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Rigour, timeliness, and trade-offs in research: experience from India's Swachh Bharat Mission

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ABSTRACT

This article presents lessons learnt from the evolution and usage of rapid action learning methods developed to support the Swachh Bharat Mission – Gramin (the Clean India Mission – Rural) in India. The Mission, started in 2014, aimed to change the sanitation behaviours of over 530 million people across 706 districts in five years. Participatory, action-orientated research and learning methods were trialled with government implementers, development partners, and communities. It was found that these methods enabled both a greater understanding of impacts at the community level, horizontal learning across districts, and the capacity development of Mission implementers.

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1. Introduction

The Swachh Bharat Mission – Gramin, India's national rural sanitation program, was launched in 2014 with the aim to change the sanitation behaviours of over 530 million people practising open defecation across 706 districts in five years. The scale of the challenge was enormous, and the pace of change needed to be rapid. It involved not just the building of hundreds of millions of toilets but convincing hundreds of millions of people to use them. The program was tasked with overcoming the same challenges that had plagued previous sanitation efforts in India which had been unable to sufficiently change mind-sets, social norms, and cultural practices of both households and the administrative structures (Hueso and Bell 2013). The challenge India faced is not unique: many other countries still face an up-hill battle to move households away from practising open defecation and a reliance on unimproved sanitation facilitates towards the use of safely managed sanitation services. Many countries are off-target or even regressing; the poorest and most marginalised communities and households remain unreached, while expenditure for sanitation has been declining since 2015 (WaterAid 2021).

Benefits of improved sanitation and hygiene are multiple, including an increased cognitive ability in children (Orgill-Meyer and Pattanayak 2020), reductions in undernutrition and stunting (Budge et al. 2019), and several neglected tropical diseases (WHO 2018), reductions in risks, anxiety, and psychosocial stress (Sahoo et al. 2015; WHO 2018), as well as economic gains (Hutton et al. 2020).

Given the scale of the challenge in many countries, in order to ensure safely managed sanitation for all by 2030, there is a need for country-wide action including campaigns and programs operating at both speed and scale. Though there is an understanding of the desired outcomes, the exact route of how to achieve this is less clear. Given the complexity of the challenge, linear programmatic approaches are unlikely to provide solutions in this uncertain terrain (Burns and Worsley 2015). In

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this article, we argue that what is needed is *bold, persistent experimentation*, adaptation, and course corrections. This should be coupled with appropriate learning and research activities that can help decision-makers stay up-to-date with field realities, and to identify what works and what does not. In this context, under the pressure of speed and scale, the validity of learning and research interventions rests on the timeliness, relevance, and actionability of the knowledge produced.

Furthermore, achieving universal access to safely managed sanitation and hygiene services, and other persistent and messy problems, requires a shift in approach away from using theories of change based on rigid standardised inputs which are not sensitive to complexity and fast-changing contexts. Interventions need to understand and engage with the complex water, sanitation, and hygiene (WASH) system (Huston and Moriarty 2018) in which people and communities are embedded. This requires more flexible and open theories of change that enable innovation through rapid learning and reflections.

Systems thinking has already been drawn on to help explain how participatory processes can be used to get a better understanding of how to act within a system to best facilitate change (Burns 2015). This article explains and analyses the experience of trialling participatory, action-orientated research and learning methods ("*Rapid Action Learning*") with government implementers, development partners, and communities during the implementation of the Swachh Bharat Mission – Gramin. The article does not assess whether the Mission was a success and whether it achieved its goal of an open-defecation-free India, as the government claimed on 2 October 2019. Instead, it looks at some methods used to enable a greater understanding of the field realities, support faster evidence creation, support horizontal peer-to-peer learning, and capacity development of the Mission's implementers. The learning approaches discussed in this article are important both for India, as it implements the second phase of the program, and other countries that are struggling to progress towards access to adequate and equitable sanitation and hygiene for all. Furthermore, these lessons are also not limited to sanitation: this approach to research and learning is applicable across the Sustainable Development Goals.

