CHAPTER 17

Purity, pollution, and untouchability: challenges affecting the adoption, use, and sustainability of sanitation programmes in rural India

Aashish Gupta, Diane Coffey, and Dean Spears

Abstract

Despite decades of toilet construction, open defecation (OD) remains stubbornly common in rural India. The three authors, all associated with the Research Institute for Compassionate Economics (RICE), explore one of the reasons for this: the rejection of affordable pit latrines – particularly the emptying of them – because they are considered ritually polluting. The research for this chapter was conducted as part of the Sanitation Quality Use Access and Trends (SQUAT) survey with Sangita Vyas, Nikhil Srivastav, and Payal Hathi; it was an initiative supported by the Bill & Melinda Gates Foundation and the International Growth Centre. SQUAT set out to answer the question: why is OD so widespread in India? People were interviewed in 3,235 households in the rural 'Hindi Heartland' – Rajasthan, Madhya Pradesh, Haryana, Uttar Pradesh, and Bihar. A parallel qualitative study involved in-depth interviews with 100 individuals in Nepal, Haryana, Uttar Pradesh, and Gujarat (see Coffey et al., 2014a and b). This chapter draws heavily on these two studies. It goes on to suggest some ways in which the restrictive social norms related to the use and maintenance of low-cost sanitation facilities can be challenged.

Keywords: Open defecation, Latrine pits, India, Caste, Untouchability

Introduction

Sanitation is widely recognized as an important determinant of early child health, especially where population density is high (Cutler and Miller, 2005; Hathi et al., 2014). Poor sanitation spreads bacterial, viral, and parasitic infections, including diarrhoea, polio, cholera, and hookworm (Feachem et al., 1983; Chambers and von Medeazza, 2014). Recent research highlights the continuing importance of improving sanitation in developing countries for sustaining reductions in mortality and morbidity (Humphrey, 2009; Spears, 2013).

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Yet, India, home to 60 per cent of the people who defecate in the open, stubbornly resists efforts to eliminate open defecation (OD), even as this behaviour becomes less common in the rest of the world. Why does OD persist in India? Why is the use and sustainability of two-pit Indian government latrines, which cost about US$200, so low? And what challenges do behaviour change campaigns, in particular Community-Led Total Sanitation (CLTS), face in India?

This chapter limits itself to a discussion of the role played by caste and untouchability in severely constraining the sustainability of sanitation programmes in India. We are not arguing that this is the only challenge facing programmes such as CLTS in India, but reducing OD in India would be impossible without understanding and challenging notions of purity and pollution which prevent Indians from adopting and using latrines.

Many people resist sanitation behaviour change because they see benefits from OD. This is true in India. OD is socially acceptable behaviour in rural India (Coffey et al., 2014a), while using a simple toilet might be considered a sign of weakness, infirmity, or old-age. Using a toilet might be socially acceptable for a young newly-wed daughter-in-law, and might even be encouraged, but is certainly not desirable behaviour for many other people in rural areas of India.

An important reason why people in rural India do not use pit toilets is anxieties related to filling of the pit and the need for its subsequent cleaning once the pit fills up. These anxieties are driven by beliefs in practices of purity and pollution, rooted in India's centuries-old caste system (Coffey et al., 2014b), and are explored in this article.[1]

Contexts and comparisons

Of all the countries in the world, sanitation challenges are the gravest in India. Most of the world's OD occurs in India, and most Indians defecate in the open. As Figure 17.1 shows, Africa is nine times as large as India in land area, but the number of people without latrines in India is more than three times that of Africa. The total number of rural people without a toilet in the whole of Africa was 182.5 million in 2012 (WHO and UNICEF, 2014). Considering a household size of 5.4 persons per household (Government of India, 2012) and that more than 116 million households did not own a toilet in India, at least 626 million people defecated in the open in 2011.

India has, by far, the highest density of OD, which means that babies growing up in India are exposed to the worst faecal disease environment in the world. This disease environment is worsening over time. From 108 million households defecating in the open in 2001, India had 116 million households doing this in its rural areas in 2011 (Government of India, 2012).

