IRC's Faecal Waste Flow Calculator

A tool to calculate safely and unsafely managed faecal waste volumes along the entire sanitation service chain

The challenge

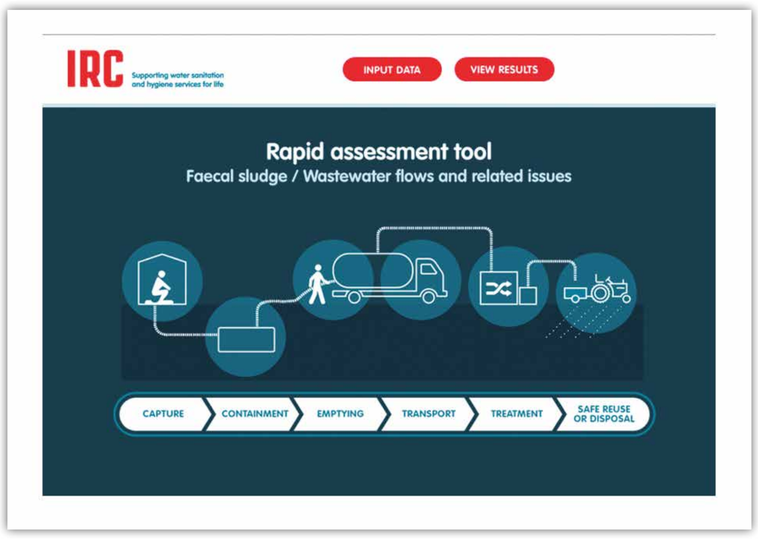
More than two billion people in urban areas use toilets connected to septic tanks or latrine pits that are not safely emptied or that discharge raw sewage into open drains or surface waters. With another 2.5 billion people expected to live in cities by 2050, authorities are facing huge challenges to keep up with the growing urban population.

Our solution

IRC has developed a tool to rapidly assess current sanitation conditions in urban locations. It helps city authorities to:

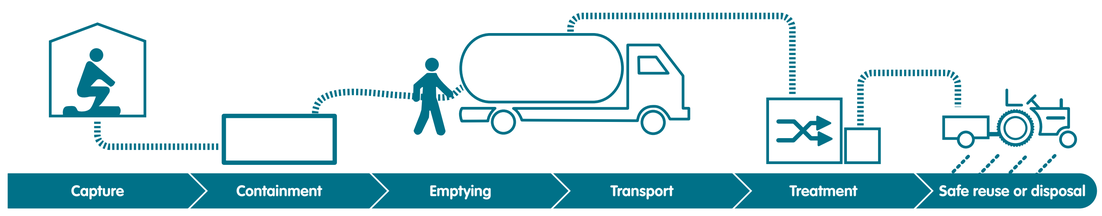
1. **Calculate total faecal waste as well as faecal sludge volumes** along the entire sanitation service chain. More specifically it does:
   - determine the proportions that are either safely or unsafely managed and thereby giving insight into the magnitude of the problem; and
   - identify the weakest link(s) along the chain where the biggest losses occur.

2. **Assess what needs to be in place** for environmentally safe sanitation service provision such as finance, institutional mandates, regulatory framework and so on.

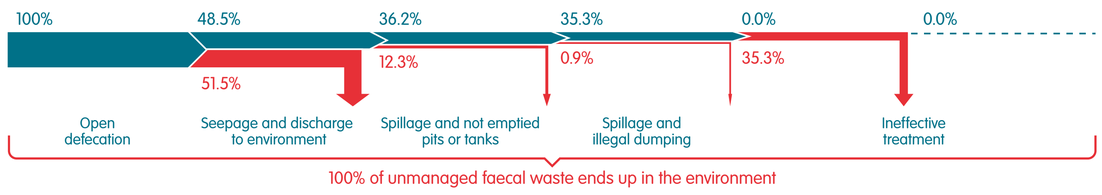


Homepage of the tool

The tool calculates the volumes of faecal waste lost between each of the links in the sanitation service chain.



