Faecal Sludge Management and Latrine Pit Sludge Levels in Rural Households in Prey Veng Province, Cambodia (2 of 4)

Phalla Chem, IV Bunthoeun, Soon Sekheng, Kim Hor, James Harper

The full report on this study is available at https://drive.google.com/file/d/1cjuSWWYMjER1bx1NM9sR3KvY9XeuzDWs/view?usp=sharing.

Purpose

This study investigated how rural households in Prey Veng province, Cambodia, have experienced and perceive different aspects of faecal sludge management (FSM). The results of this study are intended to inform future FSM product and service development, and ultimately improve rural FSM safety and public health.

Methods

The second of four qualitative studies of rural faecal sludge management (FSM) was performed by the East Meets West Foundation (EMWF) Team in collaboration with officials from MRD-DRHC and PDRD Prey Veng / DORD Kampong Trabek in the same two villages as the first study in Kampong Trabek district, Prey Veng province, Cambodia. On 25 and 26 June 2020, the following occurred:

- The same five households were interviewed about various aspects of FSM to understand how they have used and maintained their latrines since the last study in this series in March 2020.
- Households were asked about their intentions to upgrade their single-pit latrines to alternating dual-pit latrines.
- Pit sludge levels within each household's pit were measured.

The two remaining studies of rural FSM in this series will occur in September and December 2020.

Results: Household Interviews

FSM Aspirations

Three of the five households expressed interest in upgrading to an alternating dual-pit latrine to keep their single pit from filling and allow for easy on-site treatment of faecal sludge. Two of these households also committed to upgrading their existing single-pit latrines by August 2020 because their latrine pits are nearly full. Another household, which also had a pit that was nearly full, also intended to upgrade their latrine next year (2021) when they have more money. These decisions were made after discussing their options and the importance and advantages of an alternating dual-pit latrine with the EMWF team.

Figure 1: Interviewing a household about FSM and discussing the purpose, design and use of an alternating dual-pit latrine

Unfortunately, the number of households interested in upgrading to an alternating dual-pit latrine decreased from four to three since the previous study due to the households having time to consider their financial restrictions more holistically. The households that changed their mind intended to upgrade their single-pit latrine when the family had more money.

Concerns and Considerations about FSM

All five households foresee challenges with emptying their pits due to foul odors and disgust (e.g., touching FS), emptying being too physically demanding, a lack of FSM service availability in their community, and having no proper disposal locations for FS. However, one household said that 100,000 Riel for emptying was appropriate because it was difficult to find someone to empty pits within or near the village.

All households would prefer to empty their pits in the months that they are most financially secure. Households also reported considering all of the following topics to be relevant to how they make decisions about sanitation at their households: religious beliefs, traditions in their community, opinions of their village chief, opinions of

politicians, advertisements about sanitation, social media, and cost.

Intentions When Pits Fill

No household plans to start using a neighbor's latrine when their pit fills up due to the shame of using a neighbor's latrine. However, they also reported that using a relative's latrine would be acceptable. All households stated that they would not resume open defecation because they understand the importance of sanitation and want to keep their community's environment clean and healthy.

Social Norms about FSM

All households believed that their communities understand the importance of sanitation and safe FSM, and generally favor installing a new pit to manage FS safely. When thinking about emptying their pit, households tend to worry about their neighbors smelling foul odors from their FS, contaminating bodies of water with FS, spreading disease, and hurting the environment.

Perceptions about FSM Costs

Households were asked to discuss the cost of emptying compared to that of upgrading to an alternating dual-pit latrine. They were willing to pay 100,000 Riel for emptying and 150,000 Riel for upgrading due to the advantages of on-site treatment provided by an alternating dual-pit latrine. Households tended to favor upgrading because 1) it can be difficult to find local labor to empty pits, 2) households were unsure if the 100,000 Riel that they were willing to pay would satisfy pit emptiers, 3) desludging pumps are not commonly available in their community, and 4) no proper disposal area for FS is available in their community. Thus, upgrading their latrines to alternating dual-pit latrines is the best option for on-site FS treatment.

Households were not interested in alternative payment plans and desire to purchase either emptying or upgrading in one simple payment. All pits were easy to access and had space around them for installing a second pit.

Latrine Functionality

All latrines and shelters were still functional; however, the slab of the household that required more water to flush their latrine in the first study had not been repaired yet. Also, the household with the pierced pit in the first study reported that they had chosen to pierce their pit when their pit filled with rainwater during a prior wet season and due to concerns regarding difficulty flushing their latrine in the future. The household also learned that piercing pit could reduce bad smells, especially in the wet season.

Results: Pit Sludge Levels

Pit sludge depths ranged from 0.05 to 0.96 m, leaving emptying capacities ranging from 0.44 to 1.45 m. These variations in sludge levels were likely due to households having different numbers of members and hosting events with varying numbers of guests.

Over the three months since the first study, pit sludge depths increased between 0.10 and 0.51 m at three households, and decreased between 0.10 and 0.24 m at two households. The decreases in sludge depths were attributed to effective leaching of liquid from the pits into the ground.

Figure 2: Measuring the sludge level within a pit

Recommendations

Based on the results of this study, we recommend the following to Cambodia's RuSH sector:

1. Discuss the cost of upgrading a single-pit latrine to an alternating dual-pit latrine and the cost of emptying a pit with MRD-DRHC.
2. Interview a statistically relevant sample of households in Prey Veng province about the costs of upgrading and emptying to begin to measure demand for alternating dual-pit latrines and pit-emptying services.
3. Disseminate information about alternating dual-pit latrines and upgrading a single-pit latrine to an alternating dual-pit latrine in

collaboration all organization types, including MRD-DRHC, PDRD/DORD, CCWCs, individual masons, and organizations like EMWF.

4. Finalize a high-quality design of an alternating dual-pit latrine and demonstrate that design in the field for rural households to view, use and discuss.
5. Consider the results of this study during the development of rural FSM guidelines.

These recommendations must be coordinated and performed collaboratively by MRD; PDRDs; local leaders; development organizations and practitioners; latrine installers; and trained FSM service providers to ensure effective and wide-spread implementation with the goal of improving rural FSM safety across Cambodia.