2. Literature review

The Swachh Bharat Mission – Gramin has been praised for high-level and persistent commitment which filtered down to all administrative levels (Curtis 2019; Mehrotra 2021; Sarker and Bharat 2021), of disrupting the political system (Curtis 2019), matching political commitments with financial investments (Sarkar and Bharat 2019), and human resources (Mehrotra 2021), alongside claims of reductions in acute diarrheal disease outbreaks in 2018 and 2019 (Dandabathula et al. 2019) and reductions in undernutrition in children under five (Singh et al, 2021). However, in some places, this has been gained through the use of coercion, sanitations, and threats, mostly directed towards scheduled castes and tribes (Praxis et al., 2017a, Gupta et al. 2019; Mehrotra 2021), and focusing on shame and uncleanliness (Dash and Dash 2020). Official figures have also been disputed, with the credibility of data on open-defecation-free (ODF) claims questioned (Exum et al. 2020; Mehrotra 2021). The absence of water as a major component (Kumar 2017) and the impact this has on toilet use (Exum et al. 2020) has also been noted, as has the chronic underfunding of faecal sludge management (Jain et al. 2020), although the Jal Jeevan Mission and Swachh Bharat Mission Phase II are attempting to tackle these issues. Swachh Bharat Mission – Gramin has also been accused of being rushed and top-down (Praxis et al. 2017a) and, despite the behaviour change rhetoric, in many places it became a subsidised construction programme (Mehrotra, 2021). Furthermore, despite Swachh Bharat Mission guidance documents condemning manual scavenging, no steps of how to eradicate it were proposed and issues related to the rights, protections, and empowerment communities engaged in these practices were sidelined (Saldanha et al. 2022).

The widespread need for timely, relevant, and actionable learning and its feedback into policy and practice is rarely met by conventional, traditional scientifically rigorous, and academic research

(Burns, Howard, and Ospina 2021). Randomised controlled trials (RCTs) have long been considered the gold standard for reliable and rigorous research (Bédécarrats, Guérin, and Roubaud 2020), with a high value placed on accuracy, replicability, standardisation, and external validity rather than timeliness, relevance, and usability. Due to the large scale and intensive nature of RCTs, and the need for them to be well designed (Kendall 2003), they often postpone learning by taking two or more years for results to be known, have limited scope, are costly, and are rigid once launched. RCTs also have challenges related to bias (due to errors in methodology); confounding (related both to the outcome and the intervention) and mistaking associations when they might be instead a result of a different factor altogether (Braga, Farrokhyar, and Bhandari 2012); and chance (a random error appearing to cause an association between an intervention and an outcome) (Kendall 2003). Proponents of RCTs in economics and social sciences have also been accused of ignoring ethical considerations, not adequately assessing what is already understood about the risks and potential negative consequences for participants placed in a control group (Abramowicz and Szafarz 2020; Ravallion 2020). Additional ethical concerns have been raised around informed consent, adhering to "do no harm" principles, and ensuring the control is offered the treatment after the experiment (Bédécarrats, Guérin, and Roubaud 2020).

RCTs may be appropriate, albeit costly, when treatments are standardised and the receiving environments and controls are uniform, predictable, and separable (Chambers 2017). However, this is rarely the case in the real world, especially in the context of a widespread government-led campaign in which a range of different inputs disrupt control groups. A World Bank RCT in rural Punjab looking at the effects of Swachh Bharat Mission – Gramin reported that there was a distinct possibility that control villages received the intervention due to political priorities while the program in intervention villages was withdrawn due to a lack of funding and a significant shift from the initial planned interventions to implementation (Andres et al. 2020). Furthermore, the endline results were due to be collected in 2020, after the completion of the Mission, when the state was supposedly ODF and a shift in central governments focus and resources away from sanitation had taken place.

Kaminsky and Jordan argue that RCTs in water, sanitation, and hygiene struggle to prove why variables contribute to the outcome being measured. They use the example of how different trials looking at community-led total sanitation (CLTS) interventions show very different impacts in outcomes such as stunting, incidence of diarrhoea, and rates of change in latrine ownership (Kaminsky and Jordan 2017). One explanation for this could be that CLTS is implemented differently across and within countries. Furthermore, its success is based on a number of different geographical and contextual factors, including rates of open defecation, a history of toilet subsidisation, soil types, and rates of social cohesion (USAID 2018). The treatment, dose, and study subjects consequently vary within and between studies.

It has been proposed that participatory and engaged forms of research (e.g. inquiries carried out by groups of practitioners or communities themselves) can be assessed in terms of their validity more than replicability: this requires "broadening the bandwidth" of understandings of research rigour to encompass ethics and "a concern for engagement, dialogue, pragmatic outcomes and an emergent, reflexive sense of what is important" (Reason and Bradbury 2006, 343). A focus on grounding in local realities, development of a deep understanding of the context, and remaining open to adaptation, evolution, and complexity enhances rigour (Burns 2018).