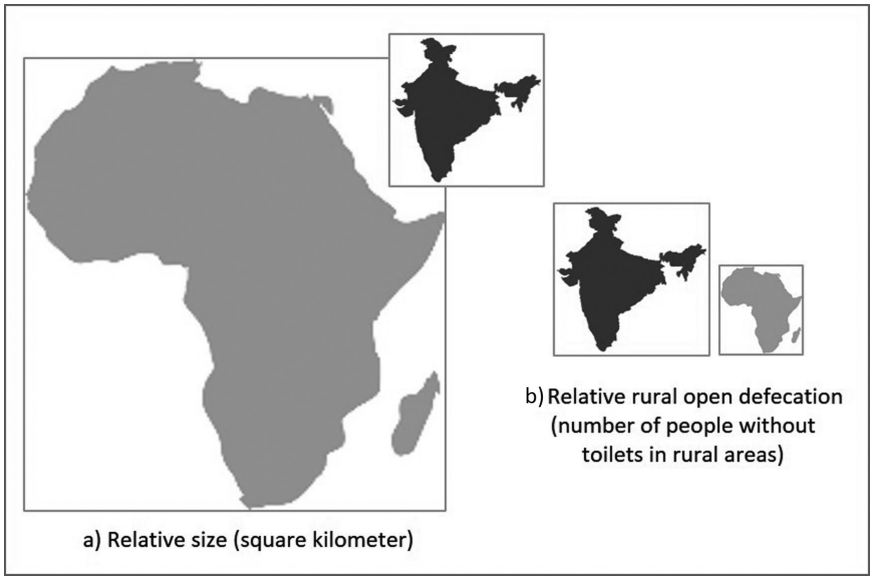

Figure 17.1 Comparison of India and Africa, by size and OD in rural areas
Source: Authors' calculations from WHO and UNICEF (2014)

Over the past two decades, India has had many sanitation programmes, and millions of latrines have been constructed by the government. Starting from the Central Rural Sanitation Programme in 1986, Indian governments have advocated using a 'demand-driven' approach but, in practice, they continue to prioritize the top-down construction of toilets (Hueso and Bell, 2013; Srivastav and Gupta, 2015a).[2] While the guidelines of the Total Sanitation Campaign (started in 1999), the Nirmal Bharat Abhiyan (started in 2012), and the Swachh Bharat (Clean India) Mission (started in 2014) advocate behaviour change campaigns and use CLTS approaches such as 'triggering', in practice most funds are devoted to the construction of toilets and, with few staff knowledgeable about behaviour change approaches, the consequence is that behaviour change strategies are weak and limited in scope (Sanan, 2011).[3]

Between 2001 and 2011, the Indian Government claimed to have built 78 million toilets in rural areas (Government of India, 2015). In the period between 2001 and 2011, the number of rural households increased by about 30 million. So by 2011 the number of households not owning a toilet should have declined by 48 million (from 78 million to 30 million). Yet, when the results of the 2011 census related to household assets were published, it was revealed that the number of households not owning a toilet had actually increased to 116 million (see Figure 17.2).

Most of the toilets constructed by the government were not in use in 2011, and many were not actually constructed in the first place because of corruption or a lack of demand (Hueso and Bell, 2013). Construction programmes in India

