City-wide inclusive sanitation

WaterAid's experience

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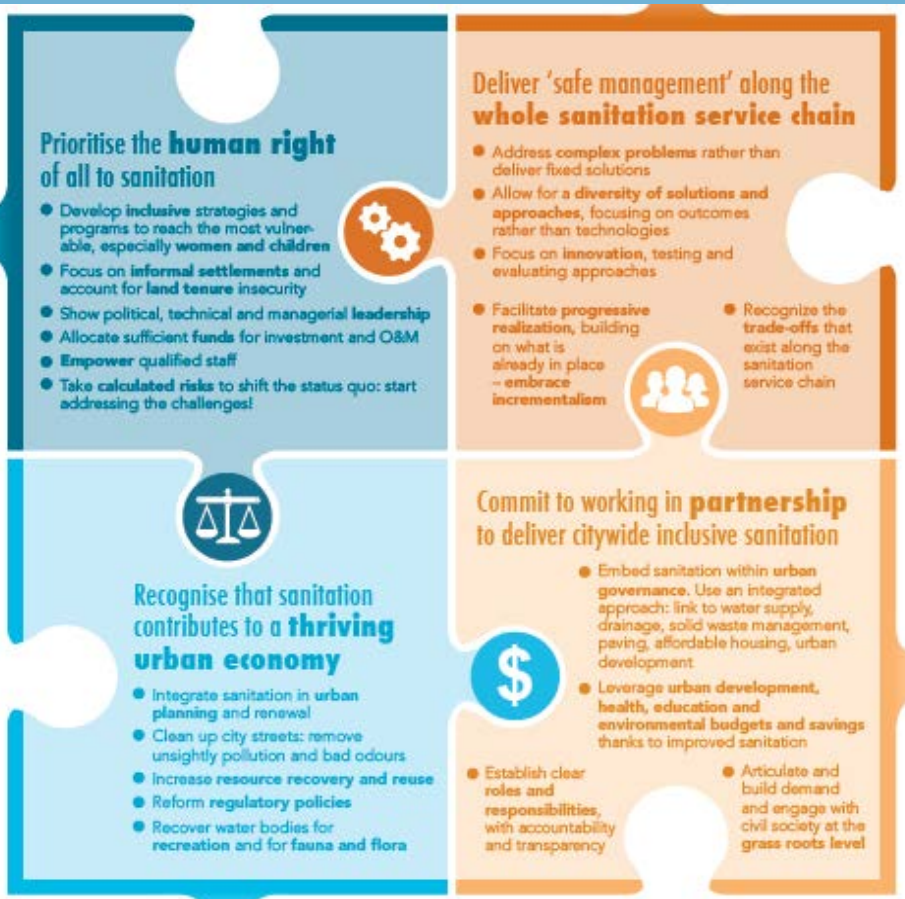
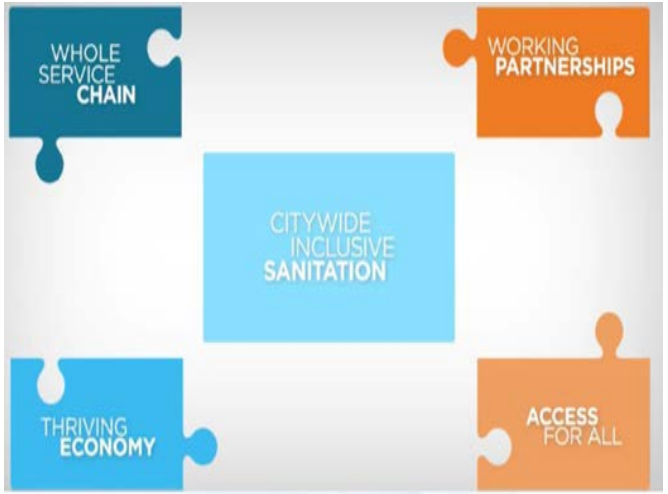
City-Wide Inclusive Sanitation

1. WaterAid’s framing of CWIS
2. Town-wide model in Sakhipur
3. Working conditions of sanitation workers
4. Functionality of wastewater treatment investments

CWIS – Four principles





CWIS – Four principles

Access for all: universal access, informal settlement, women and girls, O&M...

