

# Health & safety standard operating procedures (HSSOP) for Fecal Sludge Management Entrepreneurs (FSMEs)

## I. Purpose of HSSOPs


Fecal Sludge Management Entrepreneurs (FSMEs) play a vital contribution to the management of onsite sanitation in the community. They contribute to the improvement of the public health of the residents by ensuring that the pits do not overflow when full, by providing emptying services. In addition, it is a job opportunity for many youths and other members of the community.





FSMEs are responsible for their own personal safety, as well as the safety of those they employ, and the safety of their customers during the emptying process, as well as safety on the road during the transportation of sludge to designated treatment plants. Fecal sludge is infectious material. It can cause disease if ingested, or if it comes in contact with broken skin, or if its constantly inhaled in gaseous form. Hands must always be washed immediately after contacting faecal sludge or tools and equipment that may have contacted faecal, and always before eating or drinking. However, many of the hazards can be prevented by adhering to simple precautions.

This document highlights best practices that the FSME can follow to ensure emptying is done in a safe and hygienic way that is not detrimental to their health, or the health of others who may come in contact with the sludge during emptying, transport, and disposal. The document covers:

- Health & safety protective Gear
- Health and safety practices before embarking on an emptying process.
- Health and safety practices during the emptying process.
- Health and safety practices during transportation and Disposal of fecal sludge

## 2. Health & Safety Protective Gear

Gear	Need	Do's and don'ts	Maintenance
 <b>Helmet</b>	<ul style="list-style-type: none"> <li>• Helmets prevent head and brain injuries during the emptying process as most toilet facilities have damaged roofs, and or protruding nails</li> </ul>	<ul style="list-style-type: none"> <li>✓ Every worker must have 1 helmet</li> <li>✓ Only hard hats should be used</li> <li>✗ Motorbike helmets are not appropriate</li> </ul>	<ul style="list-style-type: none"> <li>• Replace helmets every 3 years; if damaged, replace immediately</li> <li>• Do not drop the helmet on hard surfaces as it may get damaged</li> <li>• Take care to secure the helmet correctly, so it does not fall in the pit</li> </ul>

Gear	Need	Do's and don'ts	Maintenance
 <p><b>Face mask</b></p>	<ul style="list-style-type: none"> <li>• Face masks are important to prevent the inhalation of toxic gases (Methane &amp; ammonia) which are generated from fecal sludge. They also protect eyes from contact with sludge</li> </ul>	<ul style="list-style-type: none"> <li>✓ Every worker must have 1 face mask</li> <li>✓ Fasten mask tightly over head</li> <li>✓ Ensure mask has a clear cover for eye area</li> <li>✗ Surgical cloth masks are not appropriate</li> </ul>	<ul style="list-style-type: none"> <li>• Replace masks every 2 years; if face mask falls in pit or breaks, replace immediately</li> <li>• Do not drop the mask on hard surfaces as it may get damaged</li> <li>• Take care to secure the mask correctly, so it does not fall in the pit</li> </ul>
 <p><b>Overall</b></p>	<ul style="list-style-type: none"> <li>• Overalls are useful to protect the Operators from harmful contact with fecal sludge.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Every worker should have 2 overalls</li> <li>✓ Overalls should be made from hard khaki material, and have full sleeves &amp; full length legs</li> <li>✗ Half-sleeve overalls are not appropriate</li> </ul>	<ul style="list-style-type: none"> <li>• Overalls should be replaced every 2 years; and if damaged, they should be replaced immediately</li> <li>• Overalls must be washed after every job to ensure no fecal matter remains on them</li> </ul>
 <p><b>Gloves</b></p>	<ul style="list-style-type: none"> <li>• Working with gloves helps protect workers from sharp objects thrown in the pit, and from contact with fecal sludge</li> </ul>	<ul style="list-style-type: none"> <li>✓ Every worker must have 2 pairs of gloves</li> <li>✓ The gloves must be made of waterproof material, and be of elbow length</li> <li>✗ Disposable latex gloves/ surgical gloves are not appropriate</li> <li>✗ Gloves that are below elbow level are not appropriate</li> </ul>	<ul style="list-style-type: none"> <li>• Replace gloves when it shows signs of tearing</li> <li>• Ensure gloves are washed after every trip</li> </ul>
 <p><b>Gumboots</b></p>	<ul style="list-style-type: none"> <li>• Gumboots help prevent foot injuries during the emptying process and any contact between the feet and fecal sludge</li> </ul>	<ul style="list-style-type: none"> <li>✓ Every worker must have 1 pair of boots</li> <li>✓ Boots must be waterproof</li> <li>✓ Overall must be tucked inside gumboots</li> <li>✗ Canvas shoes or safety shoes are not appropriate</li> </ul>	<ul style="list-style-type: none"> <li>• Gumboots to be replaced every 1 year</li> </ul>