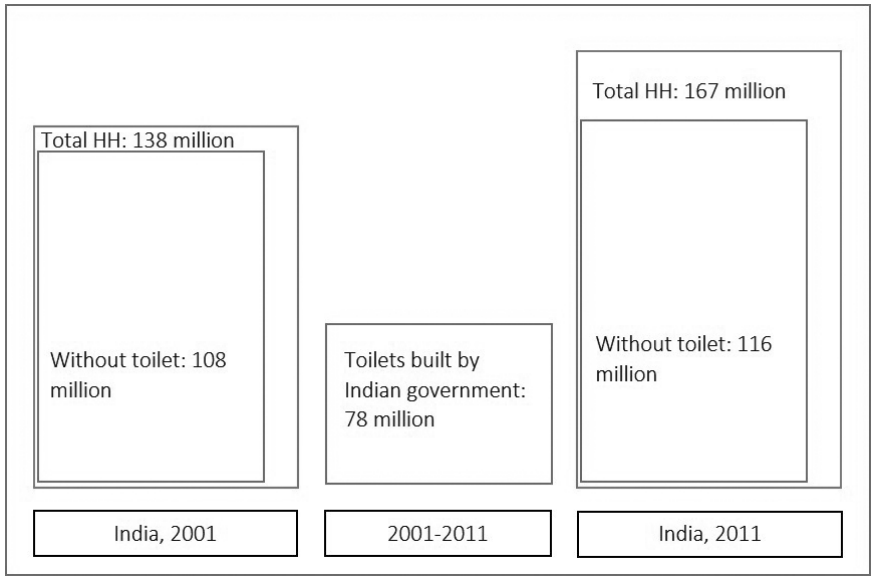

Figure 17.2 OD and toilet construction in rural India, 2001–2011

Note: HH = households

Source: Author's calculations from Census 2011 (Government of India, 2012) and NBA administrative data (Government of India, 2015)

are known to be corrupt and, in this case, the government was constructing something many if not most people did not want.[4] A lot of toilets that were constructed were repurposed into walls or roofs.

Across the world, more than 1.7 billion people are estimated to own some kind of a pit latrine (Graham and Polizotto, 2013). It is because of the ownership and use of simple pit toilets that OD is just 3 per cent in Bangladesh, 13 per cent in Kenya, 15 per cent in Afghanistan, and 23 per cent in neighbouring Pakistan. In countries defined as 'low-income' by the World Bank, OD is about 21 per cent. In sub-Saharan countries, about 25 per cent of the population defecates in the open.

Figure 17.3, which presents UNICEF-WHO Joint Monitoring Programme data on the types of toilets used in different countries, illustrates this point. The population is split into two categories, OD and unimproved or shared sanitation. The rest of the population, not shown in Figure 17.3, has access to improved sanitation – more expensive toilets, such as septic tanks.[5]

All countries listed in the figure have a lower per capita GDP than India. The data for India show that, even though India is richer than all other countries, no country listed has a smaller fraction of unimproved or shared sanitation.

Many countries, in contrast, have both a lower fraction of the population defecating in the open and a lower fraction with improved sanitation. In India, only 16 per cent of the population uses inexpensive toilets, compared with 40

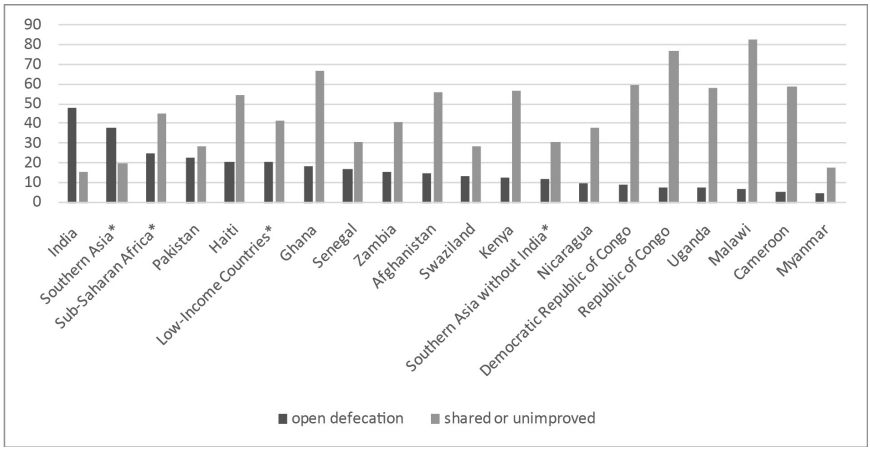

Figure 17.3 Indians do not use simple toilets

*Categories as defined by the World Bank in WDI 2015.

Source: Authors' calculations from WHO and UNICEF (2014)

per cent in Bangladesh, and 45 per cent for sub-Saharan Africa overall. Although Figure 17.3 only presents country-level statistics, the contrast for rural India is even starker: only 6 per cent of rural Indians use a simple toilet.