3. Rapid action learning

Through our work on *rapid action learning,* we have developed a framework which draws on Reason and Bradburys' (2006) expanded definition of rigour, which we construct around the three core criteria of *Timeliness*, *Relevance*, and *Actionability* (see Table 1). This criteria follow in the tradition of other action-orientated methods, including rapid rural appraisal, participatory learning and action, rapid epidemiological assessments, and participatory action research (Chambers 2008; Cornwall and Jewkes 1995). Principles of this work include the right for people affected by decisions to participate

Table 1. Timely, relevant, and actionable criteria.

Timely	Relevant	Actionable
- Speed of research, learning, and sharing is increased with rapid feedback to policy and practice. - Methods and activities are designed to support rapid analysis and feedback loops. - Mix of both formal and informal research to enable learning and feedback.	- In touch and up-to-date. - Context-specific adaptive to fit local conditions. - Adapted for and with the people we are working with: research participants and implementers. - Emergent and reflective of the needs of the sector. - Inclusive of various social groups. - Open to complexity and multiple causation; not assuming change occurs because of one factor or input. - Conscious learning of lessons from mistakes, failures, and successes. - Partners (both from government and civil society) are actively involved in methodology development, data collection, and analysis.	- Practical, usable, and achievable. - Recommendations proposed, and aimed for from the start. - Accessible for adoption and/or adaptation. - Actionable because timely. - Actionable because relevant!

in decision-making processes, listening to often ignored or unheard voices, seeking out, trusting, and learning from local knowledge and different perspectives, and drawing on a range of different participatory methods that enable appraisal, analysis, and action led by people themselves (IDS n.d.)

Rapid action learning is inductive in orientation, open to surprises, explorative, and experimental, applying adaptive management principles to learning processes and adapting and innovating based on what is found to have worked and to have been useful by participants and knowledge users. It is *transdisciplinary* and includes the involvement of governments, development partners, and local communities. It generates learning from experiences and observations and enables iterative revisiting of theories of change. This all contributes to the generation of learning that is *timely*, *relevant*, and *actionable.*

4. Method

This article draws on both academic and grey literature and the authors' own experience of designing, trialling, and evolving these methods throughout the five-year Swachh Bharat Mission. These methods have not been static and have been modified throughout. The use of these different methods was accompanied by frequent deliberation, monitoring, and evaluation efforts to assess the outcomes of the activities in effecting the capacity of program implementers and subsequent change in practice and policy. This included two external evaluations, feedback forms collected during workshops, informal feedback from partners, and ongoing monitoring, evaluation, and learning efforts of the implementing organisations.

A note on positionality: all three authors are white British, UK-based, working in India, a former British colony, with partners and researcher participants from different racial, experiential, and cultural backgrounds. Taking this into account, we worked closely with Indian partners throughout, co-designing and incorporating different perspectives from the partners involved, providing space for deliberation and discussion, and aiming for a horizontal partnership model.

Our partners were sometimes UN agencies and international non-governmental organisations, and the third author has a long history of working in India and is well-known in certain academic and administrative spheres. This came with the power and opportunity to access certain spaces and higher levels of influence with government stakeholders.

Regarding our role, the authors were also closely involved in the methods outlined as co-designers, facilitators, funders, and researchers. We sought to shift our role from one of a top-down researcher to one of a facilitator, transferring control to local partners and workshop and research participants through the use of participatory methods and participatory practice when

designing these approaches. Through this, we believe we were able to maintain a grounded understanding of the realities faced and actions needed. However, our position will undoubtedly affect the findings, discussion, and conclusions.

5. Activities: rapid action learning workshops, rapid topic review, and immersive research

The following section presents three examples of *rapid action learning* methods that were trialled. Rapid action learning workshops (Example 1) illustrate a method that focus on identifying good (and bad) practice, sharing knowledge, analysis, reflection, and the generation of action. Immersive research (Example 2) and rapid topic explorations (Example 3) demonstrate approaches for data collection and uncovering realities of communities and practitioners. Though presented separately here, they were often used in coordination with one another.

