



# Using behavioural science to support latrine use in rural India

## Findings from behaviour change interventions in Karnataka

### Ending open defecation for good

The Swachh Bharat Mission (SBM) successfully addressed India's open-defecation problem by supporting the construction of household latrines. However, in Karnataka, people with access to latrines do not always use them.<sup>1</sup> Participants explained that during the dry season, limited water availability makes toilet use difficult. Others noted that there is no latrine available near their place of work, and therefore using the toilet is inconvenient. These trends were consistent with survey results from Bihar.<sup>2</sup>

In 2016, the International Initiative for Impact Evaluation (3ie) launched the Promoting Latrine Use in Rural India Evidence Programme to understand whether behavioural-science-informed interventions can improve latrine use. The programme commissioned interventions that use behaviour change approaches to encourage latrine use, as well as evaluations of these interventions, in Karnataka, Gujarat, Bihar and Odisha. On average, *these behaviour change interventions resulted in small but significant increases in self-reported latrine use.*

### Highlights

- The behaviour change intervention in Karnataka increased self-reported latrine use by 5 percentage points more than what was seen by the Swachh Bharat Mission (SBM) alone.
- Behaviour change interventions may help health officials continue to promote latrine use in hard-to-reach communities.





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## Designing interventions for local behaviour change


The interventions supported by 3ie targeted the *behaviour* of latrine use. In contrast to interventions that expand access of a good or service, behaviour change interventions try to influence people's habits and attitudes (Table 1).

3ie's four behaviour change interventions were uniquely designed to address the

reasons why people with latrines choose not to use them in each state. To understand the effectiveness of the behaviour change approach in increasing latrine use, researchers compared latrine use in villages that participated in the intervention to villages that did not – both before and after the intervention.

This allowed them to compare the increase in latrine use in control villages (which was due to the SBM) with the increase in intervention villages. Any increase in the latter, beyond what was seen in the former, is an impact of the intervention. Researchers investigated changes in *self-reported latrine use* and the *observed state of household latrines*.

**Table 1: A comparison of behaviour change and non-behaviour change interventions**

Behaviour change intervention example	Non-behaviour change intervention example
<p>A group of community leaders commissions a series of colourful murals of the SBM image to remind people to use toilets.</p> 	<p>BPL families are given green ration cards to collect food grains from shops.</p>
<p>At a community meeting, participants view videos of neighbours who regularly use latrines discussing why they prefer them.</p>	<p>District health officials build sewage treatment plans for rural areas.</p>



## The intervention in Karnataka

WaterAid India and the Swiss Federal Institute of Aquatic Science and Technology worked closely with Raichur district health officials to design a behaviour change intervention for participating villages. First, the team asked programme participants to identify reasons

why people do or do not use latrines. Next, the team identified behaviour change techniques to address these reasons. Finally, the team created and implemented an eight-day intervention that included community meetings, household visits, follow-up phone calls with

participants and sessions at Anganwadi maternal health centres. The baseline assessment findings informed the behaviour change activities implemented during the intervention (Table 2).

**Table 2: Reasons for not using a latrine and how they were addressed in Karnataka**

Reason against latrine use (given by community)	Behaviour change technique used	Intervention activity to address reasons for non-use
Lack of information on latrine use costs and potential benefits	Inform participants on costs and benefits of latrine use	At a community meeting, participants watch a video of their neighbour, a farmer who used to practice open defecation, speak about how he switched to latrine use. The video is followed by a discussion on the advantages and disadvantages of latrine use.
Difficulty remembering to use latrines	Give participants memory aids and prompts	At a home visit, a family is given a commitment poster with signatures of all family members. Reminder stickers are placed on the water tank overflow alarm or water containers.
Low confidence in recovering from relapse in latrine use	Provide reassurance and support	During a phone call reminder, a participant is told that open-defecation relapses are normal.



# Behaviour change interventions improve self-reported latrine use

After all intervention activities were implemented, the research team evaluated the impact of the intervention on self-reported latrine use.