As for the sustainability of its sanitation programmes, and as stated above, India's record is probably the worst in the world. No other country that has invested as much as India in toilet construction has such a high rate of OD.[6] However, it is only recently that the scale of the failure has been recognized. Even in 2010 the Secretary of the Ministry of Drinking Water and Sanitation could say in a foreword to a World Bank Water and Sanitation Program review of India's Total Sanitation Campaign:

> The TSC can be considered one of the most effective programmes in rural sanitation across the world for its focus on a community-led, demand-driven approach in reaching total sanitation to villages across the country, resulting in rural populations living in a clean, healthy environment (WSP, 2011).

The following year, the release of the 2011 census (Government of India, 2012) made such optimistic judgements far less tenable, giving credence to studies which criticized the implementation of the Total Sanitation Campaign, such as those by Hueso and Bell (2013) and Barnard et al. (2013).

So why, given the extensive sanitation construction programmes in India, does OD persist on such a large scale? The following section focuses on the views people have about the government-promoted pit latrines, as revealed in the surveys carried out in rural northern India.

Caste matters

A small but growing amount of literature documents the importance of caste and purity and pollution for sanitation campaigns in India. Coffey et al. (2014c) and Lyla Mehta in her introductory chapter to Mehta and Movik (2011) discuss the implications of fragmentation along caste and gender lines in rural India for community-led approaches in particular and participative approaches in general. Mehta and Movik (2011) say: 'It is true that CLTS discourses draw on a rather idealized notion of "community" which in reality may be conflict ridden and moulded by gender, power, and patron/client relations and inequalities'.

Recent articles have argued that the use of patriarchal notions of veiling, women's modesty, and sexual violence faced by women may reinforce patriarchal social norms while harming the use of toilets by men (Srivastav and Gupta, 2015b; Coffey et al., 2014d).[7]

As for caste, there is a long tradition of research on caste and its role in undermining cooperation, development interventions, and programmes in rural India (a point originally made by Ambedkar 1979). Recent literature on its role in undermining sanitation programmes is also emerging. For instance, Coffey et al. (2014c) and Spears and Lamba (2013) discuss the implications of village conflict in India for caste campaigns. Ending OD is a public good and requires social cooperation, but most villages in India are affected by caste hierarchy, social distance, and adversarial caste relations. Both these papers find that OD is more common in villages with more caste conflict. They argue that community approaches emphasize cooperation among villagers, which might be hard to generate because of caste hierarchy.

We submit that there is a critical need for all sanitation programmes to address the challenges posed by attitudes related to purity and pollution – attitudes that deepen social inequalities and reinforce the inflexibility of power structures. Sanitation programmes in India need to promote a contrary social norm, where OD is no longer considered acceptable, and where there is an appreciation of the benefits of sustainable sanitation.[8]

For rural Indians, size matters

The World Health Organization promotes the use of inexpensive toilets with pits of about 50 cubic feet (1.4 m^3) that interrupt the spread of disease by safely containing faeces underground (WHO, 1996). These toilets can be simple pit latrines, or what are called 'pour-flush' latrines. Those that were provided by the government under the Nirmal Bharat Abhiyan, and those which are proposed under the Swachh Bharat Mission, are slightly fancier versions of the WHO recommended toilets, because they have brick and mortar superstructures and ceramic sub-structures.

During our survey, one man interviewed in rural Uttar Pradesh had received one of the government toilets. Rather than using it as a toilet, his wife used it as a place to wash clothes. This is what he said:

> See, all these latrines that have been built, they are just for show. I am telling you openly. They are just for show. Is the government blind? These pits, which are four feet deep, how long are people going to use them? When someone makes a pit that is 10 feet by 10 feet, he obviously applies some logic in wanting to construct such a deep pit. He puts a cement slab on it, attaches a pipe […] What will he do in these small latrines? These are to be used if it's dark and you have a problem. The government blind; it's giving so much money […] for people to eat it away.

So this man suspects that the pits the government are providing are small because those constructing them are embezzling some of the money. It seems, then, that the government programmes have done little to inform the public about the specifications and use of the toilets.