Whole service chain: deliver ‘safe management’, diversity of solutions (on- and off-site), incrementalism, reuse

Thriving economy: position sanitation as vital for economy, planning, reform, political will

Working partnerships: complementary services, governance, participation

CWIS – our approach

Part of the group of organisations promoting CWIS

CWIS = good urban sanitation

“Opportunistic” use of the term based on context and situation.

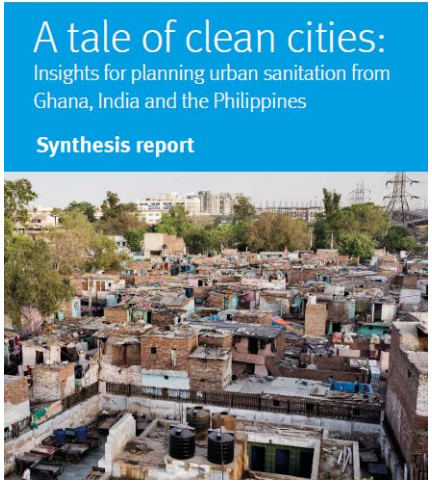
Useful to interrogate our plans and programmes

Useful for advocacy (legitimacy) with donors, governments, partners, etc.

CWIS work - planning

A tale of clean cities

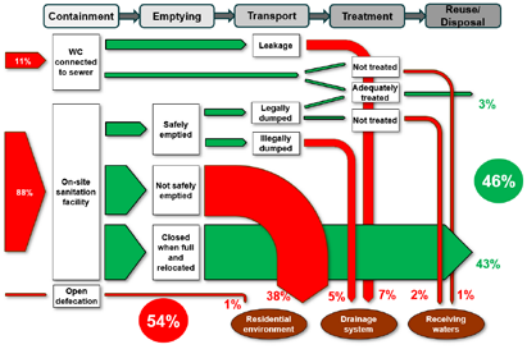
Research project looking for key drivers of success in cities with proven progress



https://washmatters.wateraid.org/publications/a-tale-of-clean-cities-insights-for-planning-urban-sanitation-from-ghana-india-and-the

Shit flow diagrams

Over 40 SFDs across many countries.



https://washmatters.wateraid.org/blog/three-things-we-have-learned-by-creating-shit-flow-diagrams

Cities of tomorrow in Tanzania

Formative research and participatory planning to inform co-production and implementation of a town-wide sanitation and hygiene master plan in Babati, Tanzania

https://www.wateraid.org/tz/cities-of-tomorrow-research-in-babati

CWIS work – Sector capacity

Entrepreneurs

Work in Tanzania with small entrepreneurs to empty pits, transport sludge and treat it

https://washmatters.wateraid.org/blog/learning-from-tanzanian-innovators

Utilities

WASH Operator Partnerships (WOPs), North - South (UK - Ethiopia, Nepal, Malawi) and South – South (Uganda – Zambia)

International Training Programme - Sustainable Urban Water and Sanitation (ITP- SUWAS)

https://www.niras.com/development-consulting/international-training-programmes/sustainable-urban-water-and-sanitation-suwas/

CWIS work – inclusive sanitation

Female-friendly toilets public and community toilets – guide

Transgender-inclusive sanitation: insights from South Asia – paper

Limited services? The role of shared sanitation in the 2030 Agenda for Sustainable Development – editorial

Inclusive public toilets in Bangladesh - project

https://iwaponline.com/washdev/article/7/3/349/31612/Limited-services-The-role-of-shared-sanitation-in

https://washmatters.wateraid.org/female-friendly-toilets

https://washmatters.wateraid.org/publications/transgender-inclusive-sanitation-insights-from-south-asia

https://www.wateraid.org/bd/stories/public-toilets-in-the-city-a-scarcity-or-a-necessity

