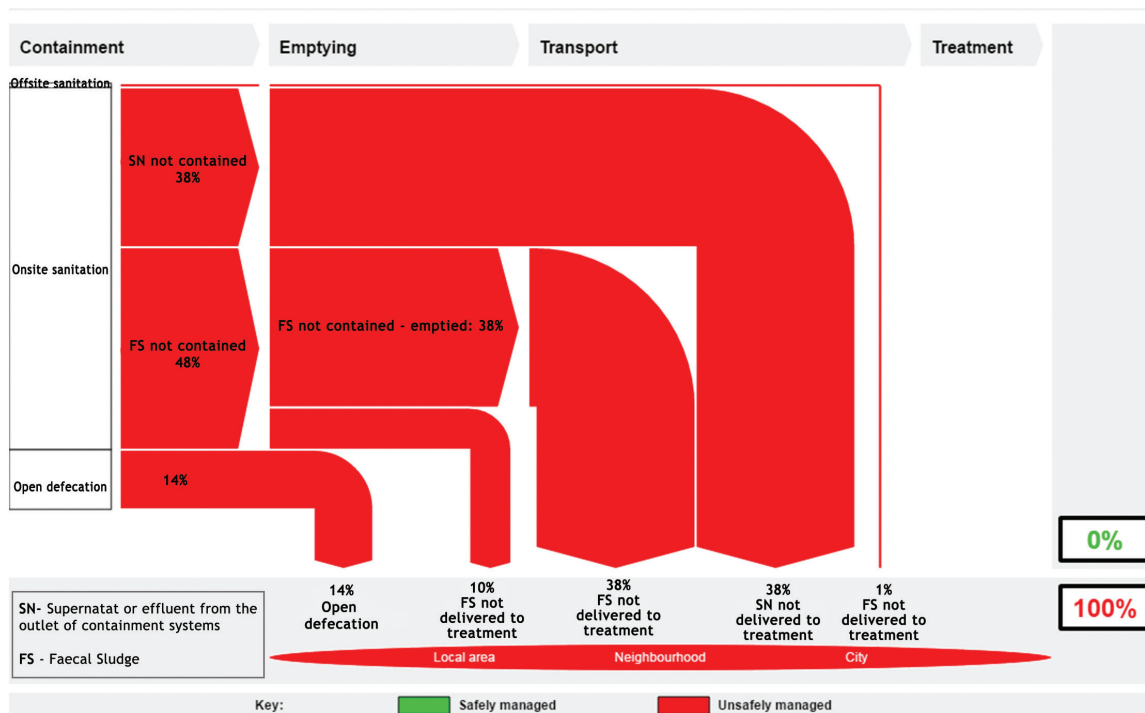


## Gangaghat Uttar Pradesh, India. 2 Dec 2016

Field based study



## SFD Description

A Sanitation (or Shit) Flow Diagram presents a clear picture of how excreta flows are managed within the city. The diagram clearly depicts how excreta flows from user interface to the final disposal. It has the following stages:

### Containment

- The city has no underground drainage network, but a DPR for UGD which has been prepared by the Jal Nigam, Uttar Pradesh for the city.
- Types of containment systems observed in the city:
- Containment systems of 75% population in the city are septic tanks. Of this 75%, 2% septic tanks are connected to soakpits, and 3% septic tanks have outlet directly connected to riparian of Ganga. These septic tanks are actually rudimentary design of septic tanks without adhering to BIS standards
- 10% population is dependent on lined tanks with open bottom connected to drain
- 14% population practice open defecation. As per the survey, it was observed that such practice is being performed mostly near the river or at the river bed
- Faecal sludge of 1% population is directly discharged on to the river bed
- Settlements at the river bed have dilapidated containment systems
- 80% septic tanks are double chambered while 20% septic tanks are three chambered (KII with mason)
- Containment systems do not have a depth below 10 ft, due to availability of water near to 25 ft below ground level
- Volume of septic tanks varies from 1100 litres to 34000 litres, while volume of fully lined tanks varies from 1100 litres to 12000 litres

### Emptying

- No vacuum tankers are owned by municipality,



**Photo 1: Direct Waste Water discharge at river bed.**



**Photo 2: Containment Systems.**



**Photo 3: Outlet of Waste water to Open drain.**



neither any local private emptier exist within the municipal boundary. Private owned tractor mounted vacuum tankers are called for emptying service from Kanpur city

- As per KII, private emptiers refuse emptying services to the households located on narrow lanes and inaccessible roads
- Emptiers claimed that there are 2-3 requests on an average per day. Due to the distance to

Gangaghat city from their point of assembly is 7 km, emptying services are provided once a week to make the emptying service economical

- Emptiers advertise using distribution of cards, and pamphlets. Residents have claimed that there are wall paintings advertising emptying services in and around the city
- Emptying frequency differs in the city. Wards towards the river bed have a frequency of 1-2



years of desludging while farther the wards from the river bed, the emptying frequency increases to 10 years. As per KII with private emptiers the depth of septic tank differs with pertinence of location.

- Emptying process is usually carried out by 2 people (1 driver + 1 helper)



Photo 4: Vacuum tankers used for emptying.

- During emptying operation, the emptiers do not use any safety equipments
- FS is emptied from 38% population (34% from septic tanks and 4% from fully lined tanks)
- FS of 10% population is not contained and not emptied, assuming 5% is infiltration into ground due to open bottom of containment systems



## Transport and Disposal

- Supernatant of 40% population is transported through open drains to two main points of disposal:
  - Chhamak Ganga
  - Railway Khanti
- Faecal sludge collected from household is transported using tractor mounted tanker.
- There are 6 private emptiers running 6 vacuum tankers, each of 5000 litres capacity. The vehicles

are assembled at Delhi or Chandigarh, as informed during KII, assembling of tanks has recently started in Kanpur, but the quality of tankers is not so good.

- The vehicles travel an average distance of 4 km to dispose the waste. Disposal of faecal sludge collected by vacuum tankers is done either at a major drain or directly at Chhamak Ganga.
- Apart from these two points of disposal, it was observed in the field based study that the open drains also dispose at various low lying open grounds.



Photo 5: Left: Railway Khanti; Right: Chhamak Ganga.





Photo 6: Vacuum tanker disposing at drain.



Photo 7: Low lying areas where open drains terminate.

SFD Promotion Initiative

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sanitation  
alliance

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