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Addressing Women's Sanitation-related Safety Concerns in Slums of Maharashtra, India

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Abstract

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Keywords

women safety, sanitation, open defecation, women health

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ABSTRACT

Through this paper we explore women's vulnerability during sanitation activities and the impact that household toilets have on women's safety-related concerns. This study covers 4 cities in the state of Maharashtra– Pune, Pimpri-Chinchwad, Thane, and Kolhapur - where Shelter Associates has provided many slum households with toilets under its One Home One Toilet (OHOT) programme. A good part of the programme's intention is to offer women an alternative to using their existing, inadequate public sanitation facilities, a problem that was highlighted during discussions with slum women themselves. Shelter Associates is a Maharashtra-based NGO established in 1993 that provides low cost sanitation and housing to slum residents.

1 INTRODUCTION

The United Nations adopted the provision of basic sanitation to all as one of its Sustainable Development Goals (SDGs) in 2015. Researchers have been attracted to analyse the inclusivity of sanitation policies and facilities for different groups of people that together compose this *all*. These groups have included toddlers, the elderly, disabled people, and the group that this paper concerns itself with- women.

Women face a unique set of circumstances while using sanitation facilities. "[G]oing to the toilet is much more than relieving oneself. It is, just like buying deodorant or riding a bike, a staging of gendered codes: a cultural production of gender, a (sub-)conscious interpretation and performance – and therefore a reinforcement – of being male or female" (Tilley et al. 2013, 302). A study done in Orissa, India shows that women face a set of environmental, social and sexual barriers in accessing public sanitation, which men do not have to encounter (Sahoo et al. 2015). Another research in Kampala highlights the massive differences in how men and women use shared latrines where women have more responsibility for keeping toilets clean while also facing more barriers to using them (Kwiringira 2014). Data collected from 193 countries shows that women's unique health risks during childbirth due to inadequate sanitation are, like their other sanitation-related experiences, largely universal (Cheng et al. 2012). These findings confirm that taking up a gender angle in sanitation is unavoidable.

Inquiries into women's experiences with sanitation have shown that safety is a major concern for them. WaterAid (2012) found that 25% of women who practice open defecation (OD) in the slums of Lagos and Nigeria reported facing harassment, threat of violence or actual assault over the previous one year. OD is the practice of defecating in open spaces that lack sanitation facilities. Ignoring the fact that the 25% is just a reported figure, hence definitely an underestimation, violence seems to be a commonplace experience for women practicing OD. Closer to home, analysis carried out

on India-wide survey data, Jadhav et al. (2016) found that controlling for socioeconomic status, women who practice OD are twice as likely to face non-partner sexual violence compared to women with a household toilet.

While there is a lack of quantitative studies exploring the link between approaching and/or using Community Toilet Blocks (CTBs) and sexual harassment, several qualitative studies have pointed towards women's vulnerability in CTBs. CTBs are toilets built in a shared or public spaces with their usage restricted to a specific group of people. Women have refused to use CTBs with side openings and roofs that could expose them to men and are averse to CTBs also because they are vulnerable to violence while walking to them (Hartmann et al. 2015; Kulkarni et al. 2017). Thus, women face serious safety hazards while performing sanitation-related activities outside their homes.

2 LITERATURE REVIEW

Women's experience of harassment during sanitation

One of the three main barriers that women face in using public defecation areas is the threat of sexual harassment (Sahoo et al. 2015). One woman from this study reported that men regularly peeped at her during defection while others said how men threw stones at them and made fun of them while they were walking to the defecation area. To get a holistic understanding of women's vulnerability with sanitation-related activities, the definition of sanitation can expand to include activities such as fetching water for sanitation activities, bathing, changing and menstrual management (Sahoo et al. 2015; Joshi et al. 2013; Stevenson et al. 2012).