But we found that people's aversion to small pit latrines was common, even for people who you would expect to have a better understanding. In one village we visited the home of an Accredited Social and Health Activist (ASHA), a person who assists in organizing health promotion activities in her neighbourhood. Her village was one where the government had recently constructed toilets for all the households in the village. She herself had a newly constructed two-pit latrine, just outside the house. When we asked her about it, she told us without hesitation that sometimes her three children use it, but she and her husband go in the open. When we asked her why, she said, 'The toilet outside is fake!'

Very often the people we interviewed described the government-provided toilets as *nakli*, which means 'fake'. They also use the English word 'temporary'. Or they say the latrine is *keval emergency ke liye*, 'only for use in an emergency'. They sometimes call them *khilona* ('toy') or refer to them as *dikhavati* ('just for show'). As for the superstructure, this is much appreciated. The brick-and-mortar construction is better than the *kachha* (mud) houses that many rural Indians live in. But they do strongly resist the idea of defecating in a toilet in which the faeces are confined in, what they perceive as, a small pit.

As another man said, 'The pit of the latrine is small, and so it fills up very quickly. That's why, I mean, we don't go, so that women in the household can go, and men can go outside. That's why a lot of people don't prefer going inside the latrine.'

In reaction to these responses, in the SQUAT survey and in-depth interviews, we asked respondents about the kinds of toilets they would find acceptable, and about ones they would like to have. Figure 17.4 shows the size of pits recommended by the WHO (1996); those recommended by the Indian Government in its 2012 guidelines; and the median pit size among toilets owned by households interviewed for the SQUAT survey. Among toilets that were being used by at least one member of the household, less than 4 per cent had pits that were 60 cubic feet (1.7 m^3) or less.

The median pit size of a private toilet that is being used by at least one household member is 250 cubic feet (7.1 m^3). Figure 17.4 also plots a 10 ft

by 10 ft by 10 ft pit (28.3 m^3), the ideal pit size as described by many of the respondents in the interviews.

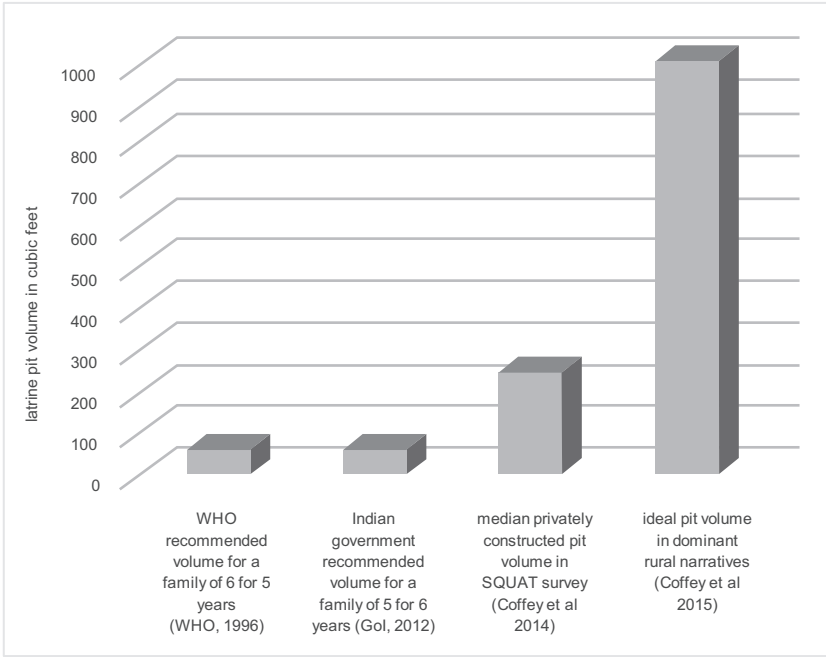

Figure 17.4 Comparative perspective of recommended pit volumes and actual and ideal pit volumes in rural India

Source: Coffey et al., 2014b

Why size matters

It is clear that the main reason why people reject small pits is that they believe they fill up quickly and that they have to be cleaned manually. Many people wrongly believe that these pits fill up in a matter of months, rather than years, and that they require frequent manual emptying.