5.1. Example 1: rapid action learning workshops

Rapid action learning workshops are horizontal learning exchanges between implementors. To date, they have been run almost exclusively with government staff, all of whom have direct first-hand experience of working on the Swachh Bharat Mission. Workshops have been co-convened by the Government of India, Water Supply and Sanitation Collaborative Council India (now the United Nationals Office for Project Services WASH Team), and the Institute of Development Studies at different administrative levels. During the Mission, two workshops at the national level, six at the regional level, and three at the district level were held. At the workshops, government staff teams working on the Swachh Bharat Mission come together to share and learn from each other, analyse and reflect, and develop action plans.[1]

The aims of the workshops were to:

- provide participants (national- and sub-national-level actors) with ideas and means to accelerate progress towards sustainable and equitable outcomes;
- learn from successful experiences and to provide opportunities for sharing insights, innovations, and successful practices, including methods, processes, and approaches developed by peers in other states or districts;
- make these accessible for adoption and/or adaptation by others; and
- allow area-wide teams to review practical lessons learnt and to integrate that learning into action plans.

Prior to the workshops, an organising team was set up to identify cases from the field. A template was sent out to participating areas to collect the details of innovations in advance. These were then reviewed by the organising team, giving the team insight into what was likely to be shared in advance.

Workshops ideally lasted over three days, with the first day consisting of horizontal, informal, and decentralised sharing of experiences, the second either being a field trip or continued sharing, and the third day dedicated to action planning. Time was built in throughout for review, reflection, and analysis by teams. On the final day, District Magistrates, the people leading all district activities, were invited, engaging in discussion with the teams and learning about the different approaches and actions identified.

To support horizontal knowledge sharing and learning between peers, "hunter-gathering" – a participatory process of rapidly collecting and collating information, experiences, and contributions – was used. Rather than top-down, teacher-led learning, district or state teams (participants from the same locality) set up stalls clearly advertising what they had to share. Teams then split between *hunters* who visited other stalls to *gather* information that is most useful for them and their team,

and those who stayed behind to provide information for others. At the end of these sessions, teams reassembled to consolidate key findings and reflect on the applicability of the knowledge gained to their own context. Sessions could take place in rounds, giving different team members the chance to be hunter-gatherers and information providers.

In addition to action plans developed by participants, immediately after a workshop finished, a short punch report was produced, including the most resonant experiences shared, usually within 48 hours, and shared with participants to ensure momentum was not lost. It also provided those returning to their offices with a document they could refer to when discussing the workshop and action plans with colleagues.

Linking to the *rapid action learning* criteria, learning was *timely*, as information collected and shared was focused on current and emerging practices that were yet to be documented. Rapid report writing and dissemination post-workshop enabled these practices to be shared both with workshop participants and made available for wider dissemination. The process involved analysis of peers' work and reflections. Peers were likely to have a better understanding of the day-to-day realities of other participants, making it more likely that information shared was *relevant* and that the nuts and bolts of implementation were shared, questioned, and reflected upon. Workshops were participant driven, enabling those with lived experience of implementation, identifying, analysing, prioritising, and deciding the actions to take. Participants throughout were working towards the development of practical, usable, and achievable *actionable* plans.

Limitations of these workshops include the sharing of potential malpractice. Checks and balances have been added, such as information on innovations being shared in advance. This is especially important given the critiques of the Mission mentioned above. However, challenges arise and mistakes have been, and will continue to be made. Workshops to date have failed to ensure a gender balance, with men hugely outnumbering women. Given the participant-led democratic nature of the events, this likely leads to the exclusion of certain issues and prioritisation of others. Despite recommending mixed-gender teams, the makeup of the workshops often reflect the composition of implementation staff. There is also a risk of events turning into a competition between rival areas; careful facilitation encouraging and celebrating the sharing of failures and lessons learnt can help avoid this. In addition, although attempts have been made through post-workshop surveys to monitor increases in participants' knowledge and capacity, the monitoring of how action plans developed during the workshops were actually implemented has been weak.

However, they have been found to be effective at different administrative levels of identifying and spreading good practice, innovation, and knowledge between peers, both in-person and more broadly through workshop reports (Jones unpublished.). They also support the capacity development of participants and lead to the development of achievable action plans (Murray and Michael unpublished). The preparatory stage has been highlighted as critical to ensuring participants come prepared to contribute (Jones unpublished.), while hunter-gathering has been found to be a successful way to engage government officials and community leaders in horizontal learning (Murray and Michael unpublished).