The experiences of sanitation-related harassment can be nuanced by the type of harassment and the available facility. Lennon (2012) comprehensively lists the different types of harassment that women face due to unsafe sanitation in Northeast Delhi– verbal, visual, physical, stalking, violent physical attack and sexual assault. Another study conducted in Pune and Jaipur argues that the kinds of harassment women face in CTBs are different from those they face in OD areas (Kulkarni et al. 2017). While unsafe sanitation needs to be tackled in its entirety, awareness of these nuances can help target interventions.

Fear of harassment during sanitation

Women fear their public defecation sites to the extent it impacts their health and stress levels. Fearing harassment at public defecation sites, women 'discipline their bodies' and restrict their food and drink intake so they have to visit the toilet less (Kulkarni et al. 2017; Hartmann et al. 2015; Truelove 2011). Hartmann et al. report that many such women developed symptoms of urinary tract infections and had to be hospitalized for the same. Other studies have found that such disciplining can lead to chronic constipation, diarrhoea, high maternal mortality rates and intensified symptoms of menstruation and pregnancy (Kulkarni et al. 2017; Cheng et al. 2012; Fisher 2006).

Women have also found to have high levels of psychosocial stress because of their fear of harassment during sanitation. Deciding on whether or not to go to the public defecation site is constantly thought over by women (Sharma et al. 2015). 64% women in a rural community in Pune who use OD faced stress because of the fear of harassment (Hirve et al. 2015). Further, women experience the stress of getting a bad name in case they are harassed, of their daughters being harassed, of constantly having to devote time to accompany their daughters to the public defecation sites and of earning the label of 'unclean' should they resort to defecating inside the house using plastic bags (Khanna and Das 2015; Sahoo et al. 2015; Massey 2011). Research has found that this stress can reach dangerous levels in pregnant women causing preterm births and low infant birth weight (Baker et al. 2018). Thus, the lack of safety around public defecation sites not only makes women vulnerable to harassment, but also exposes them to a detrimental fear of such incidents.

People in slum areas often practice open defecation due to lack of sanitation facilities and piped water access. This practice has become an increasing health and safety concern for women

Intersections of identity and experiences of safety

Even amongst women, the experiences of using unsafe sanitation are not uniform. Kulkarni et al. (2017) investigate the intersection of caste, economic and marital status with women's experiences of sanitation-related harassment and find that belonging to a minority caste group in any slum results in more harassment than other women face. Sahoo et al. (2015) study the intersection of life-stage and gender and report that adolescent girls and newly-married women are particularly vulnerable to unsafe sanitation. The former, if harassed, fear spoiling their reputation and thus losing their chance to secure a good marriage, while the latter are unable to defecate in the house or asking other women to walk them to the CTB due to social constraints, making them more vulnerable to the dangers of using public sanitation.

3 METHOD

Separate pre-intervention and post-intervention surveys were conducted across 39 slums in 4 cities- Kolhapur, Pimpri-Chinchwad, Navi Mumbai and Thane to check the impact of Shelter Associates' intervention on women's safety, among other impact areas. The intervention comprises a rigorous data collection and mapping component, community mobilization and follow-up meetings and the actual delivery of Individual Household Toilets (IHTs).

The structured survey tools used in this study were administered before the start of the intervention in 2016-19 and after a sustainability period in 2019. There is a total of 5531 households studied across 39 slums that have taken up Shelter's programme. This paper assesses the safety conditions and impact of the intervention on these conditions for this selected population. To do so, we draw a sample of 12.3% from the total number of intervention households. Households that were occupied by tenants at the time of intervention and households without menstruating women were excluded from the study population before sampling. Then we used GIS to distribute the sample selection geographically. A total of 682 households were surveyed on a door-to-door basis, using a data collection application called KoBoCollect.

The surveys were administered specifically to women respondents from the sampled household and the same women were called upon in the post and pre surveys. Both the pre and post surveys were split into 2 parts. The first part collected data for only the 682 *primary respondents* while the second part collected data for the respondent's entire *family*, thus covering a total of 3259 individuals above the age of 1[1]. While some resistance was faced to the private nature of the questions, the sensitization to the topic that was carried out as part of the larger intervention and the continued reminders for the purpose of the surveys helped respondents feel more comfortable answering them.