It is true that mechanical emptying of small pits is impractical, because it is excessively costly to pump small quantities of sewage, and because simple toilets are often built in places that are difficult for vacuum trucks to access. Emptying service providers, whether public or private, are uncommon and hard to find. For these reasons, mechanical emptying services are uncommon in rural India. Therefore, in order to avoid emptying latrine pits, many people make septic tanks so large that they do not need to be emptied in their lifetimes.

A man in Uttar Pradesh who defecates in the open and does not own a toilet explained, 'pit emptying does not happen here [...] You would get a new pit dug so deep that it would never fill up'. A woman with a 450 cubic foot (12.7 m^3) toilet in Gujarat explained why her household had invested so

much money in the pit, 'if we made [the pit] less expensively, it would not last a lifetime.'

Still, why do rural Indians resist the idea of cleaning a pit, even if they are offered the explanation that the contents of the pit, if left to dry, turn into manure after a few months, and even when they are told that the government-provided toilets take much longer to fill than they think?

Caste and untouchability in rural India

To answer this question, we need to understand notions of purity and pollution rooted in the caste system in India. Especially in rural India, faeces are seen to be ritually polluting. Toilets with pits are seen as places which hold faeces near the house. The house is a place which is supposed to remain pure. And leach pit latrines,[9] as opposed to septic tanks, are particularly polluting because they allow water contained in faeces to seep into the ground.

Although some conservative rural Hindus find toilets of any sort distasteful (on this, see Rukmini, 2015), most people feel that expensive toilets with large pits or septic tanks are not polluting, but rather are a useful addition to a wealthy person's home. Expensive toilets with large pits or septic tanks help their owners avoid pollution, particularly because they help avoid the problem of pit emptying.

Rural Indians abhor the idea of emptying out a latrine pit themselves. Dealing with faeces is considered the responsibility of *Bhangis* (also referred to as the *Mehtar/Valmiki/Jamadar* caste in rural north India), the lowest caste in the caste system. Members of other castes think that they would become like *Bhangis,* or the lowest caste even within the untouchable castes, if they empty out a latrine pit themselves. Although most intense among higher caste Hindus, these attitudes are prevalent among 'lower' caste Hindus, including *Dalits*, as well as Muslims.

Bhangis are a historically marginalized caste, who had the responsibility of dealing with collecting faeces from latrines that require daily servicing, sweeping streets, and collecting used plates in weddings and other rural functions. They are among the lowest in the caste hierarchy. Indeed, *Bhangis* often face discrimination by other discriminated castes such as *Chamars* (leather-workers). *Bhangis* and other low castes, while still facing discrimination, have improved their bargaining power over the years, helped in part by local struggles, democratic voting rights, and basic legal protections.

Even so, this change has come slowly and, while there has been an improvement in their lot, marginalization continues. Today, untouchability and caste-based social exclusion are slowly being renegotiated in rural India (Jaffrelot, 2005). The exclusion of Dalits from schools and water sources is less common than it once was, but it is still common for high caste Hindus to refuse to eat food or take water from the houses of Dalits and to exclude untouchables from temples (Shah et al., 2006).

The fact that Dalits perform 'dirty' work is often used as evidence of their permanent ritual pollution, and it has been used as a justification for excluding them from schools, public water sources, and more dignified employment (Ambedkar, 1979). An important part of *Dalits*' struggle for equality has been through resistance to performing the kinds of degrading tasks that are associated with untouchability (Zelliot, 1992; Valmiki, 2003).

Because of historical and continued discrimination and oppression, *Bhangis*, justifiably, do not want to clean faeces and do other 'degrading' work. Other castes can see this, and now think that they would have to either pay a larger sum for a *Bhangi* to clean pits, or that *Bhangis* are no longer available to do this work. In some cases *Bhangis* do continue to do such work, but the feudal relationships of the past have weakened and upper-castes find it harder to command them to do their bidding (Desai and Dubey, 2012). In rural India, these three factors combine to create the situation that the minimally accepted toilet that a rural Indian would use without worry of pollution would have to fulfil at least two requirements: it will need a very large septic tank, so that it need not be emptied-out for decades; and if the pit is near the house, then it would need to be *pakka* (permanent) and cemented, so that faeces and their 'pollution' could be contained.