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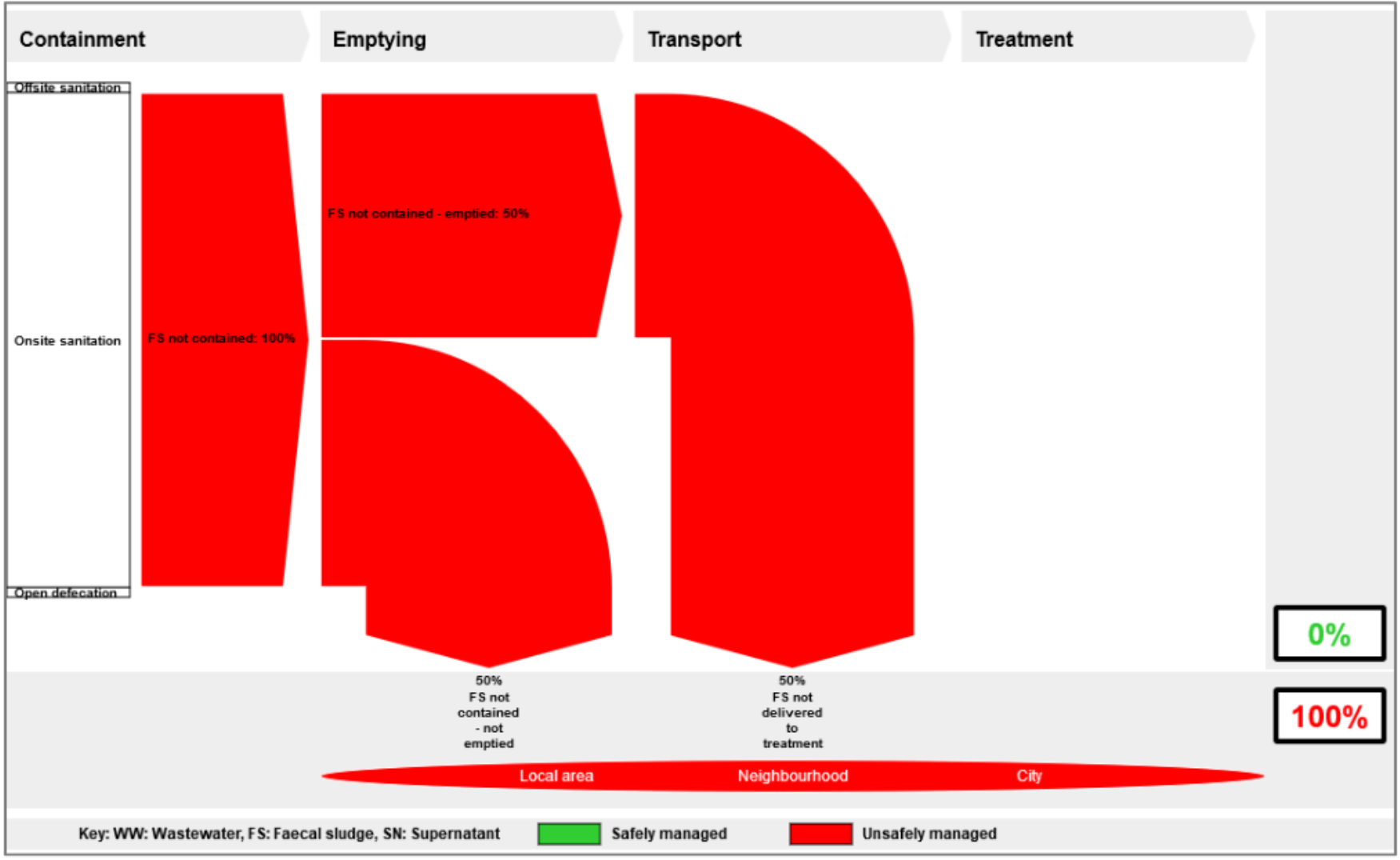
Sakhipur, Bangladesh


Containment
Emptying
Transport
Treatment
Offsite sanitation
Onsite sanitation
Open defecation
FS not contained: 100%
FS not contained - emptied: 50%
50% FS not contained - not emptied
50% FS not delivered to treatment
Local area
Neighbourhood
City
0%
100%
Key: WW: Wastewater, FS: Faecal sludge, SN: Supernatant
Safely managed
Unsafely managed

Sakhipur – whole chain project

Whole chain intervention:

- Vacutug pit emptying
- FSTP unplanted drying beds and co-composting plant
- Sale of compost to farms

Town-wide:

- Getting politicians motivated
- Excellent technical support by local partner
- Vision towards 100% safely managed sanitation.

Sanitation as a service:

- Get it into municipal budget – slow but critical, needs more national advocacy.

Circular economy:

- Work backwards (look at needs from farmers)
- Partnership with Agricultural Extension Department.

