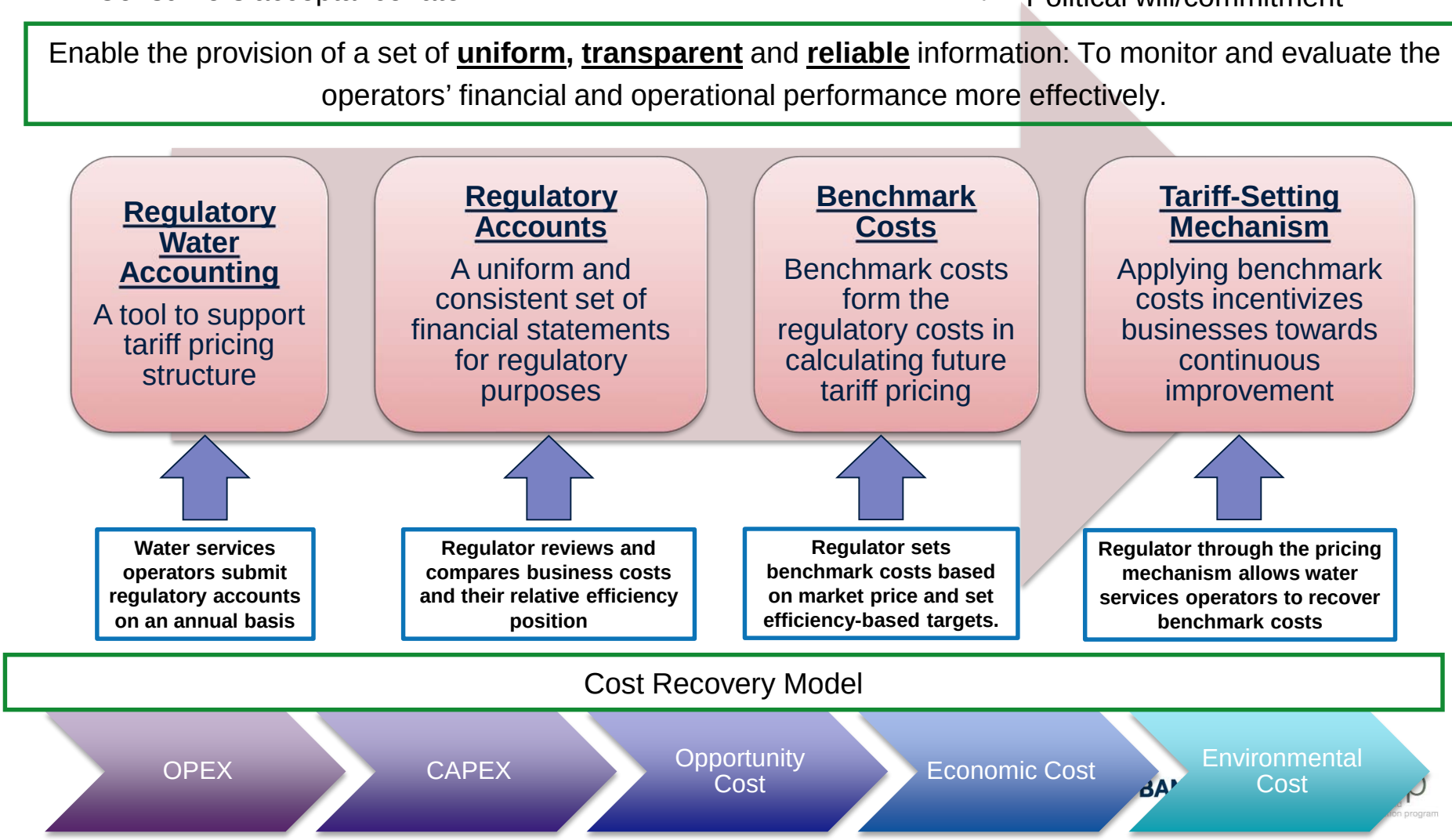


- The services cost for on site sanitation:
  - Partially through government subsidy
  - Cross subsidy from certain band of customers of connected and on site services
  - Tariff (billing for services)

How can sewerage tariffs be estimated?

- Operator services level
- Consumers acceptance rate
- Willingness to pay
- Regulatory effectiveness
- Political will/commitment

Enable the provision of a set of **uniform**, **transparent** and **reliable** information: To monitor and evaluate the operators' financial and operational performance more effectively.



Sewerage & Desludging Tariff (1)

…… Government & Domestic

Category	Monthly Charge(RM)
Low cost houses and government quarters in categories F, G, H and I (receiving either Individual Septic Tank or Connected Sewerage Services)	2.00
Houses in Kampung, New Villages and Estates (receiving either Individual Septic Tank or Connected Sewerage Services)	3.00
Premises and government quarters in categories A, B, C, D and E receiving Individual Septic Tank Services	6.00
Premises and government quarters in categories A, B, C, D, and E receiving Connected Sewerage Services	8.00

SEWERAGE CHARGES FOR GOVERNMENT PREMISES	
BASIC CHARGES (MONTHLY)	
Sewerage Services	Basic Charge (RM)
Connected	40.00
Septic Tank	25.00

MONTHLY WATER USAGE CHARGES (GOVERNMENT PREMISES)	
Water Usage	Excess Charge
Up to 100 m3	No Charge
More than 100 m3	45 sen per m3
More than 200 m3	95 sen per m3

Sewerage & Desludging Tariff (2)

…… Commercial & Industrial

MONTHLY BASIC CHARGES (COMMERCIAL)		
Group	Annual Value (RM)	Basic Charges (RM)
		Connected
1	0 - 2,000	8.00
2	2,001 - 5,000	14.00
3	5,001 - 10,000	20.00
4	10,001 - 20,000	26.00
5	20,001 - 30,000	29.00
6	30,001 - 40,000	32.00
7	40,001 - 50,000	35.00
8	50,001 - 60,000	38.00
9	60,001 - 70,000	41.00
10	70,001 - 80,000	44.00
11	80,001 - 90,000	47.00
12	90,001 - 100,000	50.00
13	100,001 - 200,000	180.00
14	200,001 - 400,000	495.00
15	400,001 - 600,000	522.00
16	600,001 - 800,000	1,980.00
17	800,001 - 1,000,000	2,160.00
18	1,000,001 - 3,000,000	4,320.00
19	3,000,001 - 5,000,000	8,800.00
20	5,000,001 - 7,000,000	9,200.00
21	Melebihi 7,000,001	9,600.00

WATER USAGE CHARGES(COMMERCIAL)	
Water Usage	Charges
Up to 100 m3	No charge
More than 100 m3 up to 200 m3	30 cents per m3
More than 200 m3	45 cents per m3

SEWERAGE CHARGES - INDUSTRIAL	
Category	Rate based on number of employees
Premises receiving Individual Septic Tank Service	RM 2.00 per head per month
Premises with Connected Sewage Services	RM 2.50 per head per month

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Session F3

Mobilizing repayable financing for citywide inclusive sanitation

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What is repayable financing?

Repayable financing is needed to bridge financing gap and bring forward realization of benefits. It can take several forms:

- **Concessional financing:** concessional or "soft" loans, e.g. IDA loans
  - Loans from development agencies are deemed "concessional" if the financial flow contains a minimum grant element of 25 percent, calculated at a discount rate of 10 percent.
  - Note: this is counted as ODA (Official Development Assistance) by the OECD DAC database, alongside grants – which can be misleading. This rule will change in 2018: only the grant-component of concessional loans will be counted as ODA
- **Non-concessional development financing,** e.g. IBRD loans
  - These are tracked by the OECD DAC database as OOF (Other Official Flows – non-trade related)
- **Commercial financing**
  - Vendor/supplier finance
  - Microfinance: micro-credit, savings & loans schemes, community loans
  - Commercial bank loans
  - Bonds
  - Equity stakes

Key differences between different types of financing are:

- Interest rates applied to loans, coupons for bonds or return on equity/ dividends for equity
- "Tenor" i.e. the length of time the money is provided for, after which it needs to be repaid
- Whether there is a grace period
- Currency in which financing is denominated: domestic / hard (USD, Euro, etc.)

Financing needs and revenue sources

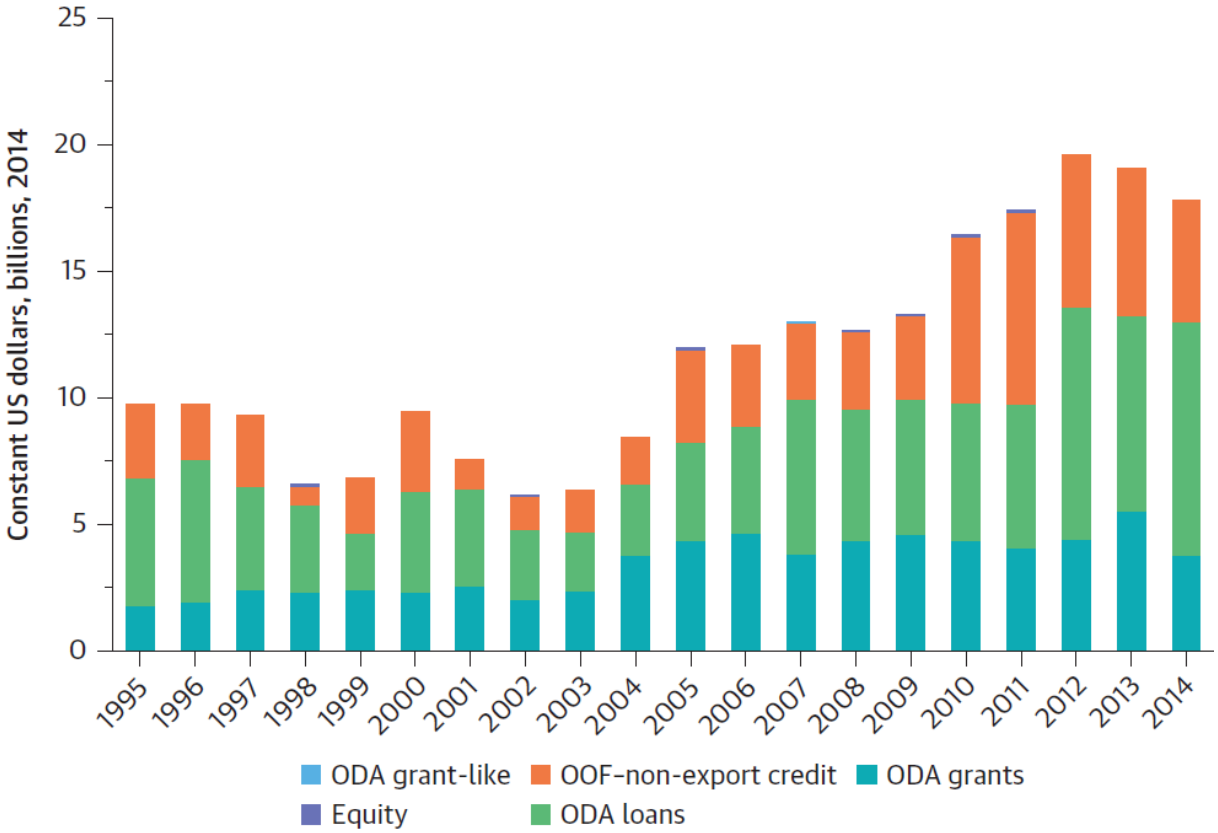
On-site + FSM	Revenues required	Revenue sources	
Service chain		Common approaches	Alternative approaches
Containment	Capex: investment in on-site facility Opex: maintenance	• Households • Households	• Households, partial subsidies, cross-subsidies & **facilitated access to credit** • Households & partial subsidies (e.g. vouchers)
Emptying / Transport	Capex: - Emptying equipment - Transfer stations Opex: emptying costs	- Emptiers' own capital - Hh emptying charges	- **Microfinance, leasing** - **Repayable finance** - Reduced emptying charges
Treatment	Capex: - FS treatment plants Opex: - FS treatment plants opex: staff, electricity	- Public subsidies - Tipping fees & subsidies or cross-subsidies	- Public subsidies, **repayable finance (concessional & commercial)** - Reverse tipping fees - Revenues from re-use
Disposal / Re-use	Capex: Re-use plants Opex: operations of re-use plants	- Limited	- Subsidies, re-use revenues