5.2. Example 2: immersive research

Immersive research involves a group of researchers staying in households in communities for a number of days and nights, immersing themselves in the lives of a household and the wider community.[2] It draws on and adapts the Reality Check Approach (Jupp 2021), which has been applied in at least eight countries across Africa and Asia. Since 2017, three immersive research processes have been conducted. The first was conducted in eight villages by Praxis, the Institute of Development Studies, and WaterAid India (Praxis et al. 2017a); the second in 58 villages across 14 Indian States carried out by 53 students (University of Delhi et al. 2019); and another, in 2019, by WaterAid India and the Institute of Development Studies in nine villages with graduate students from

different universities across India (WaterAid India and IDS n.d.). All three studies took place at different times over the course of the Swachh Bharat Mission – Gramin.

Prior to field work, two to three days of planning and training was undertaken, with all researchers involved. This included sessions on the program, ethics and gaining consent, attitudes and behaviours (including awareness and sensitivity around gender and caste), note taking, and participatory research tools. Researchers then lived with community members in a selected number of communities, typically for three to five days and nights. Usually, two to three researchers would stay in the same community. While immersed, researchers learned open-endedly from lived experience, observation, and conversations. There were no questionnaires or interview schedules. Meeting times and places were decided as per people's convenience. Researchers participated in household tasks, such as cooking and collecting water, wandering around, and observing, had unplanned and open-ended conversations, were open to surprises and follow-up, flexibly, on whatever was new and relevant. Power imbalances between immersed researchers and participants were inevitable but equal relationships of trust were sought; for example, through being open and ready to answer questions about their own lives, taking time to engage in conversation around issues people found important outside the scope of the study, and spending time undertaking work-related tasks and household chores with participants. Deliberate efforts were made to offset elite bias (those in positions of power within a community) and to seek-out those who were marginalised, very poor, or living on the edges of the communities. The process often started with a community mapping exercise, with the maps used by the researchers to plan a schedule for their time in the community, ensuring that all parts of the village were visited and all who want to talk were able to. Participatory rural appraisal methods such as timelines and ranking exercises have also enabled analysis. Teams should present general findings back to communities before leaving.

Post-immersion, researchers were brought together to share, reflect, anonymise data, analyse and consolidate a report, and develop recommendations for future action. This process usually took two days. Although an official report took longer to finalise and publish, informal feedback was provided almost immediately to relevant government and non-government actors.

The process provided *timely* findings through rapid data collection and analysis, and feedback was provided almost instantaneously to government and non-government stakeholders. Regarding *relevance*, the approach allowed time to seek meetings and discussions with those often missed, including older people, young children, marginalised households, migrants, and those living on the outskirts of communities. These are the people most likely to have been left out of an intervention. It also sought to gain a fuller understanding of the lived experiences within communities, and did not hone in on one factor, but remained open to surprises throughout. Space and time were available to triangulate information and gather different viewpoints from a diverse range of people within a community. Finally, *actionable* recommendations were discussed and validated with community members and aimed for during post-immersion researcher workshops.

There are also challenges and limitations. They enable both professionals and researchers who may rarely visit rural communities to get a deeper understanding of issues faced than if they were to undertake a survey or participate in a pre-arranged community meeting. However, they are not a replacement for anthropological fieldwork and ethnographic research, which gives a richer and more nuanced understanding of the sociocultural context but takes substantially more time. In addition, immersive research is an intense, time consuming, and sometimes uncomfortable (although also rewarding) experience. It is hard to do at scale. However, efforts are made to counter this through selection of "typical" villages and the example of the University of Delhi highlights that it can be done at scale. With regard to mistakes, individual village-level feedback has not been consistently provided to all research participants before researchers leave. The number of people interacted with over the course of an immersion makes this challenging. In addition, consolidated findings across villages have not been systematically presented to community members; this is something that needs to be rectified in future processes as the methodology is improved and refined. On occasions when immersions have been organised by sanitation and hygiene field