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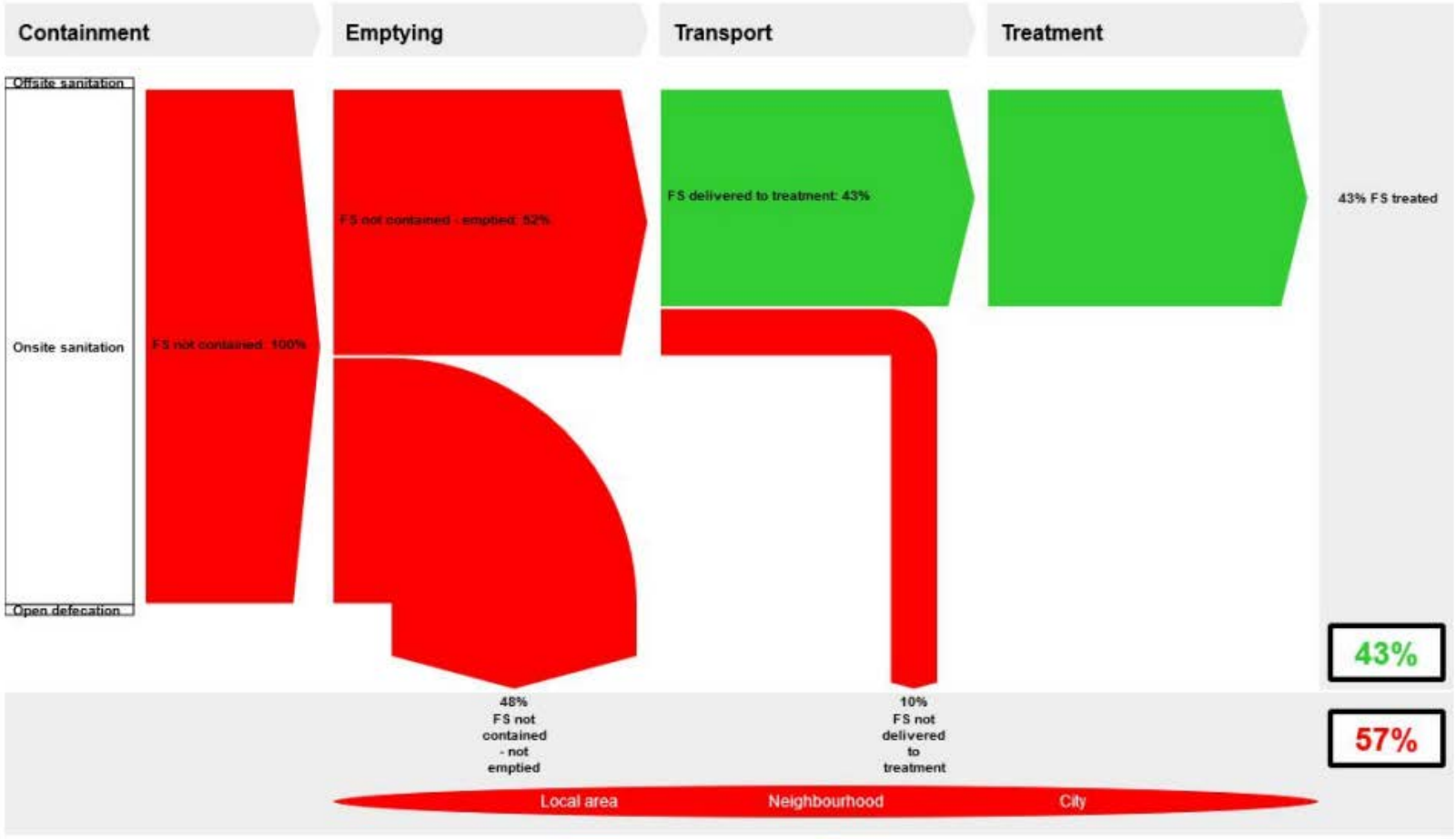
Sakhipur, Tangail, Bangladesh
Version: Reviewed
SFD Level: 2 - Intermediate SFD

Date prepared: 24 Nov 2018
Prepared by: WaterAid Bangladesh



Key: WW: Wastewater, FS: Faecal sludge, SN: Supernatant Safely managed Unsafely managed

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Health, safety and dignity of sanitation workers

