

Learning Brief:

Promoting Safe Faecal Sludge Management in Rural Cambodia



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“Status quo” faecal sludge management in rural Cambodia

The use of latrines in rural Cambodia is rapidly becoming the norm. This is because perceptions towards the social acceptability of open defecation have shifted in recent years. And, that of the demand for privacy and comfort. Most rural latrines are liquid-based – implying that water is poured down a pan to flush the contents into a pit (Harper, 2019). Most pits are not completely sealed to allow for liquids to drain into the soils below. Over time, the solids in the pit accumulate until the pit becomes full. It is estimated that this will take between 3 and 10 years for most Cambodian households. This estimate depends on the type of latrine, how it is used, the type of pit(s), and the soil conditions around the pit. Once full, the pit may produce a bad odour or overflow, and it may no longer be possible to flush water through the pan.

How do families typically respond when the pit becomes full? Recent research suggests that the faecal sludge inside the pit is normally managed in unsafe ways (Harper, 2019). It is handled in a way that does not protect the emptier, members of the household and surrounding community. Most

often, faecal sludge is disposed of without treatment onto open fields and rice paddies (Harper, 2019). These “status quo” unsafe Faecal Sludge handling conditions in rural Cambodia pose a significant threat if not addressed at-scale.

Research conducted by SNV Cambodia has revealed that by 2022, roughly 2,000 to 3,000 latrines (12-17 per cent of all latrines) in Banteay Meas district alone will become full each year and require safe Faecal Sludge Management (FSM). Banteay Meas district was the first district in the country to reach 100 per cent sanitation coverage. This district has many latrines that have been in use for many years and, therefore, the largest proportion of pits becoming full each year. Other districts too will soon demonstrate the same trends and a need for safe FSM.

Safe faecal sludge management practices

This brief describes the development and execution of a programme to change perceptions towards FSM, communicate safer faecal sludge handling and management options, and change behaviours. How can a household manage their faecal sludge safely? In the absence of sewage treatment facilities, there are several options at present.

The first and most suitable safe FSM option is to install and operate an alternating twin-pit (ATP) latrine. An ATP represents two pits operating in parallel, where only one pit is active at a time. Once the first fills up, the second pit is activated. Rather than emptying the contents of the full pit, the user can let it rest in the full pit for at least two years. Following this period, anaerobic digestion and decomposition will render the pit contents dry

and safe for handling and disposal.

The second option is to safely empty the pit in the household's property after it has become full. Or preferably, just before it has become full so that the pit does not prohibit continuous functionality and use. However, pit emptying requires several conditions in order to be considered "safe" – as presented in Figure 1.