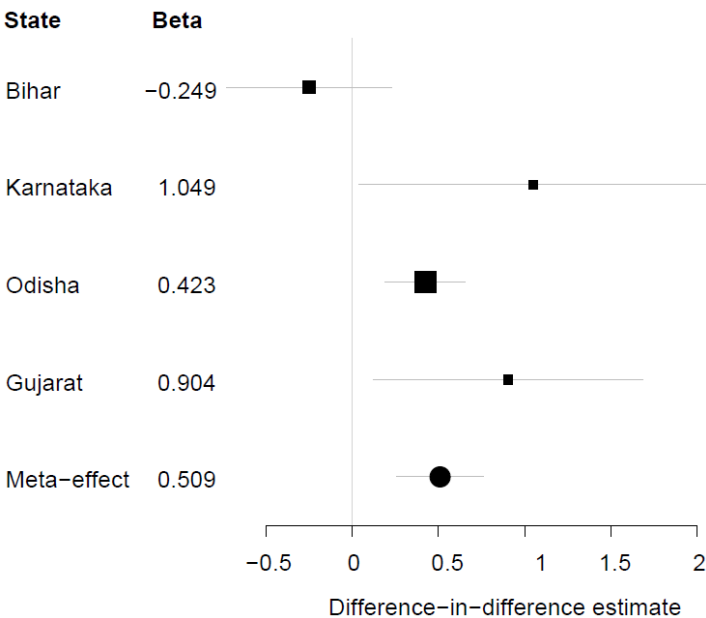
In intervention villages, self-reported latrine use increased by 20 per cent; in control villages, it increased by 15 per cent. This 5 percentage point difference suggests that behaviour change

interventions moderately improved self-reported latrine use beyond the SBM effort (Table 3). There was no significant change in the observed state of household latrines.

Despite immense cultural and socio-economic differences, findings from the study in Karnataka were consistent with results in Gujarat and Odisha. The four behaviour change interventions, when considered

collectively, moderately improved self-reported latrine use (Figure 1). This finding suggests that behaviour change interventions have the potential to effectively increase latrine use across India. However, in Bihar, there was no significant change. Participants in Bihar explained that they felt latrines were unhygienic and inconvenient.<sup>3</sup>

**Figure 1: The intervention’s effects on self-reported latrine use (larger values show increases in use)**



**Table 3: How the intervention changed self-reported latrine use**

Intervention village change in self-reported latrine use	Control village change in self-reported latrine use	Impact of behaviour change intervention
20%	15%	5%





## Keeping Karnataka open-defecation free

We show that behavioural-science-informed interventions can increase self-reported latrine use, even if they do not change the observed state of household latrines. Building on the SBM's monumental success, behavioural change interventions have the potential to sustain gains in

latrine use, especially in the context of the COVID-19 global health crisis. Health messaging about the spread of COVID-19 through the use of shared spaces may discourage public latrine use.<sup>4</sup> Behaviour change interventions are low-cost, helpful tools that may be used to

counteract this expected decline. While the results of the evaluation are suggestive, behaviour change interventions can be valuable for maintaining open-defecation-free villages and eradicating open defecation once and for all.







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## About this learning summary

This brief summarises findings from four cluster-randomised trials that assess the impact of behaviour change interventions on latrine use in in Odisha, Gujarat, Bihar and Karnataka. The four trials were conducted by Oxford Policy Management, Swiss Federal Institute of Aquatic Science and Technology (EWAG), Emory University, and the London School of Hygiene & Tropical

Medicine, and implemented by the Rural Welfare Institute, the Indian Institute of Public Health, Gandhinagar (IIPHG), Water Aid India and World Vision India.

The Promoting Latrine Use in Rural India Evidence Programme is administered by 3ie and funded by the Bill & Melinda Gates Foundation. For more information, please visit

<https://www.3ieimpact.org/our-work/water-sanitation-and-hygiene/promoting-latrine-use-rural-india-evidence-programme>.

This brief was authored by Jane Hammaker and Charlotte Lane. They are solely responsible for all content, errors and omissions. It was designed and produced by Akarsh Gupta and Anushruti Ganguly.

## Endnotes

<sup>1</sup> Aashish, NK, Desphande, D, Hathi, P, Kapur, A, Srivastav, N, Vyas, S, Spears, D and Coffey, D, 2019. Changes in open defecation in rural North India: 2014-2018.

<sup>2</sup> Unpublished results.

<sup>3</sup> Unpublished report.

<sup>4</sup> Lane, C, Khatua, S and Caruso, B, 2020. The use of behavioural-science informed interventions to promote latrine use in rural India: a synthesis of findings.



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