We asked a young and educated Brahmin (high-caste) man in rural north India if he would be willing to clean his latrine pit. His response was what we expected it to be. 'We will not be able to do it. I mean, this depends on your thinking and your strength. People can do it, but we can't do it […] because of the 'gandagi' we cannot do it.'

In rural India, *gandagi* can mean many things. It can refer to faeces, or anything that is dirty, either ritually or physically. It is derived from the word *ganda*, which could mean dirty, impure, or ethically wrong. Our follow-up question to him was, 'Why do some people clean it then?' 'This is because it is their work,' he said. 'They belong to the Bhangi caste, the caste which is for doing this work [...] No one from any other caste will do this work. It's their sole responsibility […] We won't be able to do it, why should we lie to you.'

Rural Indians, even if they want to empty out the pit themselves, worry about the social consequences of such an action. A man who belonged to a caste that was low but higher than the *Bhangis* told us that if he emptied his own pit, he would be considered a *Bhangi* by his village. He also worried about being ostracized, 'of course, they will throw one out of the village, whether they be Hindu or Muslim'.

Implications for sanitation policies and actions

Forces of social inequality, such as caste, patriarchy, or for that matter racism, are difficult to tackle through the available tools of public policy, even if governments are committed to tackling them. Public policies designed to reduce discrimination, social hierarchy, or inequality are likely to take a long time to bring results. In India, governments have a limited capacity and interest in ending this discrimination and hierarchy, despite constitutional

commitments to do so. While caste and hierarchy are likely to remain important inhibiting influences on behaviour for many years, interventions can be proposed to accelerate change in behaviour and social norms relating to sanitation and hygiene.

These interventions fall into three categories:

Interventions related to pits and their emptying:

- *Pit size*. Deeper and larger pits can be recommended by the government. Except where there is endemic flooding, the water table is very close to the ground, or rock close to the surface, pits can be deeper than 4 feet (1.2 m). These pits can also be built cheaply, for instance, by using rings instead of bricks. The government can explicitly communicate that deeper pits built using private investments are welcome.[10]
- *Pit emptying*. One potentially important idea would be to correct misinformation among villagers about how simple twin-pit latrines work. Such awareness campaigns through mass and local media would also have to explicitly address the mistaken idea that these pits 'fill quickly'. Dispelling misinformation might involve demonstrating that latrine pits actually last a long time. Pit emptying can be a service provided or commercialized:
  - Search for, innovate with, and introduce light, cheap pit-emptying technology like the Oxfam gulper that does not require manual contact with shit. Learning from Bangladesh could be useful here.[11] Perhaps subsidizing pit-emptying hardware for local entrepreneurs will be needed.
  - Search for Indian entrepreneurs who have already started emptying pits and give them prominent recognition.
- *Popularizing harmless fertilizer.* Search for households with twin pits which have emptied their second pit and found it harmless and a valuable fertilizer.[12] Exploit and publicize positive deviance in this respect. Encourage members of such households to become natural leaders and demonstrate to others (with consent from the families). Those who empty their pits themselves can be given rewards, and celebrated.

Rapid action learning and sharing

Rapid Action Learning Units (RALUs) at national, state, and district levels, are proposed in the Swachh Bharat Mission (Gramin) Guidelines (Ministry of Drinking Water and Sanitation, 2014). Rapid action learning includes searching for and sharing innovations and good practices, and initiating and learning from others. These approaches can be applied to the interventions listed above, with rapid and extensive sharing of lessons learned and successful practices (Government of India and Institute of Development Studies, 2015).[13]

Social norms of purity and pollution

- *Confront notions of purity and pollution*. Potential areas for experimentation include teaching people about the germ theory of disease (which in itself might tackle some notions of purity and pollution) and communicating that emptying a pit in which faeces have decomposed is not manual scavenging.
- *Political leadership*. The Indian Prime Minister has raised the profile of sanitation. There is potential for deepening this commitment through the national campaign of the Swachh Bharat Mission (Gramin), with political leaders confronting behavioural norms as well as notions of purity and pollution. These efforts can also include spiritual and other natural leaders. Ground level government functionaries, such as ASHAs and village heads, can also be used to dispel misinformation, while they can be required to use a toilet themselves.
- *Shit stunts all castes*. Pilot information, education, and communication (IEC) approaches which stress how faecally transmitted infections inhibit growth and stunt children, and how this affects their life prospects with poorer performance and lower attendance in school, impaired cognitive development, and lower earnings later in life.