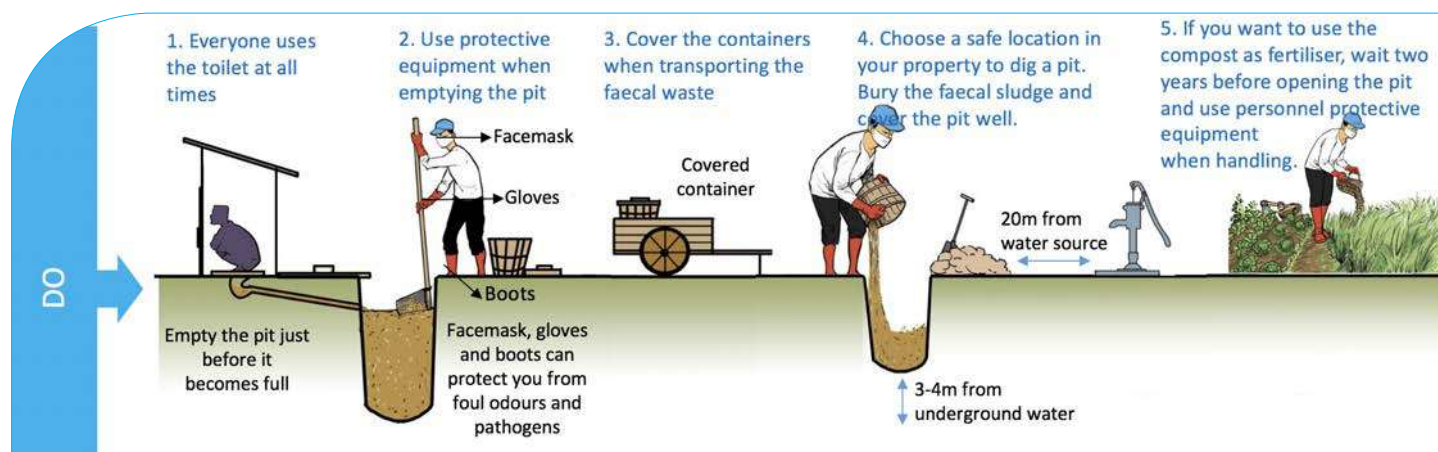


Figure 1 – Faecal sludge management practices: Safe pit emptying and disposal

First, personal protective equipment (PPE) must be worn by the pit emptier. This equipment includes a facemask, gloves, boots, and preferably clothing that covers the entire body and can be easily washed after the job is complete. This equipment is needed to protect the pit emptier from exposure to faecal sludge and the potentially harmful pathogens within. Secondly, the faecal sludge must be temporarily deposited from the pit into sealed or covered containers that prevent spillage. Thirdly, the faecal sludge must be transported to and buried in a location in the household's property far and from water sources (at least 20 metres away as per

World Health Organisation recommendation). And, where it will not be disturbed, such as by animals, children, or seasonal flooding.

Modifying perceptions and behaviours towards safe faecal sludge management practices

Behavioural change communication (BCC) is a method for systematically and strategically modifying people's behaviours and practices. This is often towards a social or public health related objective. As noted previously, most households in



Figure 2 – Faecal sludge management practices: Unsafe pit emptying and disposal

¹ One of three districts where SNV's Sustainable Sanitation and Hygiene for All (SSH4A) programme is being implemented. Banteay Meas was declared Open Defecation Free in 2016. Over 90 per cent of the households own their own latrine while the remainder share with a neighbour.

Cambodia that have emptied their pit have done so unsafely. This trend is likely to continue into the future as more and more pits become full. Therefore, the objective of any BCC campaign for FSM is to ensure households have the knowledge pertaining to the difference between safe and unsafe practices, and are willing and able to actually implement safe solutions.

Behaviour change communication for rural faecal sludge management: SNV's approach

SNV began its programming on BCC for FSM with a research study in Banteay Meas district, Kampot province. This research revealed that (a) reducing bad odour around the home, (b) minimising faecal sludge disposal in the community's environment, (c) avoiding the handling of wet faecal sludge,

and (d) utilising decomposed faecal sludge as fertiliser may all be effective behavioural drivers to promote safe FSM practices. Based on these findings, a BCC campaign was designed, tested, and executed. Visual aids and materials were first developed to demonstrate safe emptying practices (Figure 1) along with unsafe ones (Figure 2). Other materials included posters, banners, and games for use during community events and activities that were led by local authorities in the three Sustainable Sanitation and Hygiene for All (SSH4A) target districts of Banteay Meas and Chum Kiri in Kampot province and Basedth in Kampong Speu province (Figure 3). Activities included small-group meetings, larger community events, community parades, and demonstrations of pilot ATP latrines. These activities were implemented in all 343 programme villages.

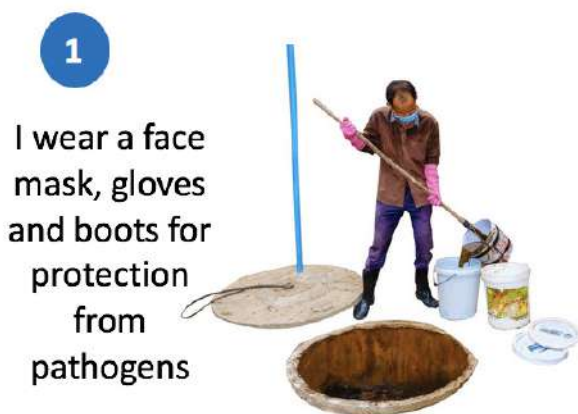




Figure 3 - Faecal sludge management practices: Safe pit emptying and disposal



Figure 4 – Faecal sludge management practices: Unsafe faecal sludge disposal

Behaviour change communication campaign results

A randomised household survey was conducted in Banteay Meas district before and after the FSM BCC campaign was conducted. This survey was administered to assess (a) FSM actions, (b) perceptions, and

intentions and (c) to measure the results of the community-level campaign activities. Self-reported pit emptying practices are presented in Figure 5 – demonstrating the differences before, and approximately 11 months after the campaign. Although the sample size of households that reported ever having emptied their pit was small, a significant difference in the self-reported actions was observed. Prior to the campaign, most

households reported that they disposed of their faecal sludge directly onto a field or water body (75 per cent). However, after the campaign, this fell dramatically (to 19 per cent).