### 3. Before Embarking on the emptying Process

- Ensure that all the emptying operators are fully immunized with Typhoid, Tetanus and Hepatitis B shots (consult local hospital for details on frequency of vaccination)
- Before the job is embarked on, ensure that a site survey is carried out to:
  - Test the strength of the slab to ensure safety of the operators during emptying
    - ***If the slab is not strong enough, do not proceed with the job***
  - Assess the overall state and nature and state of repair of the toilet facility
    - ***If the roof of the toilet facility is likely to fall, check with the customer if it can be removed during the job and replaced later, else do not proceed with the job.*** If any structural changes are required, ensure you have the full authorization of the customer
  - Assess the nearest distance between where the vehicle will park and the location of the pit latrine to be emptied
  - Ascertain the nature of fecal sludge to be emptied (Thick with Solid waste, or Watery)
    - ***If the nature of sludge is thick and requires additional water for loosening, enquire if the customer will provide water and jerry cans; if not, make provisions for the same prior to the job***
- Ensure that the vehicle to be used for the transportation of sludge is in sound mechanical condition and does not have any leaks
- Ensure that all the operators have the required protective gear, and that it has no defects
- Brief the customer on health and safety issues before starting the job; e.g., to maintain certain distance from the work-site, to avoid cooking near the site, to ensure no children are playing around the site, etc.

### 4. During the Emptying Process

- Ensure that all workers are wearing the required protective gear
- Ensure that you disinfect the environment in and around the toilet by applying recommended disinfectants (Jeyz); apply as much disinfectant as required until the smell of fecal matter subsides
- Use an appropriate tool, preferably a metal hook to remove rubbish/ solid waste from the pits. Keep your gloves on as you do this, as you may need to handle the solid waste
- Pack the solid waste in a barrel/ bucket with a tight fitting lid and transport it with the sludge to the disposal site
- Ensure that all the contents of the pit latrine facility (faecal sludge and solid waste) are carefully deposited in a sealed vacuum tank (cesspool emptying) for safe transportation to the disposal site
- For cesspool emptying:
  - Ensure that the suction pipes are not leaking during the emptying process
  - Ensure that no vehicles pass over the suction pipe; where the suction pipe is alongside a road, use hazard signs to warn drivers not to approach the area
- After the emptying process, ensure that the customer's pit latrine facility is cleaned up with sufficient water and detergents to disinfect the area and eliminate odor; ensure there is no fecal sludge around latrine or on the site floor

## **5. During Transportation and Disposal of Fecal Sludge.**

- Before you set off from the customer's location, take an inspection around the vehicle to ensure that there is no spillage of the fecal sludge
  - If there is spillage, clean surrounding area with water and detergent solution till the odor and sludge is eliminated
- Ensure you dump only at authorized treatment sites; i.e., fecal sludge treatment plants (FSTPs), waste water stabilization ponds (WWSPs), or waste water treatment plants (WWTPs), and not in water bodies, gardens, water channels etc.
- Request authorities at treatment plant for an appropriate area to dump solid waste and dispose the same accordingly
- Ensure that the cesspool truck is completely drained of fecal sludge after every trip
- Ensure that the cesspool truck is washed out completely at least once a week; wash the truck at disposal site and dump the waste water back into the dumping area as is it may still contain fecal sludge
- Check with the treatment plant authorities about sourcing water at the plant for washing the truck; if not available, prepare to use own water
- Only after completing the job should the operators remove their protective gear. The operators should ensure that they shower with detergents after every job in order to safeguard their personal hygiene.