Financing needs & revenue sources

Sewerage	Revenues required	Revenue sources	
Service chain		Common approaches	Alternative approaches
Containment	Capex: sewerage connections Opex: running costs	- Households & cross subsidies (water users, other sewerage users)	• Households, partial subsidies, cross-subsidies & **facilitated access to credit**
Transport / Treatment / Disposal	Capex: Sewerage networks O&M costs	- Utilities own-investments - Household tariffs - Public subsidies	- Household tariffs - Utilities investments from tariffs, partial public subsidies, **repayable finance**
Treatment	Capex: sewage treatment plants Opex: staff, electricity	- Household tariffs - Public subsidies	- Utilities' own funds, public subsidies, **repayable finance (concessional & commercial)** - Reverse tipping fees - Revenues from re-use
Disposal / Re-use	Capex: Re-use plants Opex: operations of re-use plants	- Limited	- Subsidies, re-use revenues

Concessional financing: growth below needs

FIGURE 2.1. Official Development Finance for the Water Sector by Type, 1995-2014



Source: OECD DAC database, accessed October 25, 2016.

Note: ODA = official development assistance; OOF = other official flows.

All aid flows to water about 10% of estimated investment needs for new access

Source: Winpenny, Trémolet and Cardone (2016). "Aid Flows to the Water Sector", World Bank

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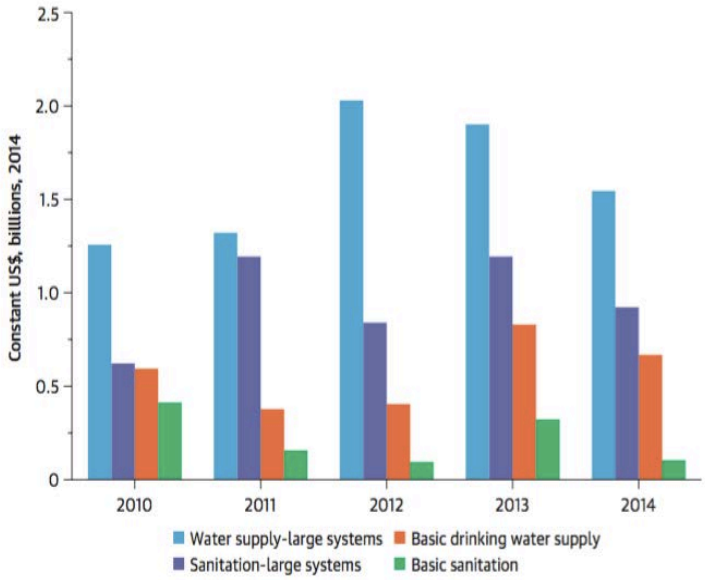
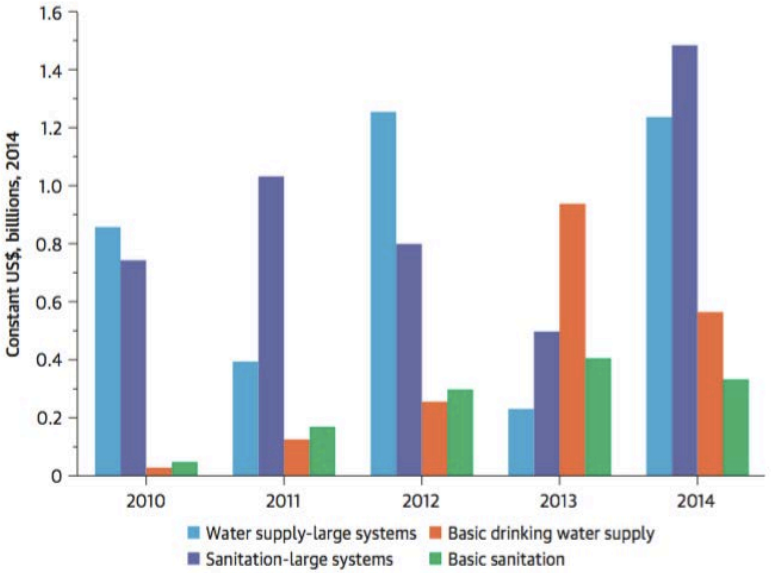
Concessional financing for urban sanitation

According to the Hutton & Varughese study approximately $78.5 billion is required per year for sanitation to meet SDG 6.2. – whereas estimated aid flows to sanitation (basic and large systems) was around $2 billion in 2014

ODA Commitments to WASH (2010-14)



OOF Commitments to WASH (2010-14)



Source: Winpenny, Trémolet and Cardone (2016). "Aid Flows to the Water Sector", World Bank

Available commercial repayable financing is much more abundant but currently largely untapped for urban sanitation

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Why is concessional financing not likely to be sufficient for the sector?

There are some challenges in terms of channeling concessional financing to urban sanitation

- Financing needs for urban sanitation tend to be fragmented to support a multitude of small investment decisions (particularly in contexts where on-site sanitation dominates)/ whereas many concessional lenders prefer to deal with one borrower, preferably a state-owned utility with a state guarantee
- Currency mismatch: most concessional financing is available in “hard” currency whereas financing needs are in local currency. Borrowing in hard currency creates significant foreign exchange risk.

Types of commercial financing

Vendor or supplier finance. Supplier finance occurs when a private company offers financing to a customer or a potential customer to purchase products or services.

Bonds. Bonds are a debt instrument whereby the lender provides financial resources to the borrowing entity.

Commercial bank loans. Worldwide, commercial banks provide local governments and utilities with a tremendous amount of debt, but most of it is relatively short term and expensive.

Microfinance. Provision of micro-credit, savings & loans schemes or community loans to either households or small businesses to enable them to invest in sanitation services.

Equity. Equity finance is the mostly widely used capital allocation mechanism for private businesses. It involves selling shares (also referred to as equity) to finance business operations.

Commercial repayable finance for urban sanitation

Type	Applications to urban sanitation	Current prevalence
Vendor / supplier finance	• Utilities providing payment facilities to customers for sewerage connections: • Leasing arrangements for emptying trucks	• Common – with potential for being extended • Leasing could be further developed
Microfinance	• Household investment in on-site facilities • Loans to small-scale service providers (manual and mechanized service providers operating at a small scale)	• Good experiences in India and Bangladesh (rural), more limited elsewhere • Taken place on small scale (e.g. for gulper operator in Tanzania) • Both have strong potential for development
Commercial debt finance	• Loans to larger service providers / utilities	• Common in developed countries • Does take place in middle-income countries with some govt support via blending • Potential for development in developing countries
Bond finance	• Bonds (equivalent to debt title) sold on financial markets	• Common in OECD countries; very rare / non-existent in developing countries. Requires well developed financial markets
Equity finance	• Companies listed on the stock exchange • Private equity sales as a way to mobilize private financing	• Common in OECD countries; exist in some middle-income countries: Manila Water, SABESP (Sao Paulo), Lydec (Casablanca) • Private equity sales more rare for sanitation are rare for developing countries

Urban sanitation: how can microfinance help?

- **Help households invest in on-site sanitation**
  - Spread the cost of investment over a more manageable period
  - Enable construction of more durable latrines: likely to be much cheaper over time
  - Not income generating per se but “income-enhancing”
  - Watch video: Toilets on Credit

- **Help sanitation businesses grow their activities**
  - Invest in equipment and mobilize working capital
  - Income-generating, which can potentially be very substantial
  - Watch video: These guys are extremely liquid!

Limited documented evidence until relatively recently but a clear surge in interest in recent years and more studies coming out

What are we learning?

