

Gendered Disparities in Water and Sanitation through an Intersectional Lens: Emphasising Women's Perspectives

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Abstract

The relationship between gender and water, sanitation, and hygiene (WASH) has been a widely accepted concern among academicians, activists, and social workers in India, but research and policies focusing on gender and sanitation often fail to address the issue of the intersectionality of identities. Analysing the complex intersection of caste, class, age and gender with water and sanitation in rural India extends new opportunities to explore the complex power dynamics prevalent in society. A focus group study with 54 female participants of seven discussions and in-depth interviews has been conducted in the Hardoi district of Uttar Pradesh to explore the social relations and differences in the physical world within the context of accessibility, affordability, and availability in the water and sanitation sector. Given gendered and other social divisions, we elaborate on how women play an essential role in water and sanitation management in the household. This study also offers evidence of rural women's experiences of intra-personal, household, and social harassment and violence related to poor or absence of sanitation and water infrastructure due to intersectional social dynamics. We also demonstrate how theorising about a single dimension of social difference ignores the different groups' access to power, leading to inequality and disparity.

Keywords: Water; Sanitation; Identity; Intersectionality; Caste; Gender; Focus Groups; In-depth Interviews; Uttar Pradesh; India

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Introduction

Water and sanitation are two fundamentals for life that are necessary for the nation's socioeconomic development and are associated with the individual's dignity. These have a broader significance in ensuring a healthy and purposeful life. There has been a multifaceted impact due to inadequate Water, Sanitation, and Hygiene (WASH) facilities on individuals, communities, and society. Notably, the repercussions on women's health as they experience heightened vulnerability to urinary tract infections and various other diseases (Baker et al., 2018). The safety of women is also at risk because they are compelled to utilise open fields as alternative sanitary facilities. This practice exposes them to the threat of encountering sexual harassment and abuse (Mills and Cumming, 2016). It is worth noting that inadequate sanitation can exert a significant economic influence on women. The allocation of substantial time and energy by women towards water collection, the quest for safe sanitation facilities, and the provision of care for ailing family members due to inadequate sanitation conditions can reduce the available time for income-generating pursuits (Adams et al., 2022).

Women and girls are households' primary users, providers, and managers of water and sanitation (Kayser et al., 2019). Research over the last few decades also shows that the participation of women in decision-making regarding water and sanitation interventions greatly improves the effectiveness of projects. Hence, policies increasingly focus on women's participation through different user groups and prioritise them as the beneficiaries. However, research also shows that attempts to include women as members of water and sanitation committees do not guarantee their participation (Routray et al., 2017). Their societal and cultural position within the community and households shapes their experiences and behaviours. One cannot perceive gender as an independent identity in a multicultural country like India, where gender roles and power dynamics vary in relation to caste and religion (Mrudula et al., 2013). The

power dynamics within each gender, however, are also quite important.

This study expands upon previous research on gender and WASH by integrating intersectionality and the availability of WASH services. We propose the ways in which power is influenced and further influences gender which are intricately connected to the availability of WASH services. Integrating water and sanitation into intersectional analyses might enhance comprehension of power dynamics and social encounters. The current investigation's focus revolves around analysing obstacles related to WASH infrastructure, with a particular emphasis on women and girls living in rural areas. Gender and other social identities may exacerbate inequalities, especially amongst marginalised sections who need adequate WASH facilities. This study aims to shed light on specific challenges, particularly those who experience social disadvantages and examine the complex relationship between caste, age, religion, and gender, focusing on how these intersecting factors contribute to the disparities in access to WASH facilities.

It is imperative to consider the intersectionality of identities as a prerequisite for initiating any local development endeavours within the water and sanitation sector. Recognition of inequalities within the intersectionality of identity can lead to a focus on gender equality and social inclusion in WASH programs. This is believed to improve sustainable WASH services and empower women. Neglecting to address these multifaceted concerns is predicted to yield dire consequences for the overall efficacy and sustainability of the program.