Along with piloting these ideas, it would be vital not to reinforce existing inequalities of gender and caste in sanitation campaigns. This is not just a theoretical problem, sanitation campaigns in India have often relied on promoting the construction of toilets while appealing to patriarchal notions of women's seclusion to the household and veiling (on this, see Srivastav and Gupta, 2015b). India is by far the biggest hurdle in achieving a world free of OD, and solutions to the problem aren't obvious. Given the scope of India's sanitation problem, it will be important to experiment with these and other ideas that take seriously rural Indians' reasons for continuing to defecate in the open.

About the authors

Aashish Gupta is a PhD Student in Demography at the University of Pennsylvania. Aashish Gupta was a research fellow at the Research Institute for Compassionate Economics, 2013–2015.
Diane Coffey is a Visiting Economist at the Indian Statistical Institute and Executive Director at the Research Institute for Compassionate Economics.
Dean Spears is a Visiting Economist at the Indian Statistical Institute and Executive Director at the Research Institute for Compassionate Economics.

Notes

1. The caste system is a system of hereditary social stratification prevalent in South Asia, primarily in Hindu society, in which members of society are divided into castes or *jatis*. Amebdkar (1979) calls it a system of 'graded inequality' with castes considered high or low based on relative degrees of ritual purity or

pollution and of social status. In the caste system, a large number of castes are considered 'untouchable' and permanently polluted because of their hereditary menial occupations. These untouchable castes call themselves *Dalits*, and the caste associated with dealing with faeces, the *Balmikis*, faces discrimination from higher castes as well as *Dalit* castes considered less polluting than them.

2. Srivastav and Gupta (2015a) also provide figures on spending and budgetary allocation towards sanitation.
3. Also on the Swachh Bharat Mission see Vyas (2015) and Srivastav and Gupta (2015a).
4. On corruption in the construction business in India, see KPMG (2011). For reporting on missing or 'ghost' toilets, see *Economic Times* (2013).
5. For definitions of 'improved' and 'unimproved' toilets see UNICEF and WHO (2014).
6. It has been argued that even if the Indian Government constructed a toilet for every household that doesn't have one, most Indians would still defecate in the open.
7. On this topic also see Chatterjee (2014). This is a long report from Katra Sadatganj, a village which made international headlines after two girls were found hanging from a tree after they had gone to defecate in the open. Chatterjee reports that in the village, many people had received toilets from the government but did not use them because they thought that their pits were too small.
8. On designing interventions that change social norms see Bicchieri (2006).
9. When we say leach pit latrines, we mean the two-pit latrines built by the government of India as part of its sanitation programmes, and which allow water to seep into the soil but keep faecal matter within the pit.
10. This recommendation would go well with giving people a bouquet of toilet options and designs to choose from, which is already a part of government sanitation programme guidelines (Ministry of Drinking Water and Sanitation, 2014) and which have shown promising results in some areas (Sethuraman, 2015).
11. For a review of pit emptying technologies in developing countries see Thye et al. (2011). Technologies that are not seen as 'polluting' by rural Indians or help avoid contact with faeces may have a higher likelihood of adoption.
12. It would have to be explicitly mentioned in this publicity that the fertilizer is harmless**.**
13. Government of India and the Institute of Development Studies (2015) compiled the report and proceedings of a recent workshop on rapid learning, and included insights from several case studies, http://www.communityledtotalsanitation.org/resource/getting-swachh-bharat-gramin-faster-through-rapid-action-learning-and-sharing-workshop

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