



SUSTAINING LATRINE COVERAGE AND USE: A STUDY OF THE CAMBODIA RURAL SANITATION AND HYGIENE IMPROVEMENT PROGRAM (CRSHIP I)

Overview

Prior studies have identified several aspects of Community-led Total Sanitation (CLTS) program implementation as crucial to both achieve and sustain open defecation free (ODF) communities: (i) the involvement of community leaders, (ii) intensity and duration of follow-up, and (iii) support to poor households, including financial support (Crocker et al., 2016; Tiwari et al., 2017; USAID, 2018; Venkataraman et al., 2018). USAID/WASHPaLS conducted qualitative research in 13 villages covered by the Cambodia Rural Sanitation and Hygiene Improvement Programme (CRSHIP I) to better understand how village level implementation strategies influence outcomes of CLTS programs.

Key Takeaways

- High latrine coverage was more common when traditional leaders used casual strategies (e.g., informal chats with households, versus intense pressure) to construct latrines during the post-triggering period.
- Among households with inconsistent latrine use, leaders were either not involved or put a lot of pressure on households to construct latrines, such as visiting them every day.
- In combination with intense pressure from leaders, villages with inconsistent latrine use also had high follow-up from external actors.
- Increased access to subsidies did not necessarily encourage higher coverage or consistent latrine use, and programs were not well-targeted or tailored to the needs of poor households.

Approach

USAID/WASHPaLS studied 13 villages across six Communes in Kampong Cham and Kampong Speu Provinces that had received CLTS and sanitation marketing programming under the CRSHIP I program¹, many years prior to our research. The research team selected villages to ensure variability on three key implementation characteristics of interest: local leadership, follow-up intensity, and pro-poor support.

Of the 13 villages, 10 were certified ODF between December 2013 and September 2017, at least 15 months before our research. We conducted 186 semi-structured interviews and 13 focus group discussions with a diverse set of stakeholders, including implementing organizations, district and provincial officials, village and Commune leaders, and households. We analyzed the data using fuzzy-set Qualitative Comparative Analysis (fsQCA), a semi-quantitative method that identifies combinations of factors that influence an outcome of interest (Jordan et al., 2016, 2011; Rihoux and Ragin, 2009; Tribbe et al., *manuscript submitted for publication*).

We prioritized two CLTS programs outcomes (current latrine coverage and inconsistent latrine use²) and identified six factors that could influence these outcomes based on hypotheses drawn from literature and on themes that emerged through our qualitative research (Table 1). We then scored each community with respect to the "strength" of each factor employing the information collected during qualitative interviews with village leaders and households. The scores were used to determine relationships between different combinations of factors and outcomes via fsQCA software.

¹ Plan Cambodia was the Executive Agency for CRSHIP, which was implemented from 2011-2016 in coordination with the Royal Government of Cambodia and funded by the Global Sanitation Fund of the Water Supply and Sanitation Collaborative Council (WSSCC).

² We did not identify enough villages with consistent use to analyze this outcome.

Results

We examined two outcomes for each of the 13 communities visited during the study: current latrine coverage at the time of our visit (based on reports from community leaders) and consistent latrine use by the majority of households (according to qualitative data). The method of analysis produced “sets”, or combinations of factors that are most commonly found among villages with an outcome of interest. Our analysis found that there is not one single factor leading to high latrine coverage or consistent use, but instead that multiple combinations of factors operate together to achieve an outcome. These sets are visualized in Figures 1 and 2; detailed definitions of each outcome and factor are provided in Table I.