- **RCT in Cambodia (Id Insights)**
  - 30 groups, randomly assigned to “cash” vs “credit” payment
  - Offering MF loans for latrines dramatically increased uptake of latrines (12% to 50% WTP),
  - Reduced distribution costs per latrine sold (70% reduction in distribution costs due to higher sales per village visit)

See: http://idinsight.org/project/the-impact-of-microfinance-loans-on-sanitary-latrine-sales-in-rural-cambodia/

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Vietnam Sanitation Revolving Fund

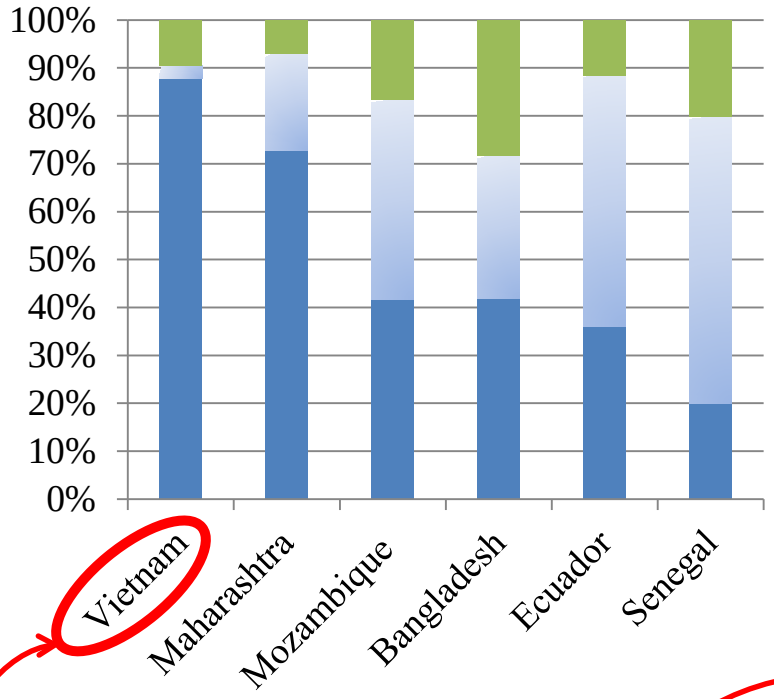
SRF component in WB-financed sanitation project (2001)

- Loans to low-income households to build sanitation facilities in urban areas
  - Small loans (average USD 145, covering 65% of investment costs), 24-month period, subsidized interest rate (< 6% yearly)
  - Managed by well-established MFI (Women's Union)
  - Savings-and-Credit groups established at neighborhood level
  - WB & other donors contributed USD 3mn in seed financing
  - Tagged to a broader project, with hygiene & demand promotion

- **Results**
  - Initial capital revolved more than twice in 3 years, then transferred to local municipality to be revolved further
  - Helped 200,000 households access sanitation in 7 years
  - 100% repayment rate
  - Leveraged private funds: up to 25 times the public funds provided initially
  - Since been rolled out through Vietnam Bank for Social Policy

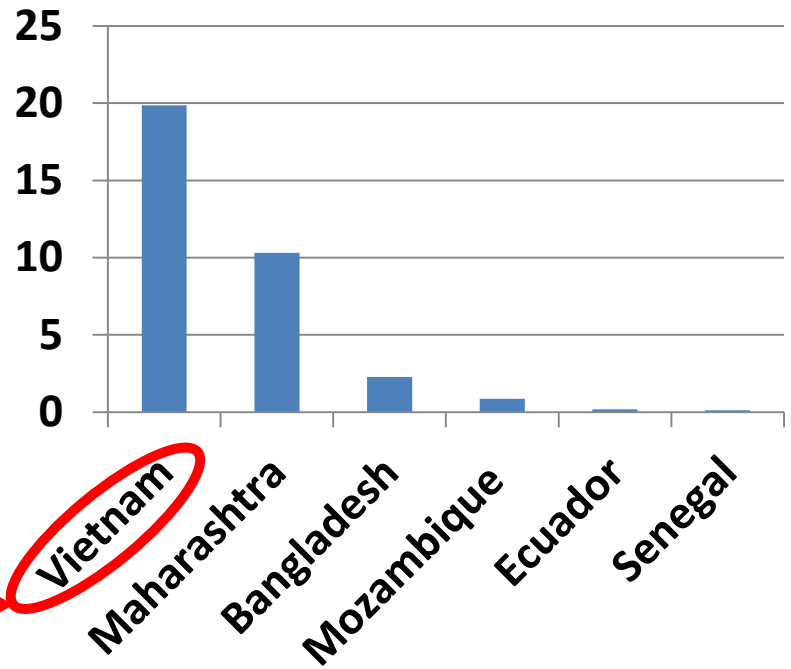
Maximising the leveraging effect

Sanitation financing model



Leverage ratio

$ private money invested/
$ public funds spent



Sanitation revolving fund

Source: Trémolet, Kolsky & Perez (2010) for WSP

Leading market: India

- **Microfinance is rapidly expanding in India, including for sanitation**
- By 2011: at least 146,000 toilet loans that enabled at least 730,000 people in India to build household sanitation facilities
- Toilet loans are provided by a range of institutions: NGOs, MFIs and non-banking financial companies
- Market development supported by international programmes: WaterCredit (water.org) or FINISH (Dutch-funded partnership)
- Many organisations started off as NGOs, but have set up separate microfinance organisations or have initiated the process
- Repayment rates have consistently been very high (above 98% and frequently at 100%)

See: http://www.tremolet.com/publications/evaluating-potential-microfinance-sanitation-india

Guardian, a dedicated WSS MFI

- First "**water and sanitation-focused" MFI** (spun-off from an NGO, Gramalaya) operating since 2008
- Still small-scale (1 district in Tamil Nadu - India) but **growing fast** (20,000 loans disbursed between 2008-2011, 60% for sanitation)
- Operating in rural areas and urban slums
- **"Toilet loans":** between USD 180 to 225, over 18 months, 18% yearly interest rate (reducing) + 3% charges
- Strong demand for toilet loans, **100% repayment rates**
- Recognize can only reach ~ 30-40% population in villages

- **Financial sources**
  - Grant support: ~ USD 165,000 (water.org) – 6% funding
  - Commercial funding: ~ USD 2.6 mn (local commercial bank, social investors incl. Acumen Fund and Milaap)
  - High "Leverage ratio" (16)

Microfinance for Sanitation

Country	Action	Outcome	Lesson Learned
Kenya	Maji ni Maisha project used an output-based aid approach to leverage co-financing from a private commercial microfinance bank (K-Rep) to lend to a community owned small piped water project.	As of 2012, access had been expanded to 190,000. Estimated that every $1 invested yielded $3/4 in economic benefits.	• A conducive enabling environment is critical. • The use of financial instruments that mitigate credit risk were critical. The use of OBA and credit guarantees were instrumental in accessing commercial finance.
India	Water.org, under the WaterCredit program, began work with Grameen Koota, and NGO-MFI that provides water and sanitation loan products.	By the end of 2015, Grameen Koota had disbursed over 276,000 loans, which opened up over US$36 million worth of financing for WSS improvements.	• Sanitation loans have risk profiles comparable to other loans. • The poor are more willing to take loans if they have the option to pay more frequently and in small amounts
Cambodia	WSP launched a pilot with two MFIs – KREDIT and VisionFund - that offered a household loan product (there was an option to obtain an individual loan or join a group loan of 4-6 individuals).	At program close both MFIs achieved loan operating self-sufficiency ratios greater than 100 percent for the water and sanitation loan portfolio.	• Access to credit generates uptake in sanitation improvements. • A poor-inclusive application process is key for clients, as are dedicated loan officers. • Close partnership with MFIs and sanitation businesses are important.
Bangladesh	Sanitation marketing pilot program delivered through partnership with small sanitation businesses and two MFIs. Program facilitated financing to the entrepreneurs. A follow-up program about to start to provide an OBA subsidy to MFIs in Bangladesh to help MFIs develop sanitation products and extend their reach to poorer households.	Small businesses/entrepreneurs were able to finance expansion and development of a variety of latrine and superstructure models. There was a huge increase in the availability of low-cost sanitary products, at costs ranging from $40 -$200.	• Increasing availability of microfinance allows sanitation entrepreneurs to increase their profits margins and sustainability, and in turn expand offerings. • For poor households it allows them to invest in improved products by reducing households' cash constraints by spreading repayment over time, which makes investment in improved sanitation more affordable overall.

http://wsp.org/sites/wsp.org/files/publications/WSP-Waterdotorg-Financing-WASH-for-the-Poor-Microfinance.pdf

Leveraging commercial finance: the role of blended finance

Blended finance is the strategic use of development finance and grants to mobilize private capital flows to emerging and frontier markets, by mitigating risk and/or ensuring commercial risk adjusted returns.

Leverage	• Use of development finance to attract private capital into deals
Impact	• Investments that drive social, environmental, and economic progress
Returns	• Financial returns for private investors in line with market expectations, based on real and perceived risks

Source: OCDE, Blended Finance Vol 1, 2015.

Blended finance can help leverage additional funds for the sector and reduce borrowing costs compared to a fully commercial arrangement thus accommodating affordability and/or political constraints.

Using Blended Finance

Blended Finance

Domestic Commercial Finance
US$ 10m, 15%, 8 Years

Domestic commercial finance can reduce the cost of mitigating the foreign exchange risk

World Bank/IBRD Lending
US$ 40m, 3%, 20 Years

Total financing of US$50m - Average cost of capital for years 1-8 of 5.4% and 3% for the remaining 12 year period

How can concessional financing be used?

Use of concessional financing instruments to leverage commercial financing		
Grants / subsidies	**Concessional loans / Equity participation**	**Credit enhancements**
• **Capacity-building and training** on supply and demand side of financing equation • **Technical assistance** to sensitize banks to market opportunities, to assess water investment projects, structure transactions • Training of borrowers and **project preparation, shadow credit ratings** • Support **water sector pooling** / grouping to access larger commercial finance providers • **RBF / OBA subsidies**	• Provide **liquidity** to commercial finance providers • Blend concessional with commercial finance to **soften lending terms** • "First loss" agreements • Take **equity participations**, at below market-rate return expectations ("patient capital")	• **Guarantees:** reduce risk perception, leading to lower interest rates and longer tenors • **Revenue intercepts**, escrow accounts: to secure access to funds and reduce risk of non-payment