The study begins with a discussion of the theoretical background. It then discusses the methodological issues applied in this study. Finally, the results are discussed in the section following the methodology.

Theoretical Background

This section briefly analyses the literature available on WASH and the theory of intersectionality. The impact on the power

relationship is also shown in this section to deduce the conceptual foundations of how identities interact to create barriers to the implementation of water and sanitation.

Improved WASH infrastructure is still a significant concern in rural India. A lot of interventions have been implemented for the infrastructural development of WASH facilities. For instance, the Total Sanitation Campaign launched in 1999 aimed to make India open-defecation-free by 2017. This campaign failed because of the top-down approach to toilet construction. WASH evolved from the infrastructural paradigm to one that considers development's social, cultural, environmental, and economic components. Thus, gender mainstreaming and equality significantly affect accessibility, affordability, and availability of safely managed water and sanitation. This paradigm shift resulted from the global discussion of equality and justice to eliminate sanitation inequality in developing countries in the 1990s. As a result, greater emphasis has been placed on the highly culturally and gender-specific concept of dignity, enhancing their confidence, well-being, and self-esteem.

Furthermore, dignity refers to the entitlement to respect and ethical treatment from others (Barrington et al., 2017). However, women's dignity is frequently undermined during open defecation. For instance, various studies also show that women and girls are more likely than men to suffer sexual harassment when defecating in public (Jadhav et al., 2016; Saleem et al., 2019).

One of the significant concerns in implementing sanitation and water is systematic inequality due to social structure that contains embedded biases towards specific groups and creates inequitable access (Van de Lande et al., 2015). For instance, women and men have various roles and duties in sanitation depending on the characteristics of the space. Women primarily oversee the household's water supply, health, and sanitation (Routray et al., 2017). It is assumed that women must maintain cleanliness and promote hygiene in the home. At the same time, men and boys are typically in charge of

more physically demanding tasks like plumbing and water system maintenance. Besides, men can use the open space for defecating more openly than women (Scott et al., 2017). This limits their participation in decision-making related to WASH. Further, it also limits their ability to advocate for their needs and preferences. Hence, traditional and gender norms are crucial in deciding who is responsible for WASH-related tasks in many cultures (MacArthur et al., 2023).

Moreover, the caste system is inherent and extensive in the Hindu religion because of the norms, traditions, and taboos which lead to discrimination in the society. For instance, members in SC groups are considered untouchables, meaning no one from the upper caste can touch them. This specific phenomenon extensively works on the principle of purity and pollution (Subedi, 2014). It should be noted that a hierarchy based on purity and pollution has undergone profound changes under the influence of modernisation and other socioeconomic factors. Still, it has not entirely disappeared as a system in contemporary India (Fonseca et al., 2019). This also persists in the WASH sector. For instance, lower caste members are often denied access to clean water sources and forced to rely on polluted sources (Nagla, 2020). They are also prevented from using community wells and other water sources that are reserved for higher castes.

Further, they are compelled to practice open defecation in fields or by the side of the road because they have been denied access to basic sanitary services like toilets. Evidence suggests that members of lower castes and poor economic backgrounds are forced to live without a toilet (Jain et al., 2020). However, the hierarchy based on purity and pollution has undergone profound changes due to changing norms of society and other socioeconomic factors. Yet, it has not entirely disappeared as a system in contemporary India (Roy, 2011). For instance, in India, people from lower castes are mostly found performing the hard labour necessary to clean washrooms and other sanitation facilities. This is indeed a part of their cultural identity. This

disparity in the delivery of sanitation and water leading to stunted growth of the nation indicates inequitable policies and administrative efforts. Thus, access to basic facilities for the last person is imperative for any nation's development.