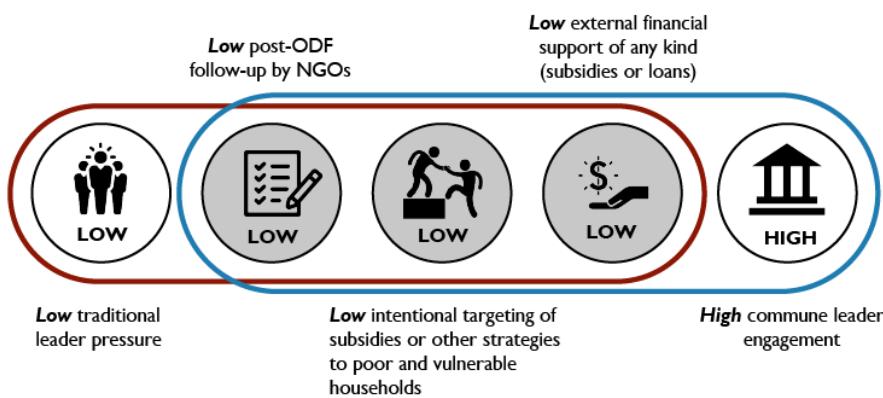


Figure 1. Two “sets” for achieving high latrine coverage, circumscribed by either a red or blue boundary. Both sets included the factors of low follow-up, low pro-poor support, and low financial support (gray subset). The blue set also included low pressure from traditional leaders, and the red set included high engagement.

Latrine coverage exceeded the 85% Cambodian ODF threshold of households in 9 of the 13 communities under study, and the same fraction had maintained or increased their latrine coverage since the end of CRSHP 1. Of the remaining four villages, declines in coverage were mostly due to newly constructed homes without latrines.

We found that latrine coverage generally remained high when there was less external pressure on the village. Cambodia is an unusual case because of the number of rural sanitation interventions that have been employed there in recent years. A number of other sanitation interventions had taken place in the study villages in addition to CRSHP 1, including sanitation marketing, hardware subsidies, loans, and microfinance programs. Most villagers could not differentiate between different programs or organizations. It was clear that some villages received more engagement (e.g., more household visits and village meetings) from external actors than others prior to ODF achievement, and a greater presence of NGOs in general, with up to eight different implementers involved in sanitation activities in a single village. Among villages with high latrine coverage, we consistently found a combination of *low NGO follow-up, low pro-poor support, and low financial support post-triggering*.

Gentle pressure from traditional leaders was one of the factors that accompanied the low external pressures on villages to achieve high latrine coverage. Village leaders who did not apply intense pressure still engaged with households through village meetings, “casual chitchat” with village members during regular interactions, and/or occasional household visits. (By contrast, intense pressure from village leaders included frequent reminders to construct latrines, regular household visits, digging pits without consent or involvement of the household, and/or threatening to withhold marriage certificates until latrine construction). Village Chiefs who took a more casual approach to encouraging latrine construction may have played a role similar to natural leaders (i.e., volunteers selected by the village to champion sanitation efforts) in other countries, where studies have found that natural leaders have a positive impact on latrine coverage (Crocker et al. 2016; Harter, Lilje, and Mosler 2019).

Active local government engagement also combined with low external pressures to achieve high coverage. NGOs and District or Province-level officials targeted Commune officials to specifically encourage villages to construct latrines to meet targets under the CRSHP 1 program. As a result, it is not surprising that the Commune played an important role in increasing latrine coverage, as households may have been more familiar with their presence. Commune leaders who were highly engaged typically followed up with Village Chiefs to check on progress on targets, used the Commune budget to support sanitation activities at the village level, and, in some cases, visited households to encourage them to construct latrines.

Remittances sent by relatives employed outside the village were often cited as a key driver of latrine construction in all villages. While not covered in our analysis of factors, village leaders reported that remittances and increased household incomes³ were equally, if not more, important than triggering events by NGOs. The remittance provider (typically the adult child of the household head) often persuaded their household to select a more expensive latrine design due to their own exposure to such models in urban environments.