partners, researchers have been viewed by communities as toilet inspectors. Another challenge to navigate is around caste, which will inevitably affect interactions between researchers and communities. The first immersion was undertaken with an organisation with vast experience of working with marginalised social groups and castes, and designed to be caste aware and sensitive. Subsequent processes have involved students and development partners and included initial training of attitudes and behaviours. Caste was discussed in detail, including the removal of any obvious caste signifiers such as certain kinds of clothing and jewellery. However, it needs continuous reflection, discussion, and navigation. Regarding ethics, the Reality Check Approach has been critiqued for not adequality preparing field researchers in engaging with vulnerable research participants (Calder and Wylde 2018) and getting consent (Shah 2018), among other things. During immersions, informed consent (verbal) was aimed for from all those interacted with over the course of the immersion, including consent from both children and their parents or carers; however, it can sometimes be challenging with people joining conversations at different points. Individual names and villages were anonymised. Furthermore, during the initial planning meeting and training, sessions on attitudes and behaviours, safeguarding, gaining consent, and ethics were an integral part of the approach.

5.3. Example 3: rapid topic explorations

Rapid topic explorations are a time-bound, but otherwise flexible, approach to the collection and analysis of current knowledge on a topic which has yet to be summarised by research. Topics selected often cut across different disciplines. They are usually desk-based, involving reviewing academic and grey literature and interviewing key informants; however, where relevant, they do include "ground truthing" exercises (collecting information from the field) to better understand field realities.

Topics to date have covered twin leach-pit technologies (Bejjanki 2017); septic tanks and rural faecal sludge management (Ganesan 2017); men and open defecation habits (Satyavada 2017); sanitation coverage, usage, and health impacts (Viswanathan 2017); toilets and water use (Satyavada 2019); and retrofitting needs (Srivastava 2019). See Table 2 for methods used and selected findings and recommendations for each study. Topics have been selected in consultation with government stakeholders and development partners to ensure they are relevant to the intended audience.

Though researchers were given methodological freedom, conditions for the explorations were: (1) methods used were clearly explained, (2) recommendations were provided for policy and/or practice, and (3) the work was completed in a limited number of days, usually 20. "Explorers" triangulated from different sources. Methods used across the studies included field visits; key informant interviews (telephone, video calls, and face-to-face interviews); reviews of policies, grey, and academic literature; and ongoing studies. Studies were published and disseminated quickly, giving stakeholders an opportunity to take immediate actions.

The experiences to date have demonstrated that synthesis of knowledge can be produced at speed and made available to relevant stakeholders in a *timely* manner. The utilisation of multiple methods, both formal and more informal, allowed research to triangulate data generated from different parts of the research process (Taket and White 1997). Regarding *relevance*, the data collected and analysed was in touch, up-to-date, and context-specific at the time of publication. Furthermore, as topics were generated in consultation with stakeholders, buy-in was established and studies were reflective of sector needs. Finally, findings generated insights and *actionable* knowledge, with specific recommendations proposed that were practical and usable.

However, it is important to note that this approach is not appropriate for exploring many topics, for example when longer-term studies might be needed, such as changes over a time. Furthermore, identifying and recruiting people with the right mindsets, attitudes, and skills, who are comfortable being methodologically flexible, was challenging: previous training in traditional academic rigour, for example, can be a hindrance. There is an element of risk with each study, both in terms of identifying the right topics and the right researcher. There were two occasions in which reports were unable to be published.

Table 2. Rapid topic exploration methods and selected findings and recommendations; all undertaken in 20 days.