Faecal sludge diagram



Summary of faecal waste flows

	Produced	Capture	Containment	Emptying	Transport	Treatment	Disposal	Reuse
Totals in m^3	1.771.475	1.771.475	1.771.375	859.100	641.625	625.175	625.000	175
Totals in %	100,0%	100,0%	100,0%	48,5%	36,2%	35,3%	35,3%	0,0%
Safe		100,0%	48,5%	36,2%	35,3%	0,0%	0,0%	0,0%
Unsafe		0,0%	51,5%	12,3%	0,9%	35,3%	35,3%	0,0%

Notes: NA = Not Available; N/A = Not Applicable

The tool analyses the availability of policies, strategies, plans and budgets, and the presence and enforcement of relevant legislation such as health and safety with the help of specific scorecards.

Overview of faecal waste management related score cards

	Overall	Capture	Containment	Emptying	Transport	Treatment	Disposal	Reuse
Planning	75%							
Budgets	50%	NA		NA	NA	NA	NA	NA
Standards		25%		0%	0%	0%	0%	0%
Permits		0%		0%	0%	0%	0%	0%
Safety		N/A		0%	0%	N/A	N/A	N/A

Notes: NA = Not Available; N/A = Not Applicable

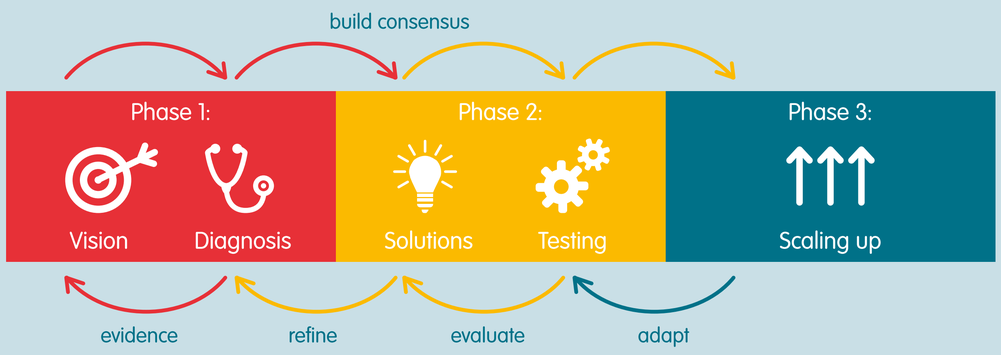
The faecal waste flow calculator:

- ☑ Is a tool for engineers, planners and decision-makers to get a better understanding of the current situation
- ☑ Calculates current and future faecal waste flows on the basis of current population and future predictions
- ☑ Provides insight where and how much faecal waste is lost along the sanitation service chain
- ☑ Provides the basis for setting sanitation priorities and developing scenarios

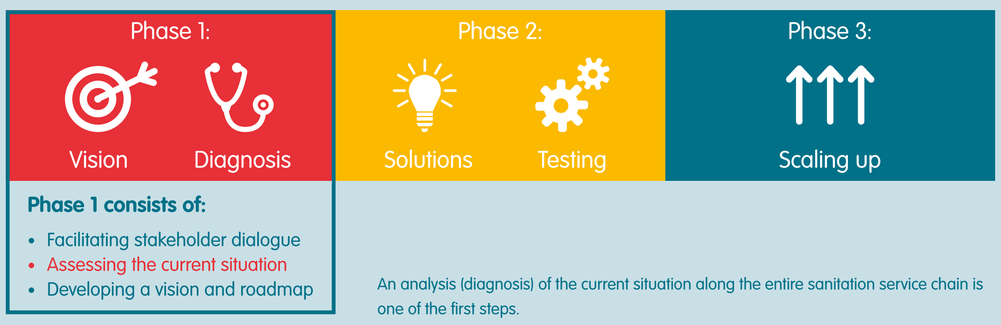
BUT:

- ☒ It does not assess public health risks; and
- ☒ It is not a precise scientific analytical tool

IRC's approach for systematic change in the sanitation sector



IRC's approach for triggering and driving change is a process consisting of three distinct, but often overlapping phases.



An analysis (diagnosis) of the current situation along the entire sanitation service chain is one of the first steps.