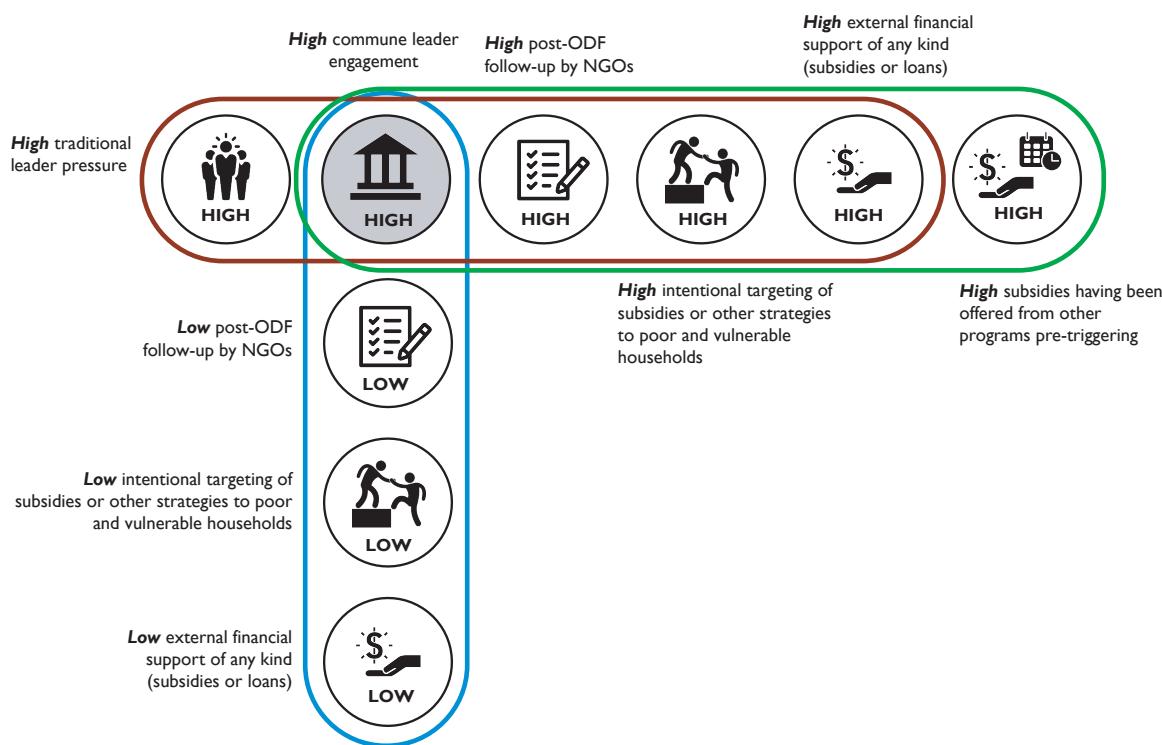


Figure 2. Three “sets” for failure to achieve consistent latrine usage, circumscribed by red, green, or blue boundaries. All sets included the condition of high commune engagement (highlighted in gray).

High engagement by commune leaders in village-level sanitation activities was a common theme among villages with inconsistent latrine use. As mentioned above, commune leaders played an important role in monitoring traditional leader progress, but, in some cases, were known for applying too much pressure to both traditional leaders and households, which may have discouraged latrine use. In addition to high commune engagement, villages with inconsistent use either had combinations of low NGO follow-up, low pro-poor support, and low financial support (in line with the commonly held belief that lack of support to communities, particularly poor households, leads to inconsistent use), or conversely, the opposite of these three factors: high NGO follow-up, high financial support, and high pro-poor support.

³ The average GDP growth in Cambodia from 2011-2017 was 7.13% (World Bank).



The sheer number of sanitation actors in Cambodia may have resulted in “intervention fatigue” at the village level, and could have been detrimental when combined with pressure from leaders. Those villages with high levels of external pressure also had been offered subsidies before triggering and/or faced pressure from traditional leaders, such as threats to revoke subsidies if households were unable to complete construction of their latrines in a certain period of time. These findings are consistent with previous studies which found that sustainability is more common among programs focused on behavior change rather than forceful, rapid latrine construction (Dyalchand, Kale, and Vasudevan 2009; Haq and Bod 2009; Jha 2007; Kar and Bongartz 2006; Pardeshi, Shirke, and Jagtap 2008; USAID 2014).

“They said that in one week, I have to complete it [the latrine] or [the subsidized materials] would be taken back. I said I had no money.”
--Poor household without latrine that received partial subsidy.

