
Excreta dots

• Important to join the excreta-dots
• In urban areas toilets have to be linked to disposal and treatment systems
• In rural areas toilets have to be linked to poverty, behavioural change (health connection), water, toilet design and waste disposal
COVID-19: Connects dots

• Availability of clean water is the most important determinant of health
• We are told that to keep protected from COVID-19 we must wash hands for 20 seconds
• Millions do not have access to clean water – is is now critical agenda
• Availability of clean water is linked to untreated sewage – excreta contaminates and degrades water; increases health burden

Co-morbidity

• Health compromised people are most susceptible to the virus attack
• Need to build water-sanitation security for health security
• COVID-19 teaches us that we are as weak as the weakest link in the chain
• Public health – its water and wastewater management is the most critical agenda in this fight against the deadly virus
Rural sanitation challenge

• Complex; extensive and inhuman
• “More cell phones than toilets” about gender
• World’s wicked problems are about gender – cooking fuels; toilets or clean water
• Opportunity to fix much more than toilets
• This is what we want to discuss
• Not what is going wrong – but what is working and why?
India’s sanitation story: success

- Built 100 million toilets in its 600,000 villages and another 6.3 million in its cities.
- In 2019, declared itself mostly open defecation free (ODF) – a seemingly impossible task just some years ago.
- According to government estimates, by 2019, over 93 per cent of the country’s households had access to toilets; in over 93 per cent of the villages people do not defecate in the open; over 96 per cent who had access, also used the toilets suggesting an important change in behavior.

Advantage sanitation

Since SBM, deaths due to unsafe sanitation are declining

Deaths from diarrhoea avoided compared to baseline (2014)
Household sanitation coverage with basic facilities (in %)

Source: Swachh Bharat Mission—Preliminary estimations of potential health impacts from increased sanitation coverage by the World Health Organization, as cited in Economic Survey 2018-19 based on data available till June 2018
India’s sanitation story
Important and successful
But still we have to do more

What worked
1. Top political interest
2. Focus on behavior change – nudging people to use the asset created
3. Providing subsidy to people to build the toilets

What still needs to be done
1. Ensure there is no slippage – need to be sustainable
2. Focus on septage – excreta management

Two options
1. Construct toilets so that excreta is safely managed
   Twin pit with honeycomb for decomposition; ‘retention’ time

2. Construct waste management systems in villages – combine human waste with organic waste

Deliberately plan for reuse of waste
Opportunity: Re-use

- **Water-based** sewage systems destroy the nitrogen-cycle of world
- Water used to flush excreta; water as conveyance; water for disposal
- Nutrients lost
- Food security lost
- Water polluted
- **Land-based** sewage systems can repair this

Opportunity: **Land-based**

- Nutrients-Food-Excreta-Nutrients-Food
- Excreta is segregated in septage systems (mostly and challenge is to keep it like this)
- Excreta can be used as nutrients for soil – reused in agriculture or compost
Learnings from India

• 1. People need access – subsidy to pay for toilets – in homes and community
• 2. People need behavior change – connection to health; building awareness/education
• 3. **Toilets must be affordable and sustainable** – need water; need management of excreta. Otherwise we will transfer problem from health burden because of lack of toilet to health burden because of pollution

What then do we do?

• Toolkit on rural faecal sludge management is the beginning of this work
• What technologies will work in-situ (toilet design so that waste is treated and can be safely reused)
• What technologies will work ex-situ (when excreta is treated and then can be safely reused)
• What do we know today? What must we do tomorrow?