Some of the parameters covered in the survey and used in this paper include women's ratings of the safety of their OD spot, CTB, and the new IHT, their selection from a list the sanitation-related problems women normally face, yes or no answers on common safety mechanisms followed by women to avoid unsafe sanitation facilities, and answers on questions based on socio-economic indicators. Further, the pre-intervention survey focused on specific experiences of using OD and CTBs by each member of the family as well as the perceived advantages and disadvantages of using IHTs, while the post-intervention survey asked questions on the actual experience of having an IHT. All of this data was finally analysed based on IBM SPSS Statistics 24.

4 RESULTS

CTBs were the most prominent mode of sanitation in the study slums with 87.2% individuals using them. This was followed by Open Defecation at 8%. 29% households belonged to scheduled castes and tribes and 37.3%, 6.5%, and 56.2% houses were kutchha, semi pucca and pucca respectively[2]. Our study population consisted of 682 households with 1685 women and 1574 men. The women were distributed by age as shown in Table 1. The divisions in age were made so as to have separate categories intended to capture the number of adolescent women (10-19) and newly married women (20-25).

Table 1. Age distribution of female family members.

2 to 9	10 to 19	20 to 25	26 to 50	Above 50
234	400	255	651	145
13.9%	23.7%	15.1%	38.6%	8.6%

Women's experiences with sanitation were considerably different than those of men. 21.4% of the female family members were said to find their defecation sites (including CTBs and ODs) to be unsafe while comparatively only 7.9% of the male members were said to find the same sites unsafe. Similarly, 21.6% of the female members needed to be accompanied to and from their defecation sites at night while only 4% male members needed this extra help. This data from our own study validates Tilley's argument that going to the toilet is not immune from the pre-existing social dynamics that exist in the societies we worked in and being a woman changed how women dealt with their sanitation needs (Tilley 2013). Thus, a gendered lens, and one that looks at safety, is important to form a fuller understanding of the impact of this intervention.

Unsafe conditions

The unsafe conditions related to their sanitation were widely felt by women in the slums included in this study. 0.9% of female family members (16 women) had faced physical abuse and 3.1% (52 women) had faced teasing during sanitation-related activities. Although these numbers are seemingly small, they constitute only the reported figures which are most definitely underreported (Kulkarni et al. 2017). Further investigation revealed that even when women did not report facing harassment, they felt unsafe at their defecation site- 37.5% female members felt unsafe using CTBs and 39.6% felt unsafe using OD sites. Moreover, 34.4% felt unsafe walking to and from from their defecation sites. Sanitation activities made women more vulnerable to harassment

1 3259 were the number of individuals living in the sample households in the pre-intervention period excluding infants. Between then and the post-intervention survey some individuals migrated, shifted to other houses or died. There was finally a total of 3229 individuals covered in the post-intervention period, again excluding infants.

2 Pucca houses have walls and roofs made of material such as cement, burnt bricks, timber etc. Semi-pucca houses have the walls made using such material but a make-shift roof while a kutchha house does not use such material for either the walls or the roof.

than other activities conducted in public because the lack of privacy while defecating, cleaning and changing in public attracted more aggressors (Sahoo et al. 2015). In fact, even before women are at the toilet, they encounter men outside the facilities which makes them feel unsafe (Kulkarni et al. 2017).

IHTs were successful in countering the unsafe conditions faced by women at public defecation sites. In the pre-intervention period, 53% respondents predicted that IHTs would improve their safety and 36% predicted that it would improve their privacy (Table 2). When the same women were asked about their sanitation conditions in the post-intervention period, 60% and 62% stated that the IHTs had indeed improved their safety and privacy respectively. Thus, Shelter's IHT intervention was not only successful but even exceeded women's expectations in improving their sanitation-related safety concerns.