Potential uses of Results-Based Financing

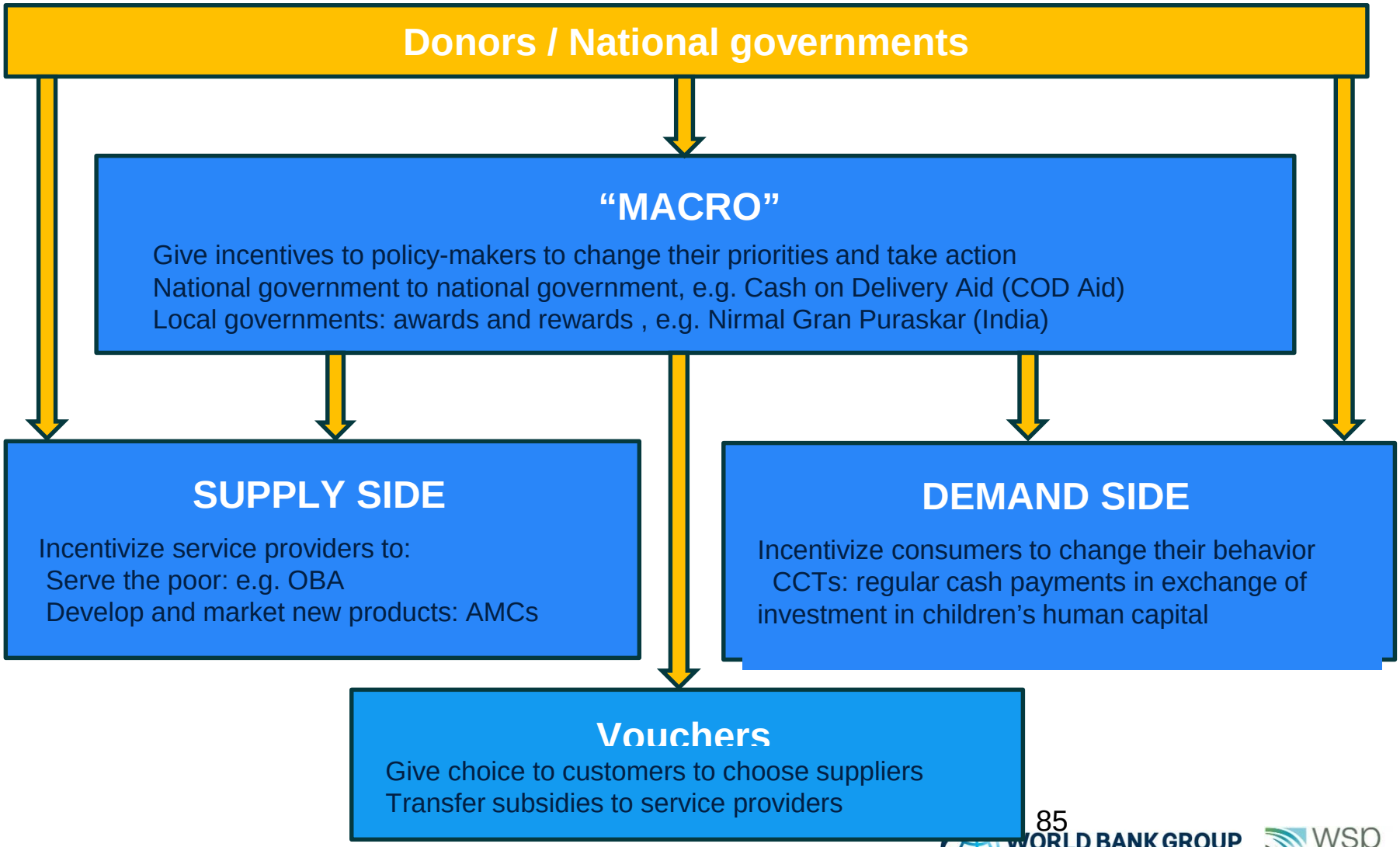
What is RBF?

- Tie the disbursement of public funding to the delivery of pre-agreed targets following verification
- Broad range of financing instruments

RBF has been used extensively in related sectors, such as health, education and water… less so in sanitation

- Health & education: good experiences but track record is limited and mixed
- Seems that has worked well to influence short-term behaviour changes but only few rigorous evaluations
- Water (and sanitation): focus (so far) has been on OBA subsidies for connections in poor areas

RBF potential instruments



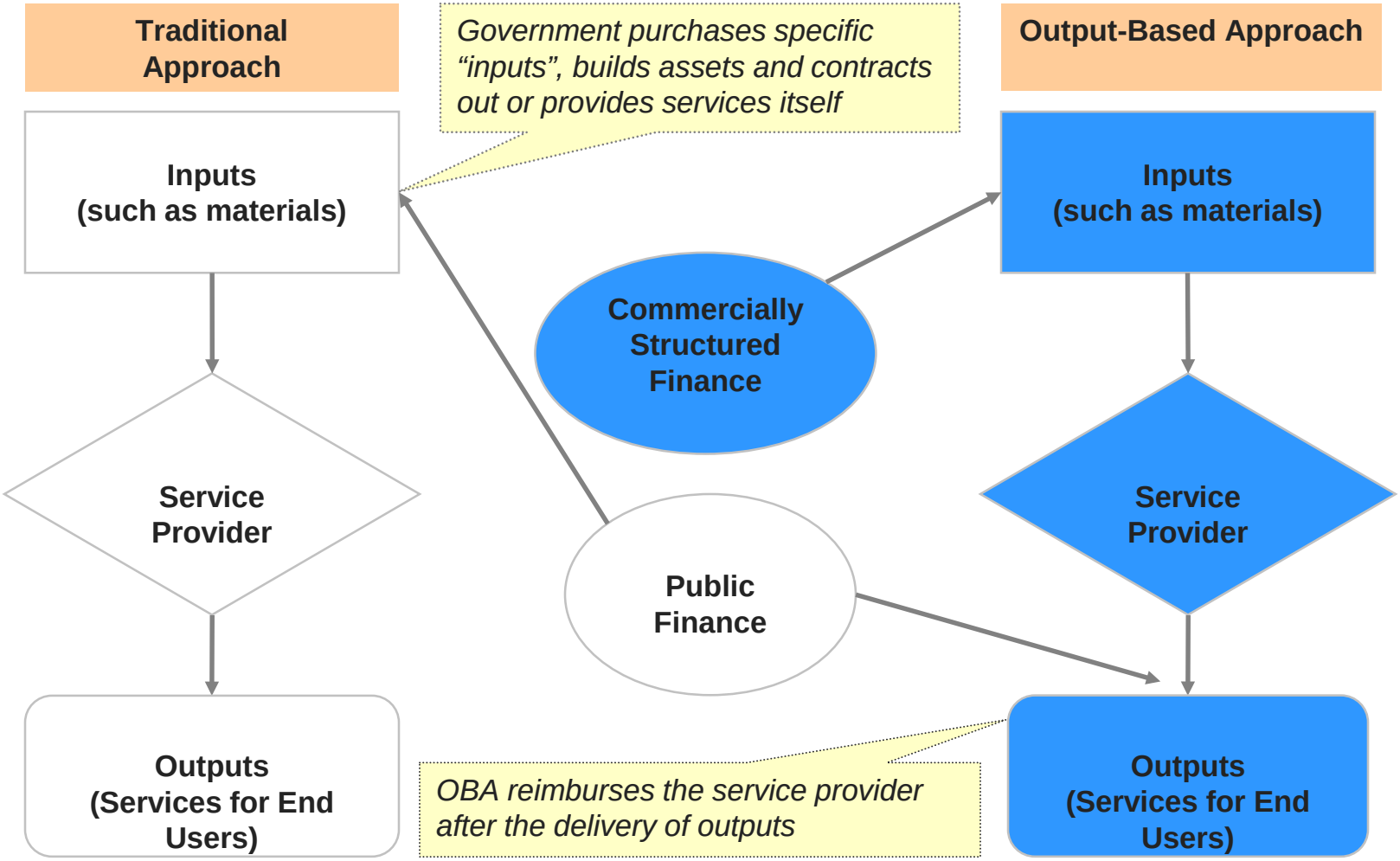
What is OBA?

- **Targeted performance-based grants** to help cover the gap between what the user can afford and the cost to the provider
- OBA "payments" to service providers **after pre-identified outputs have been delivered and verified independently**

Potential advantages

- Subsidy granted to a third party for specific and quantifiable objectives
- Full amount paid only once these objectives (or results) have been met
- Need for subsidy assessed on the basis of demand, costs and social benefits
- Reduced amount of subsidy as competitive pressure gives operators an incentive to keep costs down (for the same quality)
- Subsidy helps private funds to be raised : "leverage effect"

How OBA differs



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Common design issues for RBF/OBA

Identification phase

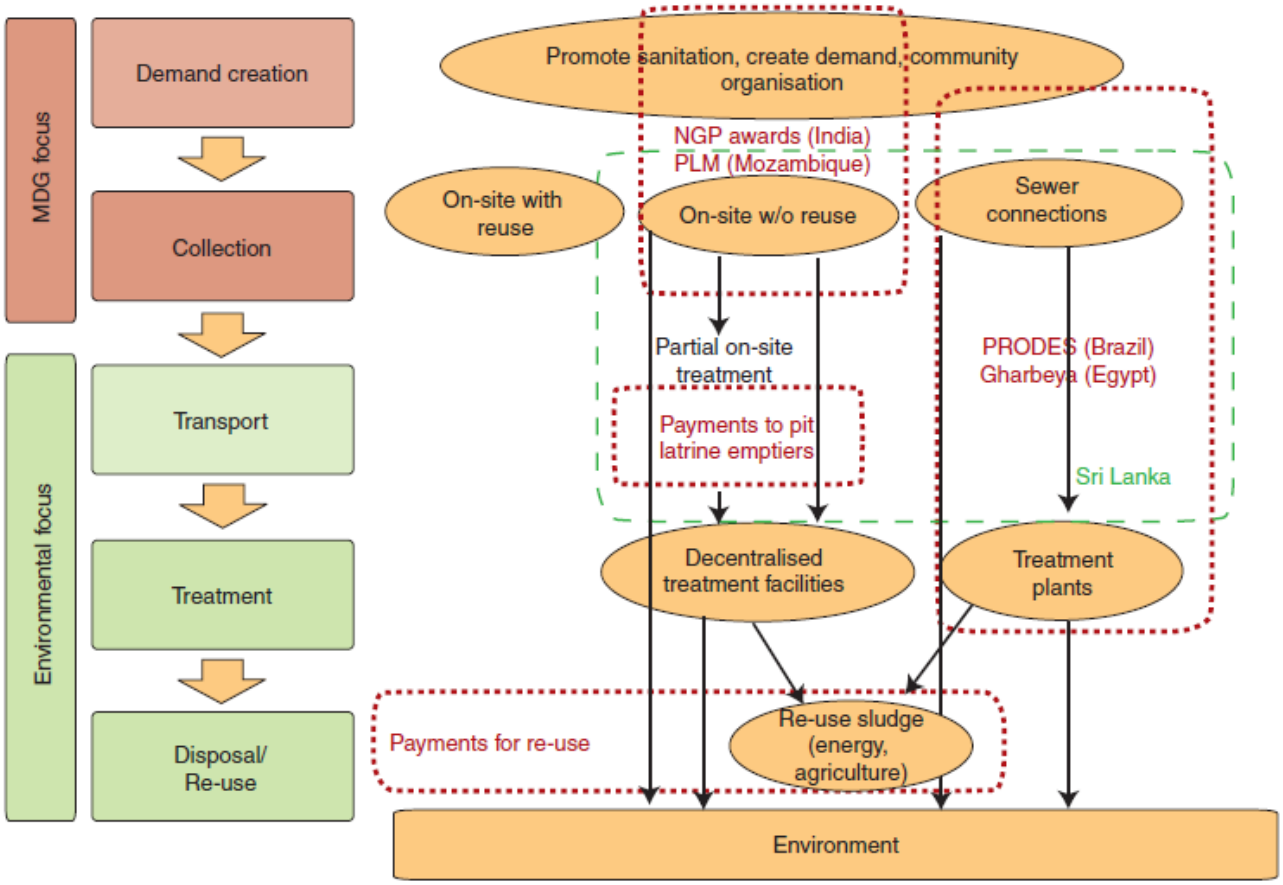
- Define the objectives
- Evaluate applicability of RBF