There is no question that identities like gender and caste provide a particular form of hegemony for some people over others and cause an unequal distribution of resources. However, the intersection of gender, colour, class, caste, sexual orientation, religion, and other social identification factors does not produce a hierarchy. Instead, it sustains a new socio-cultural dimension of privileges and power (Crenshaw, 1991; see also Atewologun, 2018). Power distribution in any imagined nation is not uniform, even for a specific group or community. The organisation of people's everyday lives around the intersectionality of identities is fundamental to the sociocultural process (Davis, 2008). With these presumptions as a foundation, intersectionality theory can be used to comprehend how privileges and marginalisation continue to exist in society.

According to the theory of intersectionality, people's overlapping categories perpetuate multiple discriminations (Crenshaw, 1991) and challenge the notion that gender is the primary factor in women's marginalisation and status, ultimately resulting in inequality in resource access (Hooks, 2000). Thus, the study of intersectionality sheds light on the oppression that generates power hierarchies. In addition, this theory provides a framework for analysing individual experience and its influence on access to rights and opportunities for those who reside at the intersection of identities such as race and gender, class, etc. (Smooth, 2013). However, intersectionality does not refer to adding two or more categories, such as gender, colour, and ethnicity; instead, it centres on how two or more axes of discrimination and oppression produce qualitatively distinct experiences (Hankivsky et al., 2010). For instance, women belonging to scheduled castes (SCs) and scheduled tribes (STs), as well as those categorised under Other Backward Classes (OBCs), experience various forms of discrimination due to their gender as

well as their status within the lower caste hierarchy. Simultaneously, men belonging to the SCs, STs and OBCs also experience convergent forms of discrimination. They are often perceived as being of lower status than women belonging to higher castes or those who are privileged. This phenomenon implicates the persistence of inequalities resulting from the interaction of caste, class, and gender. Nevertheless, some women experience greater marginalisation and oppression than others who are more privileged and receive advantages (Goodman, 2015).

The utilisation of an intersectionality lens has played a prominent role in this study by acknowledging the presence of intersecting social positions. This lens aids in comprehending the perpetuation of complex disparities in the availability of public policies (Hankivsky and Grace, 2015; Collins, 1990). The nature of deprivation experienced by women in India is contingent upon various intersecting identities—gender, religion, socioeconomic class, age, and caste, as these identities play a significant role in determining access to essential public services. Further, the WASH sector has also experienced moderate achievements in tackling gender disparities (Sinharoy and Caruso, 2019). The existing body of intersectionality research pertaining to WASH predominantly examines the participation and involvement of women within various countries, with a particular emphasis on those nations characterised by distinct social hierarchies that differ from the context of India. For instance, Sultana (2009) examines the several axes of identity in rural Bangladesh, including education, religion, economy, and age, but not caste. Similarly, Heckenbroch and Hossain (2012) also overlook the caste structure within the Muslim community of rural Bangladesh. The existing body of research pertaining to the influence of intersecting identities of caste, age, religion and marital status on accessibility, availability, and lived experiences within the rural WASH sector is currently limited (Macura et al., 2023). However, there are still chances to further investigate the impact of WASH on women's lives, with a greater focus on the complex

interplay of power relations in India within the lens of intersectionality.

There are, of course, different approaches to examining the level of women's empowerment and participation in the WASH sector, such as the WASH Gender Empowerment Measure (WASH-GEM) (Carrard et al., 2022) and Empowerment in WASH Index (EWI) (Dickin et al., 2021). It should be noted that several studies focus on a three-dimensional approach for measuring women's empowerment at individual, relational, and community levels. Based on our review of previous research, we find different effects of access to water and sanitation for each of the three dimensions of women's empowerment. However, these tools are limited in nature as WASH GEM and EWI cannot measure the impact of the interaction or intersection of identities on the accessibility and availability of WASH-related services. Even the SDG 6 (Clean Water and Sanitation) indicators do not have gender-segregated measures to examine the inequality within the gender context (Dickin and Gabrielsson, 2023).