Table 2. Perceived benefits of installing IHTs (pre-intervention)

Benefits	Percentage of respondents
Convenience for family	72.9
Can use in all seasons	61.9
Improved safety for women	53.1
Saves time	48.7
Privacy is maintained	36.4

A precaution made by the literature is that sanitation does not consist of just the act of defecating—fetching water for sanitation also puts women at the risk of harassment (Sahoo et al. 2015; Joshi et al. 2013; Stevenson et al. 2012; Fisher 2006). Yet the findings from our study show that women who were responsible for fetching water from outside the house in the post-intervention period and women who did not have to do so, experienced an almost equal improvement in their safety conditions due to the IHTs.

Fear of harassment

Beyond unsafe conditions, women also face a looming fear of harassment which defines how their day-to-day lives play out. When asked about the problems they faced when going alone to their defecation sites, more than 50% primary respondents said they were scared of being abused (Table 3).

This fear of harassment is often treated by researchers as a separate category from harassment itself because it has tangible effects on women's lives. Going to the toilet becomes something that requires constant deliberation for women and the outcomes of this fear-induced deliberation are negative impacts on women's health and psychosocial stress (Kulkarni et al. 2017; Sharma et al. 2015; Hartmann et al. 2015; Truelove 2011).

Table 3. Problems women faced while going alone to their place of defecation (pre-intervention)

Issues reported	Percentage of respondents
Fear of darkness	57.8%
Fear of abuse	51.4%
Fear of animals/insect bites	34.3%
No electricity in CTB	23.6%
No electricity on the road	10.5%
CTB is far away	9.3%
Other	19.7%

a. Health

Women, acting on their fear of harassment, try to reduce the number of trips they need to take to the toilet. 31.6% primary respondents said that they avoided going to the toilet for defecation and 4.8% avoided going for urination. The low impact of the fear on urination routines of women can be explained by the fact that almost 90% of female family members used their individual bathing area itself for urination.

In order to reduce the number of trips, women restricted their food and drink intake, which in turn affected their health. 26.8% of the primary respondents stated that they had to follow restrictions on their dinner and 12.7% said that they avoided drinking any fluids at night so as to avoid going to the defecation sites then. These adaptations negatively impact people's health. While capturing health data requires more elaborate study setups, our pre-intervention surveys show that 8.4% women had encountered at least one of the following sanitation-related diseases in the last month: constipation, vomiting, diarrhoea, jaundice, acidity, typhoid, cholera, piles, anaemia, worm infection and related aches and pains. The act of restricting visits to public defecation sites is often seen as a necessary coping mechanism for women (Sahoo et al. 2015, Truelove 2011) and one that past research and our own data shows, significantly affects women's health (Kulkarni et al. 2017; Cheng et al. 2012; Fisher 2006).

The necessity of the coping mechanism drastically declined after the IHT intervention. In the post-intervention period only 1.4% primary respondents avoided going to the toilet when they needed to. Moreover, a much lower 4.8% restricted their food intake and 1.7% restricted their liquid intake at night to avoid going to the toilet. While the statistics might point to the obvious- removing the need to travel to unsafe defecation sites will do away with the coping mechanisms developed to avoid it- it is useful in pointing out the impact of IHT on women's daily routines.

The number of female family members who were reportedly affected by sanitation-related diseases in the one month prior to the post-intervention survey reduced to 4.3%. Further,

46% primary respondents reported that their health improved as a direct result of the IHTs. Thus, by removing the need to access unsafe public sanitation, IHTs have strong potential to improve women's health.

Psychosocial stress

One of the sources of stress for women was the time spent seeking and providing accompaniment to the defecation sites. 18.9% respondents in the pre-intervention survey said that women/girls needed accompaniment when they went to use public defecation sites in the day and 70.8% needed accompaniment when they went in the night. Accompaniment was listed as a major stress point for women because it would take up a good portion of their time looking for people to accompany them and providing company to others (Khanna and Das 2015).

During the post intervention survey, an overwhelming 92.1% of the primary respondents stated that one of the benefits of IHTs was the time it saved them. Due to the difficulties in quantifying stress, the time spent in accompanying other women to public sanitation was the only factor that was investigated through our surveys. Nevertheless, 71.7% of the respondents attested the positive impact of the IHT intervention on their stress levels as it "relieved them from tension".