Design phase

- Identify which entity needs to be incentivized to deliver the objectives
- Evaluate how much risk can be transferred to the entity being incentivized
- Define the payment trigger
- Input, output, outcome?
- Performance verification mechanisms
- Define payment amount and payment schedule
- Fund transfer mechanism

Potential use of OBA for sanitation

Figure 1: Potential packaging of OBA financing across the sanitation value chain



https://www.wsp.org/sites/wsp.org/files/publications/WSP_OBA_sanitation.pdf

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OBA for sanitation: examples of services & output indicators

Value chain	Services	Output indicators
Demand promotion	Sanitation marketing	Number of households who build/rehabilitate a latrine following demand promotion
	Social mobilisation, triggering	Number of villages/communities becoming ODF
Collection/access	Build on-site sanitation facilities	Number of facilities built and still operating x-month down the line
	Build and operate public toilets	Number of toilet blocks in disadvantaged areas (used/paid for)
Transport	Transport pit waste to designated points	Volume of waste transported to and disposed in designated locations
	Build and operate transfer stations	Number of transfer stations built and in function x-year down the line
Treatment	Build, maintain and operate WWT plants	Volume of waste collected and treated to required standard
Disposal/reuse	Build and maintain biogas facilities	Volume of productive agricultural input generated and sold to farmers

Further information: recent publications

Achieving Universal Access to Water and Sanitation by 2030: The Role of Blended Finance

http://wsp.org/sites/wsp.org/files/publications/WSS-Blended-Finance-Paper.pdf

Blended Finance Case Studies

http://wsp.org/sites/wsp.org/files/publications/WSS-9-Case-Studies-Blended-Finance.pdf

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Session F4

Making it happen: examples of blended finance for sanitation

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Session outline: practical case studies

- Microfinance for rural sanitation in Bangladesh
  - Rokeya Ahmed, WB Bangladesh
- Revolving fund for sanitation in Uruguay and Bolivia
  - Zael Sanz, WB
- Revolving fund for sanitation in Accra, Ghana
  - Henrietta Osei-Tutu, EHSD/MLGRD Ghana

Bangladesh: Market-based approach to sanitation improvements

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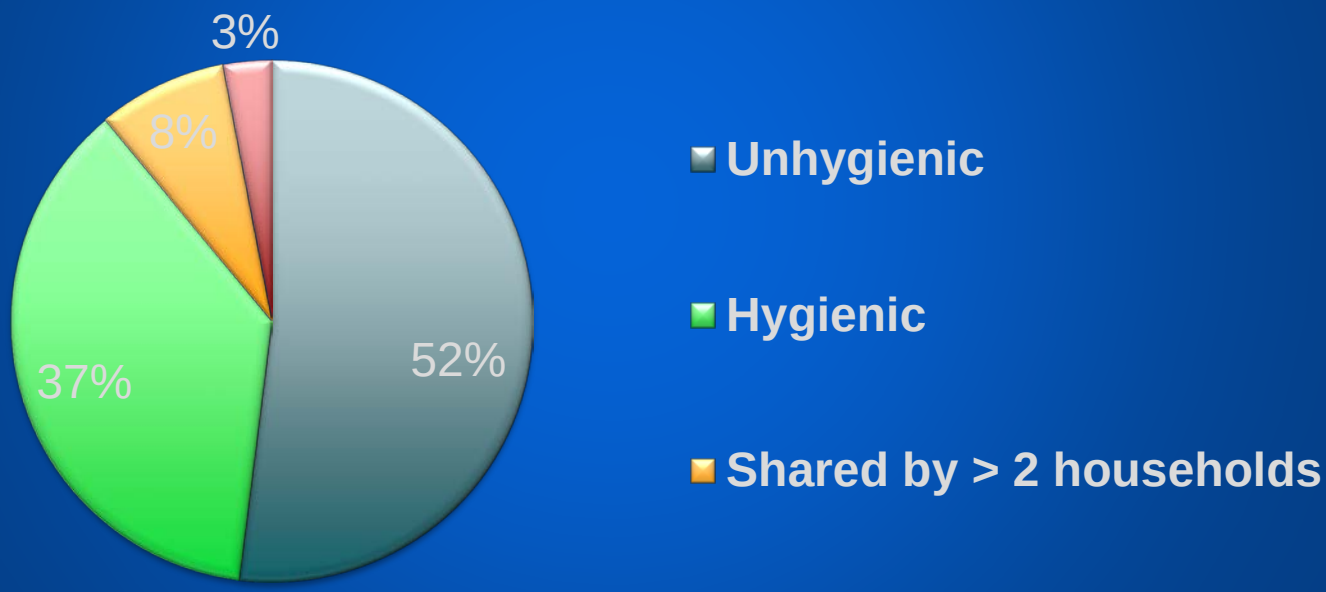
Context

99% people have access to toilets but



And
56% latrines are unclean

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Change with results

key interventions

Banking the 'Un-banked

New Business Models to Serve the Poor

Partnership in Non-Traditional Markets; Private sector, MFIs and Government

Hygienic toilet

Fixed-place defecation

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Capacity Development of Local Entrepreneurs