This study has two basic postulates for conceptualising the dimensions of water and sanitation and the intersectionality of identities. First, gender is socially constructed and shaped by intersecting identities such as religion, age, and caste (Veenstra, 2011). Second, there are multiple linkages between different lines of inequalities and WASH, which helps to understand these and their implications on the individual's lived experiences.

Methodology

The research was conducted in the four villages of Hardoi district of Uttar Pradesh from April 2022 to June 2022. As per the National Multidimensional Poverty Index, 2021 published by the National Institute for Transforming India (NITI) Aayog, this district is recognised as one of the ten districts in Uttar Pradesh with 34.14 per cent of the multi-dimensionally poor population.

The villages were selected with the help of the information provided by local people. The villages chosen for this study are from the Kothawa and Bahendar blocks of the Hardoi district. Four villages have been selected from these two blocks: Raipur, Farenda, Janigaon, and Raison.

This research extensively relied on in-depth interviews and focus group discussions (FGDs) with women (Figure 1). A total of seven FGDs, along with interviews, were conducted with 6 to 12 members. Each of these lasted for 25-45 minutes. The selected participants are members of the Self-Help Group (SHG) constituted by the National Rural Livelihood Mission. The reason behind choosing participants from SHG is that they are well-informed and acquainted with the discussion procedure.

Moreover, it helps to provide homogeneity in specific categories such as caste, class, and others. Homogeneity in focus groups avoids the fallacy of the assumption that one individual can represent their culture and traditional practices (Scott, 2011). The socio-demographic characteristics are displayed in Table 1.

The FGDs were conducted at places where regular meetings of SHGs were held. These locations are predominantly characterised by their private nature. The primary focus of the discussions revolves around the existing norms and taboos associated with sanitation, water, and menstruation. The methodology employed in each FGD entailed using open-ended interview questions. This allowed the participants to share and talk about their personal experiences and community concerns. The participants also completed a pre-FGD schedule to gain insights into their current circumstances.

In addition, we conducted 12 in-depth interviews with women from these specific groups. Convenience sampling was used to

¹ An index designed to provide a more comprehensive view of poverty by calculating the proportion of households in a nation that lack access to basic infrastructure services, education, and monetary poverty. Further, India's National MPI contributes to monitoring

progress against Sustainable Development Goal 1.2, which seeks to reduce "at least by half the proportion of men, women, and children of all ages living in poverty in all its dimensions according to national definitions" by 2030.

select participants for the in-depth interviews. All the selected participants are either the leader of the SHG group or actively participating during the FGD. Further, in-depth interviews aim to create categories from data and analyse relationships between categories. This allows for asking more questions and getting detailed stories from women's experiences. The concept

of information power also suggests that more information means a smaller sample size and vice versa (Malterud et al., 2021). Hence, researchers concluded the sampling after 12 in-depth interviews due to diminishing returns in terms of diverse perspectives and achieving data saturation from the participants.