WORLD BANK GROUP

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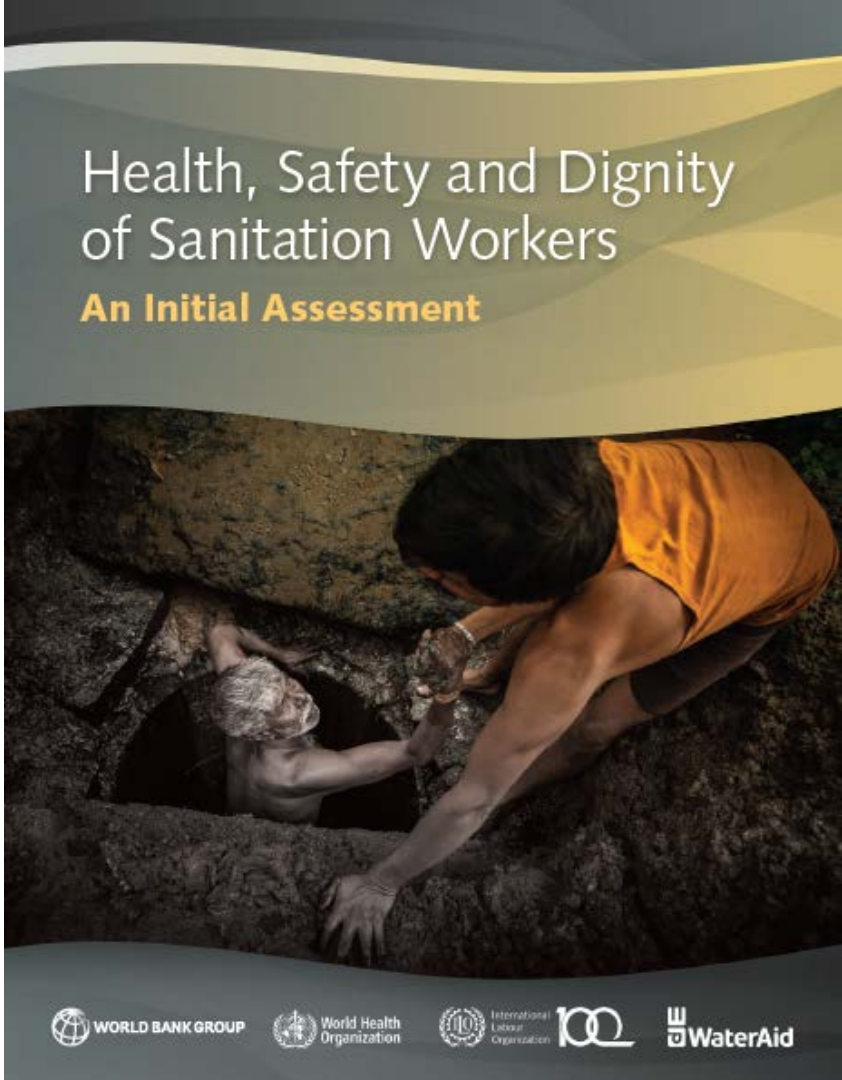
World Health Organization

International Labour Organization



https://washmatters.wateraid.org/publications/health-safety-and-dignity-of-sanitation-workers

Sanitation Workers

Interface/Containment → Emptying → Conveyance → Treatment → End-use/ Disposal

Sweeping
Latrine cleaning
Domestic work
Community/public toilet keeping
School toilet cleaning
Municipalities, government and private offices cleaning

Manual emptying
Fecal sludge handling
Mechanical emptying (septic tank desludging)

Manual transport
Mechanical transport
Sewer cleaning
Sewer maintenance
Manhole cleaning

Treatment plant work
Sewage treatment plant cleaning

Manual Disposal

Main Findings: Challenges and risks

Dimensions

Social	Financial	Legal and Institutional	Health and Safety
- Stigma, persecution and discrimination - Low-profile: not to be known in their society as manual pit emptiers	- Poor pay - Job insecurity - No employee benefits or health insurance - Difficulties to invest in protective gear and mechanization	- Lack of laws and regulations - Laws in place not implemented - Informality ! - No unions or associations	- Exposure to faecal pathogens, toxic gases and chemicals →illnesses, asphyxiation, death - Confined dark and unstable spaces, with hazardous waste → Physical injuries, death

Good practices

- Acknowledgement and formalization
- Addressing occupational and health risks (eg PPE, health services)
- Regulation and enforcement
- Associations and unions
- Alternative business opportunities

Action areas

- **Policy, legislative and regulatory reform:**
  To recognise the work of the sanitation workforce
  Planning the formalisation of sanitation work (social protection)
  Ending manual scavenging, and offering rehabilitation and alternative livelihoods for those affected, especially women.