Subsidies and other forms of financial support existed in almost every village, but most were not specifically intended for poor or vulnerable households, and as a result did not meet the needs of these households. Government programs, local NGOs, and private businesses provided financial support, which generally operated separately from CRSHP 1. The level of support varied: across all villages, up to 52% of households in a village received some form of subsidy. Some support programs provided construction materials for the substructure only, while others subsidized the full cost of toilet installation. When hardware subsidies only covered the substructure (as typical for most of the subsidy programs), we found that some poor households were unable to build a superstructure to complete their latrines. Internal support to construct latrines (such as neighbors assisting neighbors, or targeted support to poor/vulnerable households within their village) was rare.

Most villages did not receive any post-ODF monitoring. As a result, we were unable to include post-ODF monitoring in our analysis, but literature suggests that it can influence sustained behaviors. At the conclusion of the program, CRSHP 1 transferred the responsibility for monitoring to the Provincial and District government, but monitoring was generally discontinued due to a lack of funding. In some villages, local leaders continued some informal monitoring, but this was rare.

Conclusions

In Cambodian villages with high latrine coverage, there was less pressure from leaders, minimal follow-up, and minimal access to subsidies. However, we also found some persistent open defecation in all communities. CRSHP 1 has made tremendous gains in increasing latrine coverage, but there are still challenges to ensure that villages are able to maintain these gains. Importantly, however, these findings must be considered in light of Cambodia’s unique context, particularly the number of sanitation interventions and access to markets, which have likely also contributed to sanitation achievements. The Government of Cambodia’s current goals to increase rural latrine coverage to 100% by 2025 will serve as an important motivation to provincial, district, and Commune leaders to achieve area-wide ODF.

Recommendations for Cambodia

- Support village leaders to identify opportunities for more casual, natural engagement with village members. Set goals for maintaining latrine use and reducing latrine sharing over time, rather than imposing rapid targets that overly pressure households to construct latrines.
- Improve identification of specific needs of poor and vulnerable households and tailor support to them during pre-triggering, rather than in the final stages before ODF certification. This includes continuing use of CRSHP’s Participatory and Social Mapping Tool (PSAM).
- Develop a targeted and coordinated approach to determine which sanitation interventions are most appropriate for each village or Commune. Avoid overwhelming villages with duplicative interventions.

Limitations

Village Chiefs or Deputy Chiefs self-reported the latrine coverage data used in this study; we were unable to visit every household in each village. Additionally, we often encountered challenges identifying vulnerable or marginalized households; in particular, migrant households are often excluded from village meetings or are unaccounted for during sanitation coverage calculations.



Table 1: Outcome and factor definitions used for analysis

Category	Outcomes/Factors	Definition
Outcomes	Outcome 1: Latrine Coverage	Current number of latrines divided by number of households.
	Outcome 2: Inconsistent Latrine Use	Prevailing latrine use behaviors in the village compared to open defecation behaviors.
Leadership	Factor: Commune Engagement	Level of engagement of Commune Council members in sanitation at the village level post-triggering.
	Factor: Traditional Leader Pressure	Intensity of pressure applied by village leaders to households post-triggering (includes Village Chief, Deputy Chief, or Village Focal Point)
Follow-up	Factor: Follow-Up	Intensity of follow-up by NGOs post-triggering. (Not limited to CLTS implementing partner.)
Financial/Pro-poor Support	Factor: Financial Support	Amount of financial support, such as subsidies, latrine materials or loans, received by the village (pre- or post-ODF; does not include sanitation marketing offers of low-cost latrines).
	Factor: Subsidies before triggering	Presence of subsidies prior to CLTS triggering.
	Factor: Pro-poor support	Extent to which financial support or other strategies were intentionally targeted to poor or vulnerable households.