Intersections with different identities

Slums tend to have vast nuances within them, making it important to investigate the different experiences slum women of different identities have with respect to sanitation. Based on the literature, some of the important categories to investigate are caste, economic status, age and marital status.

Table 4. Safety indicators for primary respondents in the pre-intervention period by caste.

	Scheduled Caste (SC) and Scheduled Tribe (ST)	Non-SC, Non-ST	Total
Women who feel community toilets are not safe	60.1%	55.9%	57.1%
Women who restrict their dinner intake to avoid going to the toilet after dark	34.3%	23.7%	26.8%
Women who need accompaniment to their place of defecation after dark	75.7%	68.8%	70.8%

Table 5. Safety indicators for primary respondents in the pre-intervention period by economic status within slums.

	Lowest quartile	Second lowest quartile	Second highest quartile	Highest quartile	Total
Women who feel community toilets are not safe	57.2%	56.7%	51.3%	66.1%	57.1%
Women who restrict their dinner intake to avoid going to the toilet after dark	27.6%	21%	28.7%	31.4%	26.8%
Women who need accompaniment to their place of defecation after dark	71.3%	72.9%	66.2%	73.3%	70.8%

Table 6. Safety indicator for female family members in the pre-intervention period by age-group.

	2 to 9	10 to 19	20 to 25	26 to 50	Above 50
Women who feel safety is a concern in their place of defecation	14.9%	22.5%	20.7%	23.5%	20.6%

Caste and age information were collected through the survey while economic status was allocated to respondents based on their ownership of 22 household items like tables, washing machines and a vehicle. We used the safety related answers provided by respondents for each family member so as to cover a wider range of ages in understanding the effect of age on women's safety.

Our data shows that women belonging to Scheduled Castes and Tribes were more vulnerable to unsafe public sanitation compared to other women. Scheduled castes and tribes are historically deprivileged classes that tend to have lower socio-economic status. Women belonging to this group not only found the existing facility more unsafe but also faced a larger negative effect on their health and stress-levels (Table 4). This evidence confirms Kulkarni et al.'s finding (2017) that women outside of the dominant caste are more susceptible to sanitation-related dangers. It is important to note that Kulkarni et al. make the claim for non-dominant castes and not lower castes, but because the sample could not determine the dominant caste in each slum, the data for historically deprivileged caste groups has been used here.

Contrary to expectations, a relatively high economic status within the slum leads to a stronger perception of unsafe sanitation. According to the data, a high economic status woman within the slum are marginally more likely to find their public sanitation facilities unsafe (Table 5). A possible explanation for this finding may be that women with higher economic status have a higher demand for better sanitation and hence are unsatisfied with the current facility.

Lastly, an analysis of age and safety shows that women above the age of 9 share more or less similar experiences of safety with sanitation, whereas toddlers feel marginally safer than the older groups (Table 6). This finding does not correlate with Kulkarni et al's (2017) assertion that adolescent girls are at particularly high risk of sanitation-related harassment or Sahoo et al's (2015) claim that newly married women are most affected by unsafe sanitation because of their lack of freedom and a social support system.

Thus, there are marginal differences in women of different age groups and economic status and a large difference in the experiences of SC/ST women in relation to their sanitation activities. These differences are important to note while targeting the intervention at the most vulnerable populations within a slum.

5 CONCLUSION

This paper serves to advocate for women-centric sanitation solutions. Governments often opt for community and public toilets for providing sanitation in slums because their costs are lower and their implementation in terms of laying drainage lines and monitoring construction is easier. The findings in this paper show that while such slum-level toilets have lesser strain on government resources, they do not do away with women-specific problems, which remain the same as they are in open defecation sites. Thus, to achieve a democratic development model for sanitation, household toilets should be promoted and women's needs should be given their due importance when conceptualizing plans for sanitation for all.

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