#SanitationWorkers

Action areas

- **Development and adoption of operational guidelines**
  To mitigate the occupational risks
  With municipal level oversight and enforcement
  Embedding these into all urban sanitation programmes

Action areas

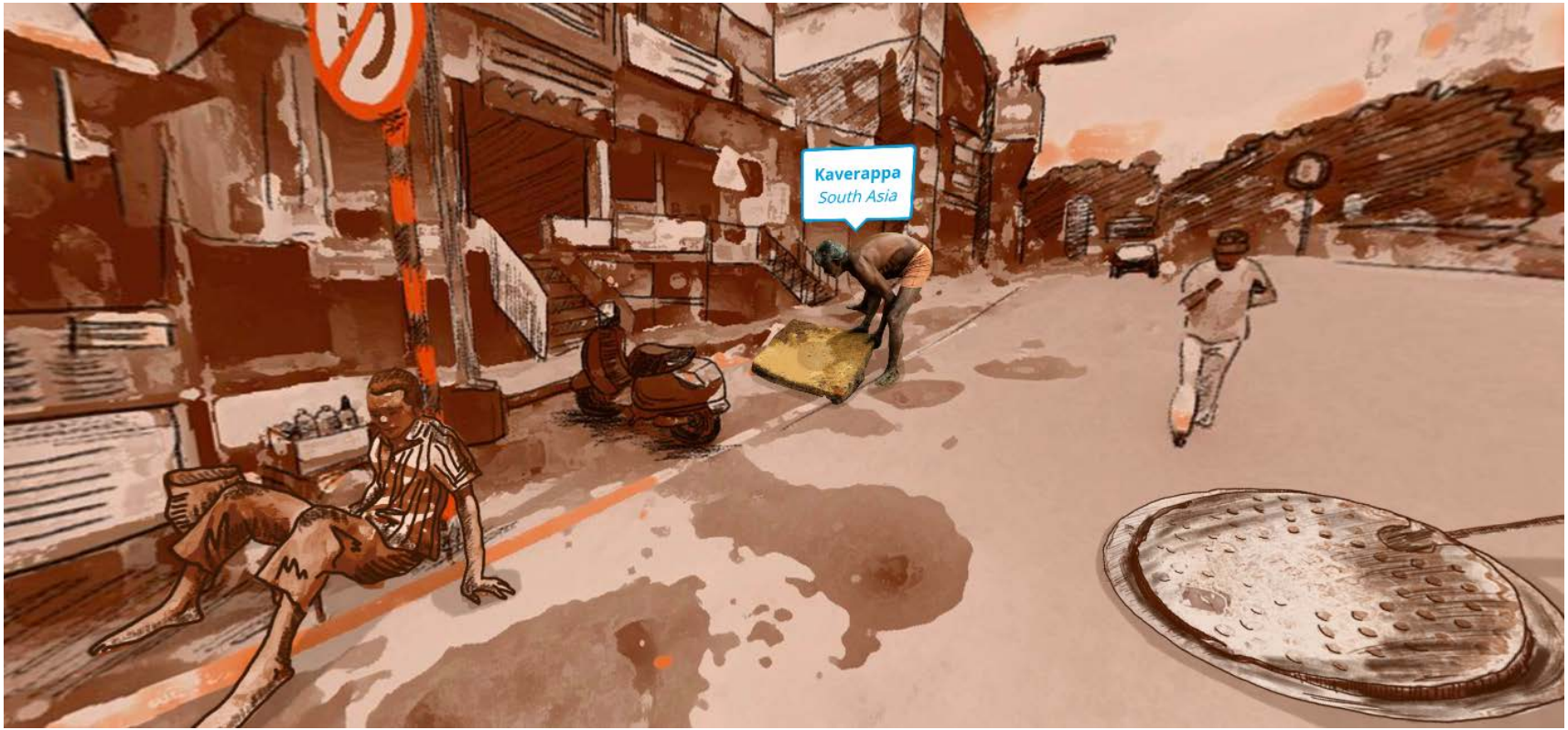
- **Advocacy and empowerment of sanitation workers**
  Supporting sanitation workers to organise and realise their rights, including through unions and associations

