

Tools for designing a credible survey of open defecation: A careful and well-supervised survey team is fundamental

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r.i.c.e. 6th June, 2017

This note summarizes r.i.c.e.'s recommendations for how to design and implement a household survey measuring open defecation. We have already shared these recommendations on prior occasions, including in meetings with government officials and multilateral agencies, in articles in the media, and in academic forums. We summarize our recommendations here for the meeting of the Expert Working Group for the National Annual Rural Sanitation Survey (NARSS).

1. Carefully measuring open defecation is essential to understanding it and bringing about its elimination

Measuring *latrine use*, above and beyond counting the number of latrines that have been constructed, is an important step towards addressing India's stubborn open defecation challenge. Numerous studies have found substantial open defecation among people living in households with latrines. This indicates that the fraction of the population without a latrine certainly underestimates, by a potentially large amount, the fraction of *people* who defecate in the open. Conducting a survey measuring person-level open defecation and latrine use is therefore essential to understanding and eliminating open defecation.

2. Credibly measuring open defecation depends on having motivated, well-monitored surveyors

An important concern when collecting self-reported behavior is that respondents will over-report behaviors that they perceive to be socially desirable – or that they imagine interviewers find desirable. The case of open defecation is complicated: although open defecation is *not* stigmatized among many rural Indians, villagers may not want to report that they defecate in the open in surveys if they think that interviewers, who may be from a city or who may be latrine users themselves, will disapprove of their response. So, the key challenge is making respondents feel comfortable admitting to surveyors that they defecate in the open. It therefore is critical to recruit motivated surveyors who want to learn people's behavior and to train them well. Surveyors who show disapproval of open defecation in their language, in their mannerisms, or by asking questions quickly or aggressively, will be less likely to learn the truth than those who ask questions in a neutral, open, and slow way.

3. A smaller sample is probably much better than a larger sample

What matters most is that surveyors are monitored, trained, and supervised to create an environment with respondents from which we can credibly learn. In too large of a survey, this will be managerially impossible. It is true that a well-designed large sample survey has smaller sampling error than a similarly well-designed small sample survey, *but sampling error is not the only – or even the most important – likely source of error for this survey*. A small sample – perhaps representative for all of rural India or for a few key states or regions – could produce credible numbers with acceptably small sampling error. This sampling error could be quantified with standard statistical techniques. A larger, poorly-supervised sample could instead result in misleading results with bias that is not even able to be quantified.

4. One useful tool is to ask the right questions in the right order

In this section, we provide some tools that help guide surveyor-respondent interactions towards credible estimate of open defecation. *But we wish to emphasize that they are only tools. There is no substitute for the training of careful, sensitive surveyors who share and internalize the overall goals of the project.*

Before asking questions on open defecation, surveyors should first observe the latrine. In cases where the latrine is obviously not in use, a respondent is more likely to admit open defecation to the surveyor if the surveyor has already seen the latrine. Looking at the latrine first will also set the expectation for surveyors that not all latrines are in use. While observing the latrine, surveyors should record the following observations:

1. Is the latrine being used for some other purpose? [Other purpose indicates non-use.]

2. Is the squatting pan clogged with leaves/dirt/other materials? [Leaves/dirt/other materials indicate non-use.]
3. Is there a water container (for washing after defecation) in or near (within 1 meter) to latrine? [Water container indicates use.]
4. Are there slippers outside or inside the latrine? [Slippers indicate use.]
5. Are there supplies to clean the latrine pan (ie. toilet brush, cleaning fluid like Harpic)? [Cleaning supplies indicate use.]

Questions on behavior should only be asked after observing the latrine. A comparison of studies across Indian states, conducted both by independent researchers and government agencies, shows that studies that ask balanced questions about the sanitation behaviors of individuals rather than groups find higher rates of open defecation among latrine owners.

Surveyors should first read out an introduction that makes it clear they know that some people defecate in the open. Then surveyors should ask about the usual open defecation behavior of each household member as part of a household roster. Asking about *usual* behavior would classify individuals that use the latrine *most of the time* as usual latrine users, and individuals that defecate in the open *most of the time* as usual open defecators.

First: "I have seen that some people defecate in the open, and some people use the latrine. Now I want to ask about where you and your family members defecate."

Then, for every household member, "Does [NAME] *usually* defecate in the open or use a latrine."

These studies also suggest important principles for how to ask this question in a survey. These principles make sense because they slow down the interview, and they implicitly communicate that the surveyor expects the answer to be complex and varied, even within a latrine-owning household:

1. **Ask a balanced question.** Providing respondents with the option to choose either open defecation or latrine use in a balanced way without privileging one outcome over the other makes it less likely that they will default to the same answer for each person. For example, "Does [NAME] defecate in the open or use a latrine?" is balanced, while "Does [NAME] use a latrine?" is not.
2. **Ask about the sanitation behavior of each individual separately.** Surveys that ask balanced questions about open defecation or latrine use of each individual family member find more open defecation among latrine owners than surveys that group people into demographic categories.
3. **Ask about open defecation as part of a household roster.** By asking about open defecation or latrine use as part of a household roster, surveyors will ask about the behavior of males and older household members first. These are the people most likely to defecate in the open, which will show both surveyors and respondents that some people defecate in the open and others do not.
4. **Ask about latrine ownership separately from latrine use.** Asking about latrine ownership earlier in the survey among questions about ownership of other assets separates for both respondents and surveyors the issues of ownership and use. This prevents respondents from trying to guess what the "right" (or socially desirable) answer to latrine use questions should be.
5. **Make respondents feel comfortable admitting that they defecate in the open.** Ask supervisors to dismiss surveyors if they mock respondents or make them feel bad about not using a latrine.

5. A well-monitored, manageable, sample survey should be the goal of the NARSS

The NARSS has the opportunity to importantly improve on the Swachh Sarvekshan Survey 2016. The Swachh Sarvekshan asked the question: "Does any member defecate in open sometimes." This is inadequate because it is not balanced, and it does not ask about the sanitation behavior of every individual in the household. Additionally, the Swachh Sarvekshan visited only high-performing districts that looked good in advance, and failed to visit a single district in Uttar Pradesh or Bihar. The NARSS should ask a balanced question of each individual in the household, have a careful and sensitive survey team that cares about measuring open defecation well, and provide a representative estimate of rural open defecation by sampling a manageably-sized sample of rural India. Yet, we emphasize again that no survey question or survey format design is a substitute for the motivation, training, selection, and commitment of the surveyors who – through their social interaction with respondents – produce the evidence behind the survey.