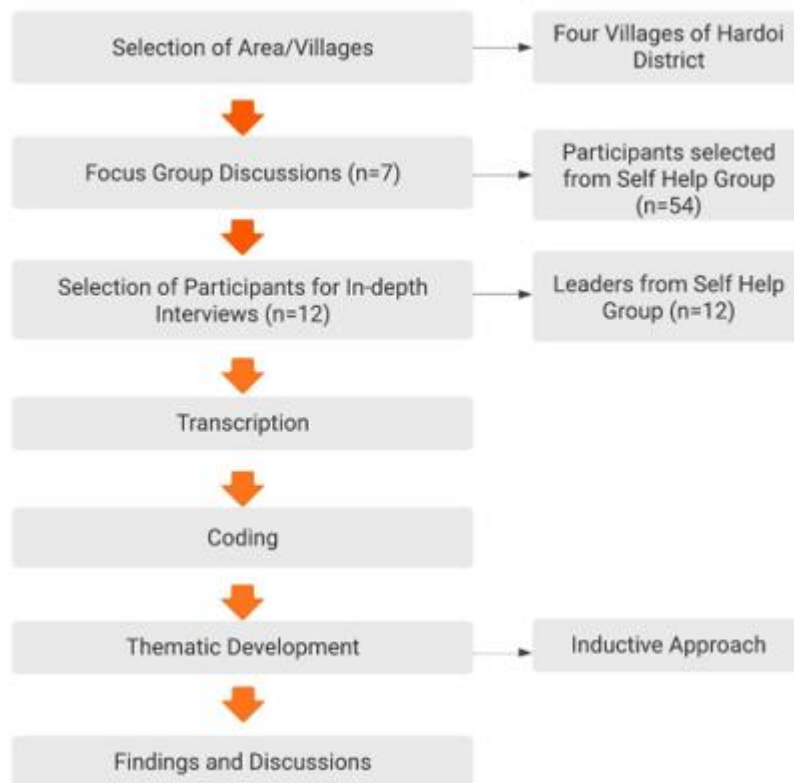


Figure 1: Methodology Flowchart

The present study employs a thematic analysis methodology to gain insight into women's experiences. This approach demonstrates value in addressing the intricate details of meaning within the qualitative dataset (Guest et al., 2011). The thematic analysis enables researchers to effectively structure and interpret their observations and findings obtained during fieldwork using a guiding framework. All FGDs and in-depth interviews were systematically recorded in audio format, subsequently transcribed verbatim, and translated into the desired language, which is English (for this research). A preliminary code was produced, enabling researchers to identify and establish

themes to maintain consistency and minimise biases. The initial codes from the in-depth interviews and FGDs were categorised based on the three multilayered dimensions: Individual, Relational, and Community. The scholars directed their attention towards the examination of power structures, investigating how the convergence of various social categories led to the emergence of privileged, disadvantaged, and vulnerable positions within the intricate dynamics of intra-categorical contexts. During this phase of the research, the scholars employed an inductive approach to establish the categories and subsequently establish connections between these categories

and overarching themes. The researcher analysed how categories interacted and intersected with other dimensions of individual experiences within a specific section. Further,

non-participant observation was employed as a crucial methodological approach in this study, facilitating the comprehension of the fundamental amenities accessible to the villages.

Table 1: Demographic Information of Participants of Focus Group Discussions					
	Total	Toilet Available	Toilet Not Available	Water Source within premises	Water Source not within premises
Participants	100% (54)	57.4% (31)	42.6% (23)	33.3% (18)	66.7% (36)
Age					
16-30	44.4% (24)	37% (20)	7.4% (4)	20.4% (11)	24.0% (13)
30-45	46.3% (25)	14.8% (8)	31.5% (17)	9.3% (5)	37.0% (20)
45-60	9.3% (5)	5.6% (3)	3.7% (2)	3.7% (2)	5.5% (3)
Education					
None	25.9% (14)	1.9% (1)	24.0% (13)	0.0% (0)	25.9% (14)
Primary	16.7% (9)	9.3% (5)	7.4% (4)	1.9% (1)	14.8% (8)
Secondary	29.6% (16)	20.4% (11)	9.2% (5)	13.0% (7)	16.6% (9)
Senior Secondary	13.0% (7)	13.0% (7)	0% (0)	7.4% (4)	5.5% (3)
Higher Education	14.8% (8)	13.0% (7)	1.8% (1)	11.1% (6)	3.7% (2)
Below Poverty Line Card	87.0% (47)	44.4% (24)	42.5% (23)	25.9% (14)	61.1% (33)
Religion					
Hindu	94.4% (51)	51.9% (28)	42.5% (23)	27.8% (15)	66.6% (36)
Muslim	5.6% (3)	5.6% (3)	0% (0)	5.6% (3)	0% (0)
Caste					
SC	51.9% (28)	24.1% (13)	27.8% (15)	0.0% (0)	51.8% (28)
OBC	35.2% (19)	20.4% (11)	14.8% (8)	20.4% (11)	14.8% (8)
General	13.0% (7)	13.0% (7)	0% (0)	13.0% (7)	0% (0)
Marital Status					
Married	66.7% (36)	27.8% (15)	38.8% (21)	18.5% (10)	48.1% (26)
Unmarried	31.5% (17)	29.6% (16)	1.8% (1)	14.8% (8)	16.6% (9)
Widow	1.9% (1)	0.0% (0)	1.8% (1)	0.0% (0)	1.8% (1)
Types of Houses					
Kuccha	20.4% (11)	5.6% (3)	14.8% (8)	1.9% (1)	18.5% (10)
Semi-Pucca	46.3% (25)	20.4% (11)	25.9% (14)	22.2% (12)	24.1% (13)
Pucca	33.3% (18)	31.5% (17)	1.8% (1)	9.3% (5)	24.0% (13)
Source: Primary Data					
Note: The percentage indicated here is out of the total number of participants.					