Among those surveyed households that reported having ever emptied their pit, very few did so after the campaign was executed. Despite this, the responses from all pit emptying

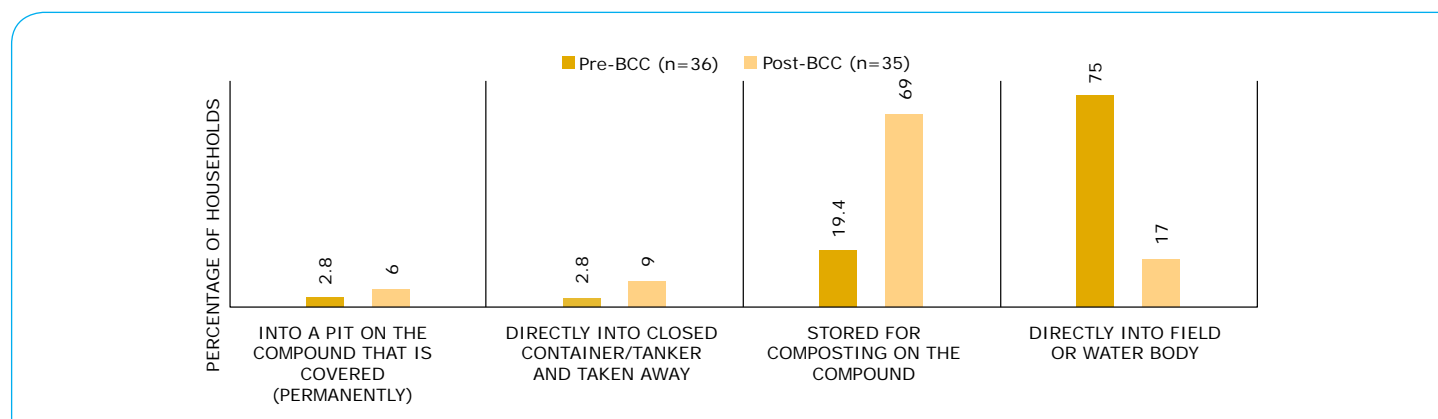


Figure 5 – Pre and Post BCC campaign self-reported pit emptying actions

households were radically different when comparing the pre-BCC versus post-BCC result! The most likely explanation is that many households now realise that disposing faecal sludge into a field or water body is an unsafe practice – one that they would not even want to admit to a visiting interviewer! This finding does not necessarily indicate that the campaign has resulted in a higher uptake of safe FSM practices. However, it appears to indicate that the messaging associated with the campaign has had a very broad reach and has modified the “status quo” perceptions in the district.

Additionally, the proportion of all households that plan to dispose their faecal sludge into a field or water body after their pit becomes full, fell from 57 per cent to 23 per cent (Table 1). The proportion of households that plan to bury and decompose

their faecal sludge on their property increased from 25 per cent to 63 per cent. It is clear that there has been a significant shift in perceptions and self-reported intentions across the district. Further research will be needed in the future to determine whether safe emptying practices have actually become more prevalent. In both the pre-BCC and post-BCC surveys, the ATP concept was described to respondents along with the price. In the pre-BCC survey, 66 per cent of respondents noted that they were interested in having an ATP. This increased to 80 per cent after the campaign. That said, when respondents were asked which FSM option they preferred the most, after the campaign 50 per cent of respondents still noted that a vacuum truck service would be their first choice. However, this proportion decreased from 65 per cent prior to the campaign.

Table 1 – Pre and Post FSM perceptions and intentions

FSM perceptions and intentions	Pre-BCC	Post-BCC
Proportion of households that plan to dispose their faecal sludge into a field or water body	57%	23%
Proportion of households that plan to bury and decompose their faecal sludge on their property	25%	63%
Proportion of households interested in having an ATP latrine	66%	80%
Proportion of households that prefer to hire a vacuum truck operator as their 1st choice FSM solution	65%	50%

The future of faecal sludge management in rural Cambodia

It is clear that the BCC campaign has had an effect in the district and modified household perceptions at-scale. However, what remains unclear is whether households will actually practice safe FSM in greater numbers once their pit is full. It is also clear that a variety of FSM options will be practiced. This is true even in districts where the most suitable and recommended option – an ATP latrine – is heavily promoted. Vacuum truck services, manual pit emptying, and ATPs are all likely to be part of the FSM landscape in rural Cambodia into the future. Local authorities will need to promote safe solutions within this context. The tools and approaches produced for the campaign appear to be effective to the point of modifying perceptions. Further research will have to be conducted in the future to determine whether these activities have actually resulted in a higher prevalence of safe FSM practices. If this is the case, the campaign could be enhanced and scaled-up accordingly.

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