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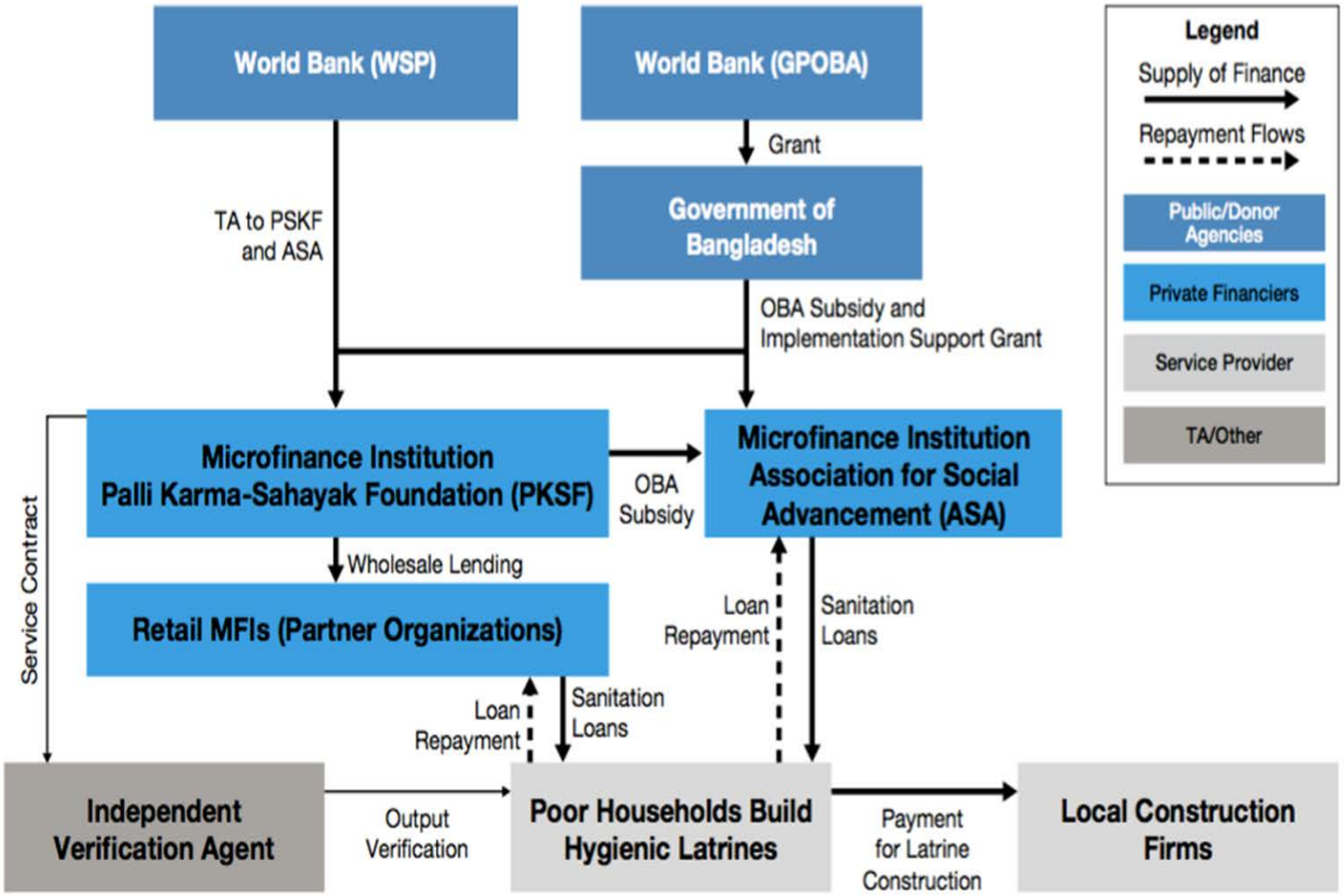
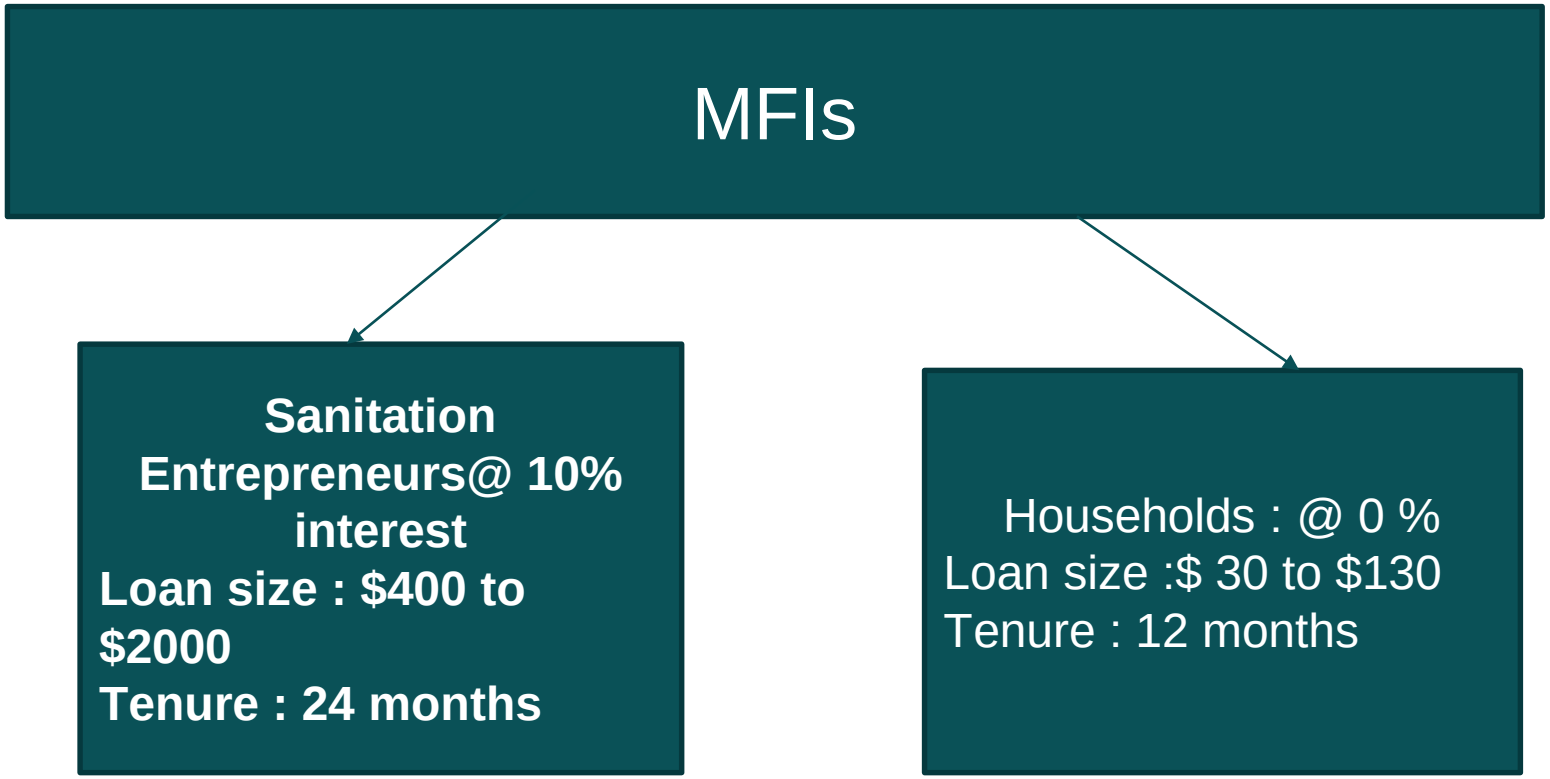
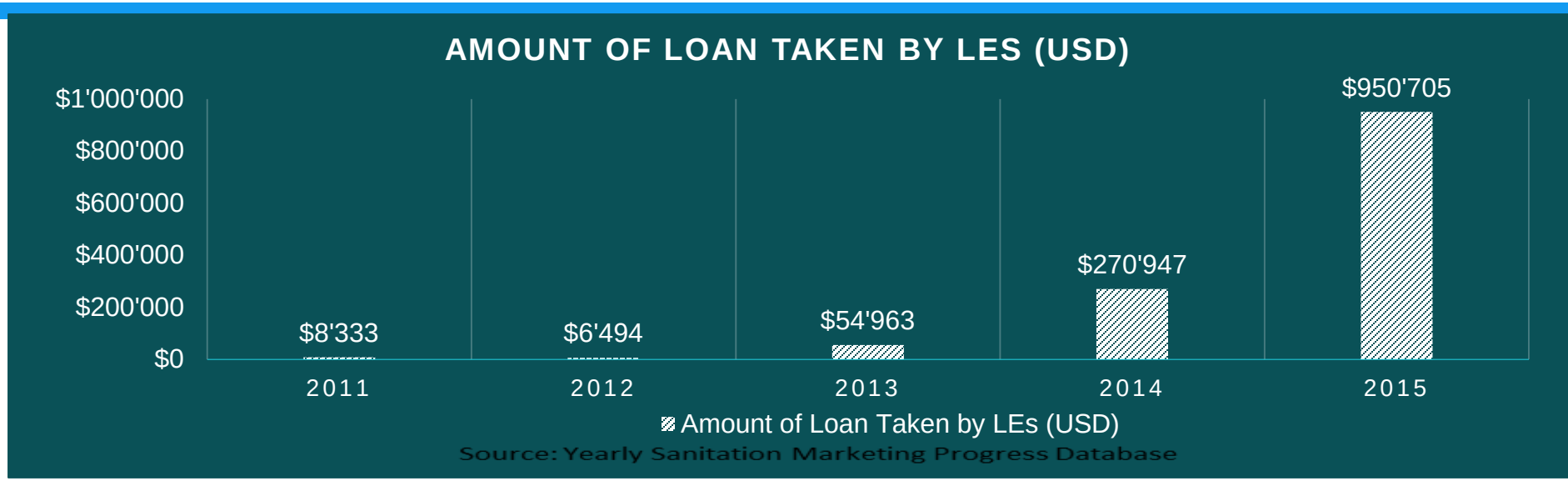
Innovative Financing