Action areas

- **Building the evidence base**
  Quantification and profiling of workforce
  Policy, regulatory and legal reform
  Institutional arrangements (contracting modes)
  Impact of interventions
  Parallels with other sectors
  Allies and stakeholders
  Gender dimensions

#SanitationWorkers

Online exhibition



https://sanitationwork.wateraid.org/

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In Islamabad, Pakistan, two activated sludge plants were in a poor condition and were refurbished with a €19 million loan from the French government in 2005, which also helped build an additional plant, under a design and build contract to the French company Veolia.

Broken sewer lines, which had been discharging wastewater into freshwater streams instead of the treatment plants, were not fixed, so only one plant continued to operate, and by 2016 it stopped working effectively.

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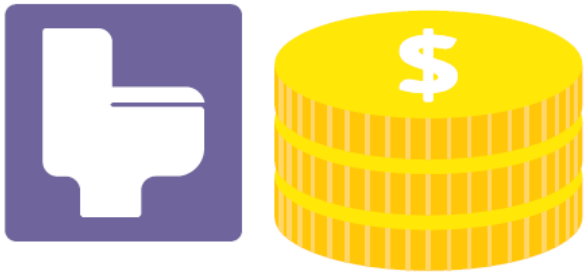
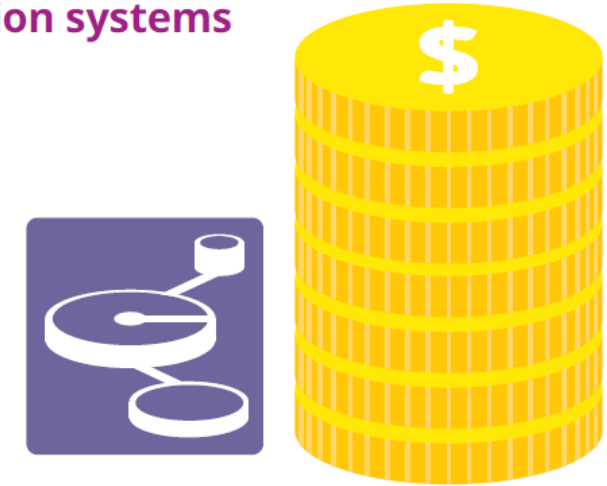
Aid to large sanitation systems > 1 billion USD a year

of WASH funds go to large sanitation systems



USD 506 million



USD 1,104 million

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Evidence of poor functionality and sustainability

Little detailed evidence published for low- and middle-income countries.

The review revealed many examples of WWTPs being built but never commissioned, taken off-line, and continually overloaded or underloaded. But can't answer how prevalent the problem is

Multi-plant studies (mixed quality and old!):

- In Mexico, 95% (of 194) WWTPs studied were not working.
- In Ghana, 80% (of 44) WWTPs were not working.
- In India, 54% (of 84) WWTPs were operating poorly or very poorly.
- In Vietnam, around 33% (of 17) WWTPs were substantially underloaded.
- In Brazil, most plants met effluent standards.

The causes

- Inadequate operations and maintenance (O&M) – eg switch off because electricity bill is too high
- Inappropriate technology choice and poor design (which increases the O&M difficulties)
- Underlying institutional constraints:
  - low political priority
  - lack of recurring finance
  - inadequate knowledge, skills and systems for O&M
- Donors' default approach is to fund new construction or rehabilitation, and often overlook institutional constraints (also outsider-led designs).

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Emerging sustainability efforts

Some donor support to institutional strengthening as part of WWTP investments:

- Establishing water operator partnerships (WOPs)
- Strengthening regulators
- Developing human resources capacity
- Public -Private-Partnerships (mixed results)
- Example: GIZ supported training in Vietnam ‘Skilled Employee for Wastewater Technology’

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Response needed

Governments and donors to approach urban sanitation in a more integrated way (whole sanitation service chain, on-site and off-site).

Design/technology choice to put emphasis on O&M and sustainability. Strengthening the capacity of local institutions + wider institutional reform.

Bilateral donors and development banks to:

- Better gather and share evidence on the sustainability of WWTPs they fund.
- Enable better-informed decision making from countries
- Ensure their operations address the underlying causes of the persistent poor functionality.

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