Market Assessment on Fecal Sludge Management in Cambodia

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PROBLEM
According to the 2015 Joint Monitoring Program (JMP) update, Cambodia has the lowest sanitation coverage in South-Eastern Asia. In 2015, only 42% of the population had access to improved sanitation and 8% had access to shared improved sanitation. Almost half (48%) of the overall population and 60% of the rural population practice open defecation. There has been a focus on latrines in Cambodia and while progress is being made, there has been almost no progress on fecal sludge management (FSM).

PSI/Cambodia conducted a review of the sanitation market using a Total Market Approach (TMA) analysis in order to identify opportunities to improve FSM in Cambodia.

Three approaches were used to conduct the assessment in 2017:
1) Desk review: 27 documents were reviewed from published and grey literatures;
2) Primary data collection: In-depth interviews were conducted with 7 local authorities, 2 donors, 6 NGO partners, 22 direct market players (i.e. hardware shop owner, latrine business owner, mason, emptying service providers), and 25 households;
3) Two-day stakeholder workshop: 16 participants from local government agencies, NGO partners, and donors attended the workshop to prioritize market failures, analyze root causes of these market failures, and set strategic objectives to address the root causes.

ANALYSIS AND RESULTS
From desk review and primary data collection, we found that:
• Household mainly use poor flush latrines with a single open bottom pit. Pit contents are often mixed with groundwater during rains.
• Less than 25% of household relying on containment systems to empty their pit (Gret 2011, IRC 2016).
• When asked what household planned to do when latrine pit becomes full, about 40% of installed adopters indicated someone in their family would manually empty pit, 22% stated they would hire someone to empty it manually (Pedi et al, 2014).
• Households and emptiers practice desludging without following any safety procedure or protective gears (Gret, 2011).
• No professional emptying service reaching the rural village level. Vacuum emptiers are based in some cities/main towns.
• In Phnom Penh, there is no facility to dispose sludge safely. Treatment facilities are only present in Siem Reap, Sihanoukville, and Battambang province. These units have been designed for wastewater, not fecal sludge.

Prioritized market failures and analysis of underlying causes are:

Peri-urban and rural areas don’t have safe emptying services affordable/accessible:
• In peri-urban areas, there is a lack of competition among FSM players and demand is scattered, resulting in high prices and low margins, limited business for vacuum truck services.
• The need for emptying is relatively new; there is a perceived lack of space for dumping; the design of the pits is such that there is no need to empty it within 5-10 years in some places.

Lack of treatment services in urban areas:
• Low awareness of consequences due to lack of studies on FSM showing the negative impacts of uncontrolled FS disposal and quantifying potential economic benefit/financial gains from investment in treatment facilities for urban areas.
• National goal level targets for treatment not defined.

Low standards of emptying practices of households and service providers in both urban and rural areas:
• An existing, widespread network of local businesses are supplying attractive low-cost latrine packages, but not FSM in both urban and rural areas.
• Safe emptying services are often not available, or too expensive for households.
• Regulations do not exist for safe emptying or treatment.

RECOMMENDATIONS
• Conduct health and environmental diagnosis on effect of unsafe FS disposal.
• Prepare additional Shit Flow Diagrams (SFDs) for improving understanding of FSM
• Develop indicators/goals for FSM at the national level for urban areas.
• Increase demand in peri-urban areas for vacuum emptying services through bundling, better planning and use of designated legal dumping sites.
• Supporting local government to establish and enforce contextually-appropriate regulations for safe emptying practices.
• Identify simple, cost-effective practices that service providers can adopt cheaply and conveniently.
• In peri-urban and rural areas, people reuse unsafe, untreated sludge for agriculture purposes. This suggests that hygienic practices of fecal sludge reuse should be developed through increasing community-level awareness and accountability with regard to FSM, to grow social norms of safe FSM, and build capacity of agricultural communities to establish accessible composting areas.

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