References

- Crocker, J., Abodoo, E., Asamani, D., Domapielle, W., Gyapong, B., Bartram, J., 2016. Impact Evaluation of Training Natural Leaders during a Community- Led Total Sanitation Intervention: A Cluster-Randomized Field Trial in Ghana. *Environ. Sci. Technol.* 50, 8867–8875. <https://doi.org/10.1021/acs.est.6b01557>
- Dyalchand, A., M. Kale, and S. Vasudevan. 2009. What Communication and Institutional Arrangements Influence Sanitation Related Social Norms in Rural India?
- Haq, A., and B. Bod. 2009. Hunger, Subsidies and Process Facilitation: Challenges for Community Led Total Sanitation in Bangladesh. Brighton, UK. <http://www.communityledtotalsanitation.org/resource/hunger-subsidies-and-process-facilitation-challenges-community-led-total-sanitation>.
- Harter, M., J. Lilje, and H. Mosler. 2019. “Role of Implementation Factors for the Success of Community-Led Total Sanitation on Latrine Coverage. A Case Study from Rural Ghana.” *Environmental Science & Technology* 53(9): 5466–72.
- Jordan, E., Gross, M., Javernick-Will, A., Garvin, M., 2011. Use and misuse of qualitative comparative analysis. *J. Constr. Manag. Econ.* 29. <https://doi.org/https://doi.org/10.1080/01446193.2011.640339>
- Jordan, E., Javernick-Will, A., Tierney, K., 2016. Post-tsunami recovery in Tamil Nadu, India: combined social and infrastructural outcomes. *Nat. Hazards* 84, 1327–1347. <https://doi.org/10.1007/s11069-016-2489-4>
- Jha, H.B. 2007. An Assessment of CLTS Projects and Formulation of the Strategy on Sanitation Promotion. Dhobighat, Lalitpur, Nepal. http://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/FINAL_CLTS_Report.doc.
- Kar, Kamal, and Petra Bongartz. 2006. “Update on Some Recent Developments in Community-Led Total Sanitation.” University of Sussex, Institute of Development Studies, Brighton, UK (April): 1–23.
- Pardeshi, G., A. Shirke, and M. Jagtap. 2008. “SWOT Analysis of Total Sanitation Campaign in Yavatmal District of Maharashtra.” *Indian Journal of Community Medicine* 33(4).
- Rihoux, B., Ragin, C., 2009. Qualitative Comparative Analysis using Fuzzy Sets (fsQCA), in: Configurational Comparative Methods: Qualitative Comparative Analysis (QCA) and Related Techniques. Sage Publications, Thousand Oaks/London. <https://doi.org/https://dx.doi.org/10.4135/9781452226569.n5>
- Tiwari, A., Russpatrick, S., Hoehne, A., Matimelo, S.M., Mazimba, S., Nkhata, I., Osbert, N., Soloka, G., Winters, A., Winters, B., Larsen, D.A., 2017. Assessing the Impact of Leveraging Traditional Leadership on Access to Sanitation in Rural Zambia. *Am. J. Trop. Med. Hyg.* 97, 1355–1361. <https://doi.org/10.4269/ajtmh.16-0612>
- USAID, 2018. An Examination of CLTS’s Contributions Toward Universal Sanitation. Washington, DC.
- Venkataraman, V., Crocker, J., Karon, A., Bartram, J., 2018. Community-Led Total Sanitation: A Mixed-Methods Systematic Review of Evidence and Its Quality. *Environ. Health Perspect.* 126, 17. <https://doi.org/10.1289/EHP1965>



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About USAID/WASHPaLS

The USAID Water, Sanitation and Hygiene Partnerships and Learning for Sustainability Project (USAID/WASHPaLS) is a five-year task order funded by the Bureau for Global Health that identifies and shares best practices for achieving sustainability, scale, and impact of evidence-based environmental health and WASH interventions. Through extensive desk reviews, key informant interviews, and field-based implementation research, USAID/WASHPaLS works with implementing partners to broaden the evidence base on the use and effectiveness of sanitation interventions, including Community-Led Total Sanitation (CLTS), market-based sanitation (MBS), and hygienic environments for infants and young children. For further information about this and other aspects of the project, as well as to access our knowledge products, please visit globalwaters.org/washpals.