Study	Methods used	Selected findings	Selected recommendations
State of Knowledge Report on Twin Leach-Pit Toilets (Bejjanki 2017).	Literature review (academic and grey). Interviews, focus groups, and observations in three open defecation–free declared villages in one district in Telangana. Key informant interviews with government staff.	A lack of knowledge on the technical aspects related to cost and construction; also, on the design and function of twin-pit latrines.	Develop interactive and easy-to-understand information, education, and communication material. More demand-side interventions needed. Support cross-learning between long-term users of twin leach-pit toilets.
Review of Household Use of Septic Tanks and Fecal Sludge Management in Rural India (Ganesan 2017).	Data collected from eight districts, including through field visits and telephonic interviews. Interviews with masons, households, NGO staff, and government. Interviews with faecal sludge management service providers.	Where septic tanks have been built, the Bureau of Indian Standards (BIS) had not been followed. Faulty construction and careless treatment of faecal sludge were second-generation challenges that need attention.	Protocols need developing for faecal sludge disposal. A survey should be undertaken in states with high levels of septic tanks. Agencies that work in faecal sludge management should be mapped and monitored. Training of masons on BIS is needed.
Men and Open Defecation (Satyavada 2017).	Reviewing studies (published and unpublished). Rapid field visit to villages in three villages across two states (Haryana and Bihar). Telephonic interviews with Swachh Bharat Mission – Gramin staff and development partners.	Campaigns have focused on women, with men continuing to practice open defecation. The study identified efforts to encourage men to use toilets.	Messaging needs to be broadened to emphasise the importance of toilet use among men. Actively search for, collect, and share these examples. Involve men as change agents in the drive to open defecation–free status.
Sanitation Coverage, Usage, and Health: A Rapid Investigation (2017).	Review of literature including surveys a range of surveys and published research.	Different methods have been used to assess coverage, partial usage of toilets, and health; however, current knowledge points to the need for high levels of coverage and usage to achieve major health and nutrition benefits.	Improve coordination between health, sanitation, and nutrition interventions. The need for more robust surveys that measure individual behaviours, asking about both latrine use and open defecation. Information, education, and communication to improve usage, highlighting the link between sanitation, health, and stunting. Improve water, sanitation, and hygiene conditions in maternal and child health centres.
Retrofitting: The Next Step for the Swachh Bharat Mission? (Srivastava 2019).	Reviewed studies, policies, and guidelines. Key informant interviews. Field visits across three terrains in Uttar Pradesh.	Retrofitting is needed for both sub- and superstructure. In some cases, retrofitting will not be possible and construction will need to start from scratch with locally appropriate technologies.	A rapid survey methodology needs to be developed and rolled out to identify the different retrofitting needs. Technical guidelines are needed in local languages. Mason and sanitation representatives at the village level should support retrofitting on the ground; capacity needs strengthening in order to do this.
More or Less: A Rapid Review of "Water for Toilets" in Rural India (Satyavada 2019).	Literature review. Field visits to eight districts in three states. Observations, interviews, and focus group discussions.	Absence of water in latrines, purity, and sanitation rituals; extra work associated with latrine use, particularly by women, deters the use of latrines.	Intensify and reorientate information, education, and communication efforts and increase awareness about water conserving practices for toilet use, including:

(*Continued*)

Table 2. Continued.

Study	Methods used	Selected findings	Selected recommendations
			- promoting rural pans; - using brushes rather than water; and - providing information about water requirements for different toilet technologies.

6. Discussion and lessons learnt

There are commonalities and lessons learnt from across the three examples presented above. Work is needed beforehand to engage decision-makers at the beginning of these processes. All three examples have involved both senior policy makers in government and non-government partners, who have been actively involved in topic selection, methodological development, data collection, and analysis, with key decision-makers involved at key strategic moments. For example, District Magistrates (those in charge of the district administration) attending the final day of rapid action learning workshops, and the selection of rapid exploration topics emerging from discussions with those leading the campaign. Without high-level support, these initiatives, or the findings that emerge, are unlikely to get traction. Rapid action learning needs to be demanded by government and agencies.

As mentioned above, rapid action learning builds on a rich tradition and principles of participatory action research (PAR), rapid rural appraisal (RRA), and participatory rural appraisal (PRA) (Chambers 2008). Much of this work has focused on facilitating meaningful processes with marginalised groups, at a small scale, and without sharing knowledge across these initiatives. This article's contribution is that it introduces scale, enables government involvement, and provides a framework to enable others to design timely, relevant, and actionable learning and research activities. It has been developed through trial and error in a context which demanded research that could offer scale and speed, in addition to generating knowledge grounded in local realities. The Swachh Bharat Mission pressured us (as researchers and participatory practitioners) to adapt to the needs of practitioners, policy makers, and, fundamentally, the communities we are hoping to support.

These pressures force researchers to make choices about the synergies and trade-offs with timeliness and rigour. The common academic view means rigour generally requires more time, and research done at speed undermines this.[3] These activities have demonstrated an ability to discover quality and in-depth insights that have their own rigour, through quick triangulation, being in touch and up-to-date, and through reflection, deliberation, and cross-learning (Reason and Bradbury 2006). The speed of having to find out fast has driven innovation and methodological development. These methods, like all methods, have trade-offs.[4] They could, for example, lead to practices being shared or actions proposed which lead to outcomes and impacts that may not yet been properly understood. However, there are also trade-offs to delay: if knowledge is not available in a timely manner and accessible format, it makes it extremely difficult to support any action taking place (Burns, Howard, and Ospina 2022). Furthermore, though timelines are short, inputs (hours worked) across all those engaged through formulation, data collection, analysis, deliberation, and debate and action planning are high.