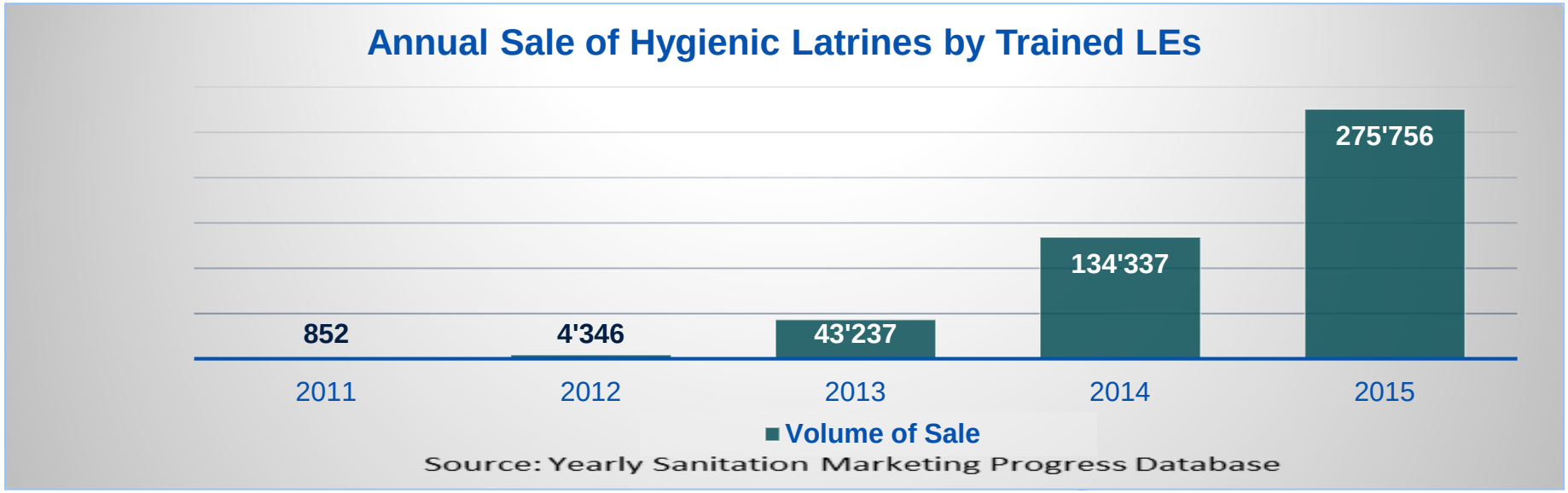


Financing Sanitation : MFI

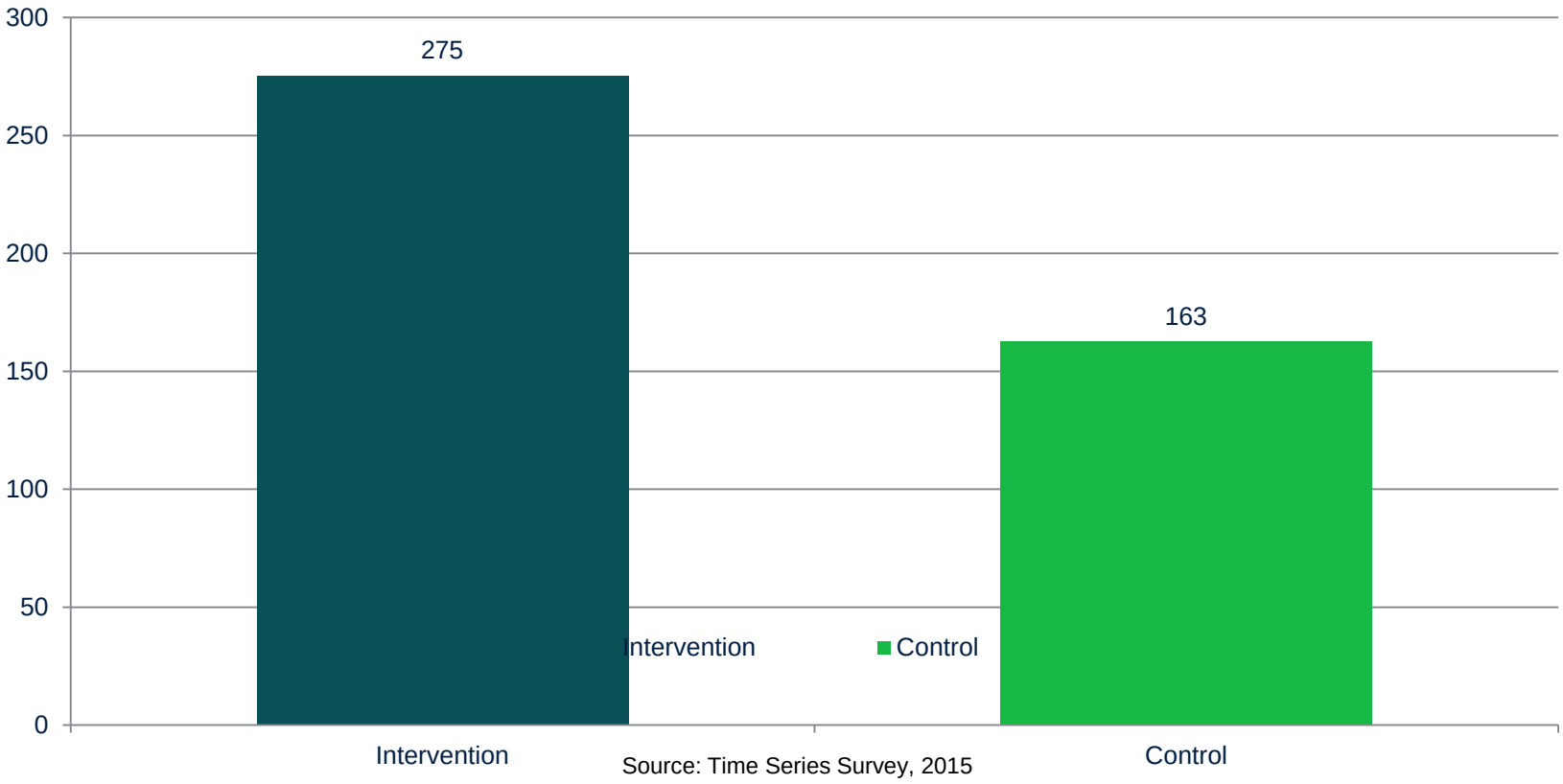


Business growth





Business Growth



Source: Time Series Survey, 2015

Revolving Funds for sanitation in Uruguay and Bolivia

Presentation by Lizmara Kirchner & Zael Sanz

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What has been done in Uruguay

Eligibility

- Property value < USD 17,000
- Sewered areas

Conditions:

- Up to USD 2,700
- 5 years repayment period
- 0 % interest rate. CPI adjustments
- 60% advance & 40% at connection
- Utility to validate estimate
- No sewer connection fee

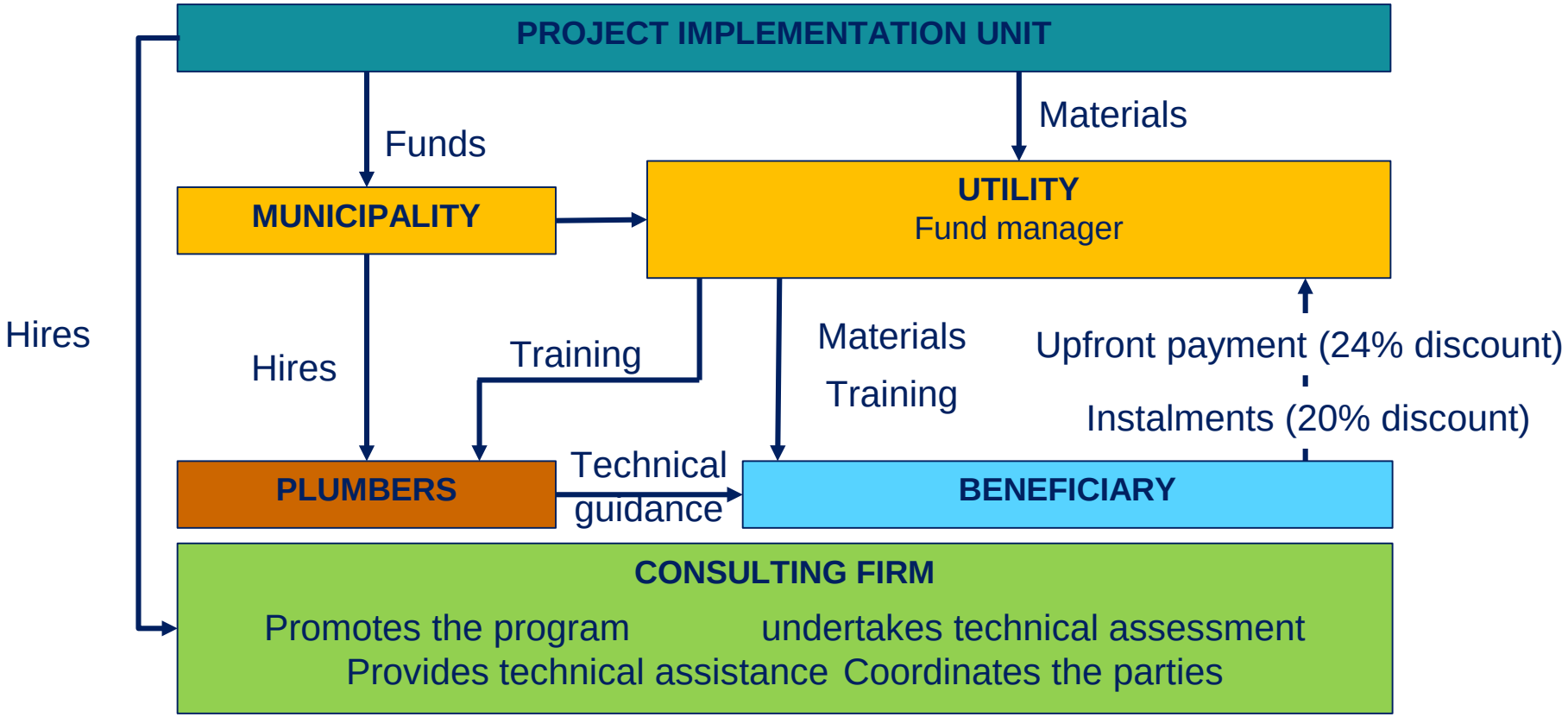
Materials bank

NO DEMAND CREATION ACTIVITIES

NO EFFORTS TO REDUCE TRANSACTION COSTS

What is planned in Bolivia

Pipe, fittings and fixtures promotional prices and revolving fund



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Financing Household Toilets in Low Income Urban Areas in Accra, Ghana

Henrietta Osei-Tutu, EHSD/MLGRD Ghana
Sanyu Lutalo, World Bank
Durban, 8th December 2016

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Outline

- Context
- Major Challenges with Financing
- Financing Mechanism
- The Revolving Fund
- Some issues for discussion

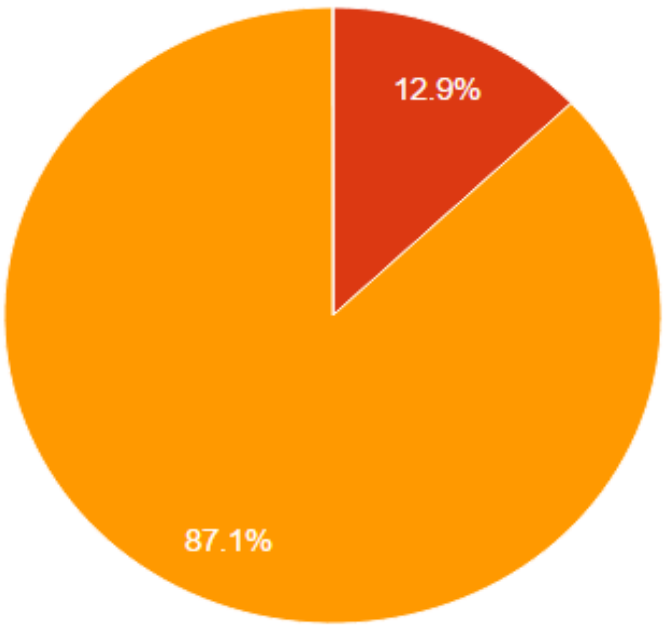
CONTEXT: GREATER ACCRA METROPOLITAN AREA (GAMA) SANITATION AND WATER PROJECT

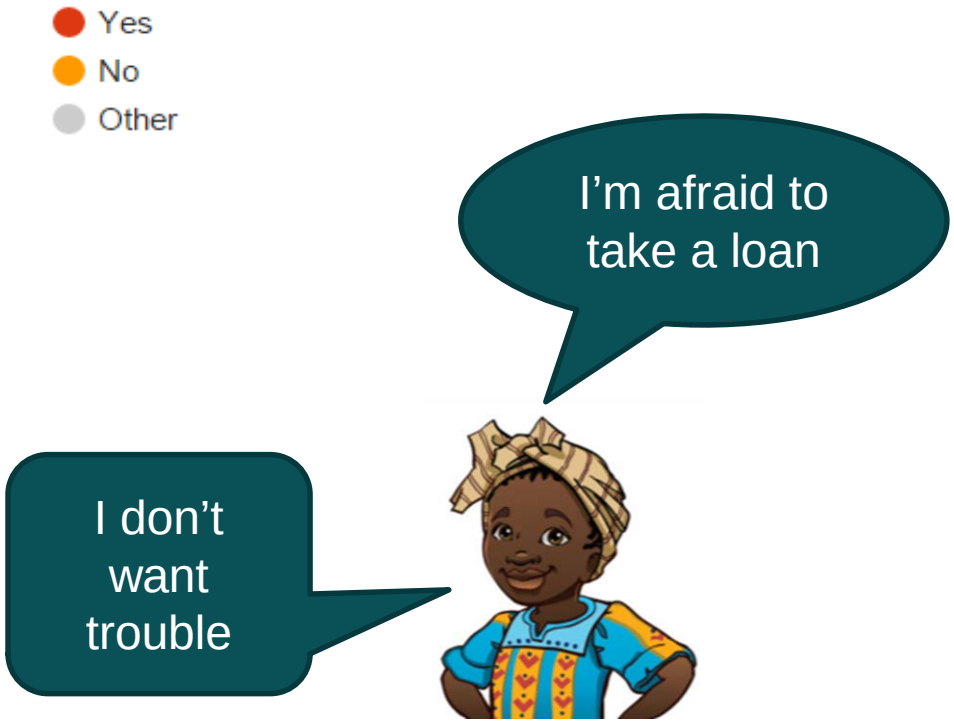
- **Project Objectives**
  - Increase access to improved sanitation and water supply in GAMA, with emphasis on low income urban communities
  - Strengthen the management of environmental sanitation in GAMA
- **Project value:**
  - USD 150 Million IDA grant
  - USD 4.85 Million GPOBA grant
- **Target Beneficiaries**
  - At least 250,000 people living in low income communities within GAMA, who will gain access to improved sanitation and water services
  - 6,600 toilets for GPOBA and 12,500 toilets for IDA

MAJOR CHALLENGES WITH HH SANITATION FINANCING

- High Cost of Toilet (between USD 1000 to 1500)
- Most poor households live in rented accommodation and have to rely on landlords for toilet facility or patronise public toilets
- An average amount of GHC15 (USD 4) per week is spent on public toilet usage per HH which translates into GHC780 (USD195) annually
- Revenue from public toilet patronage is estimated at USD 400 million for year 2015 (WHO/Trackfin)
- Willingness to pay but questionable ability for many
- Interest from MFIs to lend for sanitation purposes is limited due to high perceived risk
- High interest rates for credit (between 28 - 60% per annum)

Are you willing to take a loan for toilet??