Also important has been the monitoring and evaluation of the methods along the way. This has included case-studies, external evaluations, post-workshop feedback forms, and continuous reflection sessions by those involved in the implementation. Throughout, we have gathered evidence of what is working and what is not in relation to our work as researchers – in what ways rapid action learning contributed to improvements to policies, practices, initiatives, or implementation strategies. There have also been efforts to monitor increases in the knowledge and capacity of

workshop participants. This enabled us to adapt and evolve these processes. Furthermore, guides have been produced to share the methods in more detail for others to utilise and continue to evolve (see Abraham et al. 2018; Chambers, Mishra, and Myers 2018; Praxis et al., 2017).

The use of new and adapted methods in new environments comes with the need to identify ethical issues throughout, especially when engaging with vulnerable groups, including children. Methods have been developed through an iterative process, with adjustments made with each iteration. Ethical issues need to be navigated throughout by working closely with local partners to identify ethical concerns and finding space for reflection to ensure do-no-harm principles are followed at each stage of the process, including after activities have been completed. This involves active and tactful adaptations of research practice. The barriers facing sanitation and hygiene improvements remain vast and many questions are yet to be answered, including around shared sanitation in growing towns and cities (Tidwell et al. 2020), improving services for disadvantaged, vulnerable, and marginalised groups (House, Cavill, and Ferron 2017; Kohlitz, Carrard, and Willetts 2019), and the climate resilience of different sanitation systems (Kohlitz et al. 2019), to name a few. How we go about answering these questions will be an important consideration if we are going to meet Sustainable Development Goal 6.2. Debates around participatory and engaged approaches have ranged from critiques of it setting the micro against the macro, the local against the elite, and challenging whether they are indeed appropriate and relevant to understand ground realities (Cooke and Kothari 2001), to more optimistic views of the impact it can have at various levels (Hickey and Mohan 2004). This article has demonstrated different approaches that engage different stakeholders from the household to national government level. Rapid action learning will not be appropriate to answer every research question; for example, changes in gender norms in a community over time (however, a rapid topic exploration could provide an update of the current state of evidence for that particular context). Rapid action learning methods can be used in a complementary way, where small changes can be identified and responded to in real time alongside longer research processes. In a similar way that participatory action research has been proposed as a discipline to complement rather than overtake conventional social science (Bradbury-Huang 2010), rapid action learning offers something additional: it offers both a supplement and a challenge to conventional research methods and learning processes.

7. Conclusion

Rapid action learning activities, like programming more broadly, are not static but continuously evolving and need to adapt to suit the needs of research users and participants. These processes can help practitioners and development partners learn about field realities, both of their staff and the communities they are aiming to serve. They have been used to identify and share good (and bad) practices, provide timely, relevant, and actionable evidence, as well as develop the capacity of program implementers. The findings from a one-off activity considered in isolation will not be generalisable across a whole population. However, rigour and transferability can be built through rapid triangulation; the examples explained above have been separated out for clarity, but, in reality, they work best when integrated into the design of a wider learning process. More work is needed on how best to optimise the linkages between different activities in a particular context, and to integrate the insights of different knowledge-holders from across the water, sanitation, and hygiene "system". Furthermore, continuous reflections on ethics are needed.

Rapid action learning is not prescriptive; it proposes a framework rather than imposing a specific methodology, providing criteria for those planning, conducting, and funding research and learning activities. Researchers must be willing to challenge and expand their own assessment of rigour and validity. This requires adapting to the needs of the research user and considering timeliness, cost-effectiveness, relevance, actionability, and ethics; moreover, it necessitates being creative, innovative, and open in the methods they use.

Notes

1. A guide for convening and facilitating rapid action learning workshops is available for others to use (Chambers, Mishra, and Myers 2018).
2. Two guidance documents have been produced (see Abraham et al. (2018) and Praxis et al. (2017b)).
3. Although more traditional scientific research since the emergence of COVID-19, including vaccine trials and RCTs, has hugely accelerated in speed, this has only been achieved with large investments, something which is not replicable to overcome the multiple barriers to achieving the Sustainable Development Goals.
4. Recognised method-specific limitations are presented in Section 4.

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