- Willingness of HH to take loans for toilet construction was limited
- Households had more interest in paying in instalments or saving up towards toilet facility

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Potential financing mechanisms

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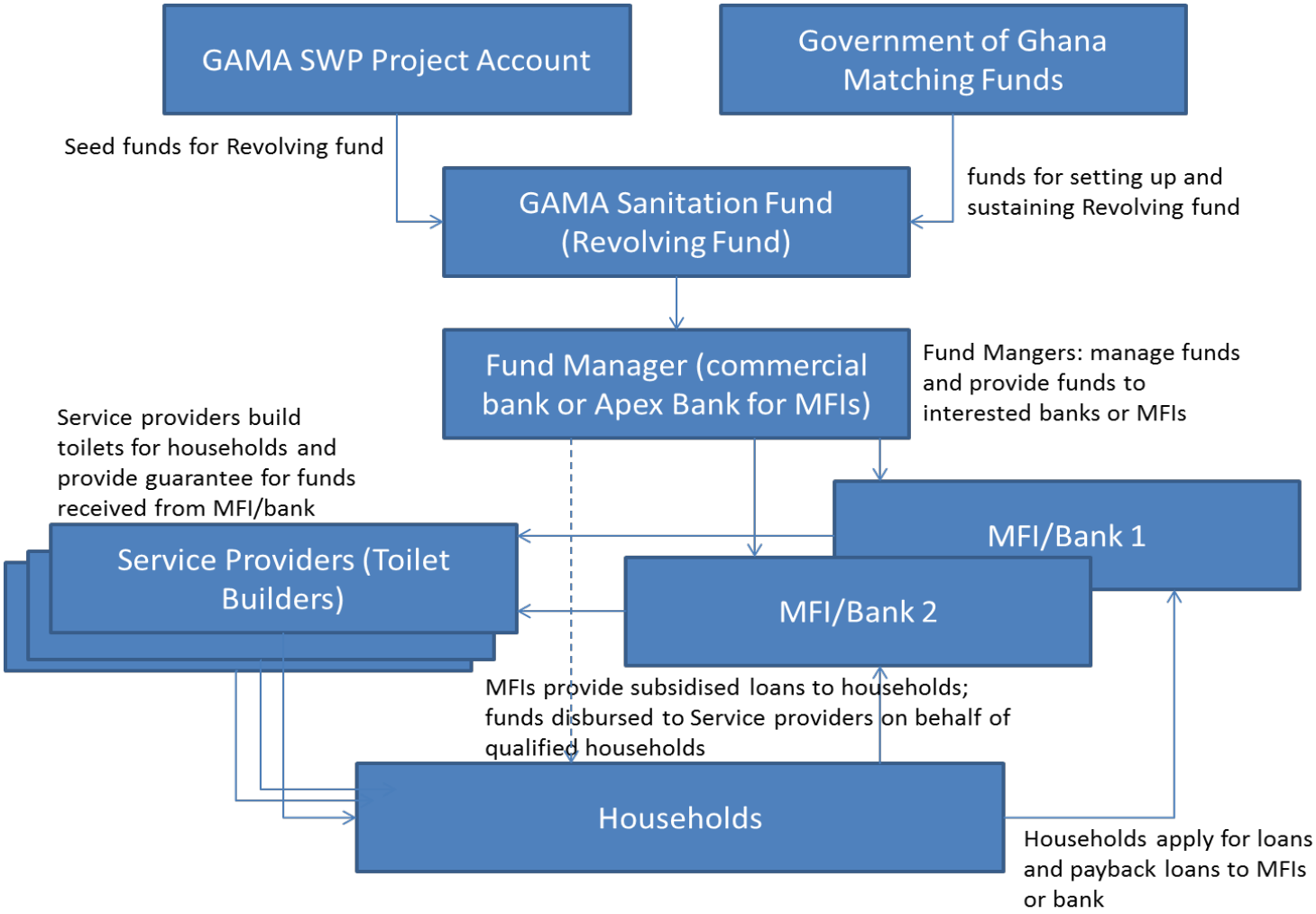
Structure of Revolving Fund



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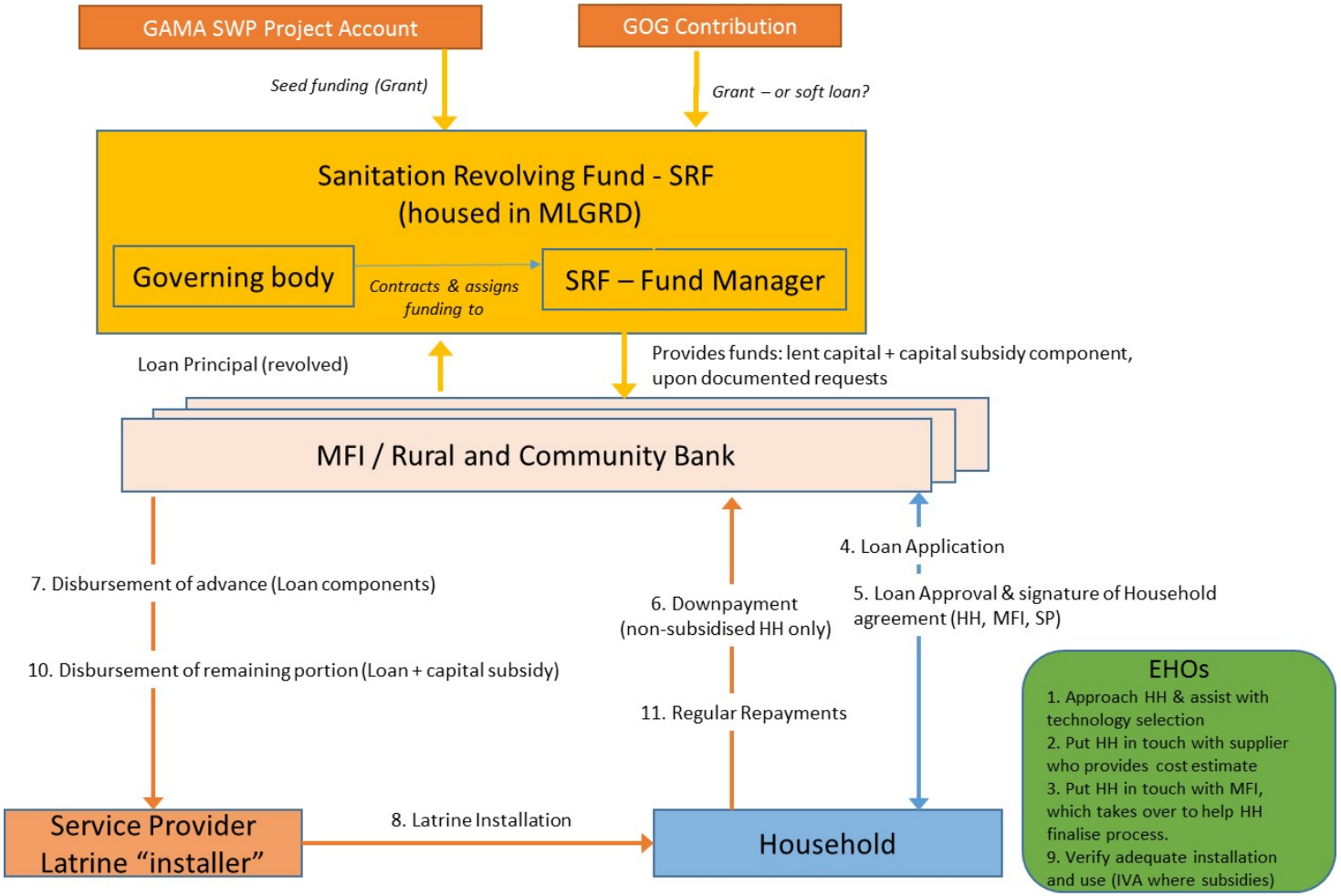
Discussion: potential application in Accra



Some issues for discussion

- Recovery rate and mechanism for funds
- Arrangements for Fund Management: i.e., as an entity, unit, integrated into an agency, etc.?
- Other fiduciary issues: procurement, FM etc
- Risks to be aware of and appropriate mitigation measures
- Alignment of IDA and GPOBA financed toilets: level of subsidy, etc.
- Experiences from elsewhere ?

Group discussions

- Form groups of [5 to 7] people
- Agree on one city location where the potential for leveraging commercial finance via blending could be further explored. Discuss:
  - What type of financing is needed: by whom & for what?
  - What type of commercial finance would be appropriate?
  - What are challenges for mobilizing commercial finance?
  - How can such challenges be addressed: through which type of blended instrument?

Take-away messages

The "financing" issues raises different challenges for sanitation than for water

- More expectations that households will pay
- But households are less willing-to-pay
- Need to invest in behaviour change at all levels: households, service providers, governments
- Some "public good" investments are still required (e.g. transfer stations, treatment units, simplified sewerage)
- Innovative financing tools can help with achieving these objectives and be incorporated into programme design