Ethical Considerations

All the participants were provided with comprehensive information regarding the procedure, objectives, right to withdraw, and the assurance of confidentiality. These issues were effectively communicated in the local language and dialect, that is, the Kannauji Hindi

dialect, thereby fostering a sense of confidence among them. In each in-depth interview and FGD, explicit verbal consent was obtained from all female participants as many of them are unable to write, although they identify themselves as literate or attained primary education. This particular study had been

reviewed and granted ethical approval by the institutional ethics committee of the Institute of Medical Sciences, Banaras Hindu University.

Results

Availability of WASH facilities

The findings of the present study unravel that the state of government WASH facilities, including toilets, hand pumps, and tap water, are substandard in rural areas predominantly inhabited by citizens belonging to the lower castes. It was observed during the FGD that women belonging to the OBC and SC communities, who have lower incomes, also expressed their awareness of the substandard water quality. Despite their attempts to address the issue by boiling the water, the lack of supplementary resources and alternatives poses a challenge for individuals in managing the presence of contaminated water.

...It is not clean; however, water should be clean. We need to boil water so that no one gets ill. (A middle-aged SC woman)

Women belonging to these poor households and lower castes exhibit a significant reliance on public water infrastructure, leading to physical tiredness and fatigue. The duration allocated to water collection poses a significant source of stress for women. The findings further suggest that the majority of the women engage themselves in multiple instances of water collection to fulfil their day-to-day household responsibilities, which was reflected in the responses of the following women:

We must go 4-5 times a day to collect water; for this, we get up at around 5 o'clock and keep going and coming (A middle-aged SC woman)

We cover the water, but if it gets dirty, then we collect water again after cleaning the utensils (A middle-aged OBC woman)

When the availability of water is far away, one must walk, leading to a feeling of tiredness (A middle-aged SC woman)

Nevertheless, the women, in general, indicated that the accessibility of water is satisfactory. Furthermore, it is worth noting that individuals belonging to the OBC community, as well as Muslims due to their economic conditions, are provided with water facilities within their respective premises.

Supply water comes for one hour. However, when it is over, there is a handpump at some distance. We collect water from there (A middle-aged OBC woman)

We get supplied water, which is good, but we need to go outside to collect water from the public tap water when our water gets over (A middle-aged Muslim woman)

Moreover, certain rural communities possess toilets situated either close to their dwellings or within their premises. The lack of access to sanitation facilities is observed exclusively within the OBC community, while it is prevalent across all S.C. communities. In contrast, women belonging to higher castes indicated the presence of WASH infrastructure in every household. The primary factor contributing to this phenomenon is the elevated socio-economic status of households. The practice of open defecation remains a persistent and unavoidable phenomenon among women belonging to lower castes. The female participants consistently identified economic conditions and limited space as the primary factors contributing to their reluctance to construct toilets.

There is a problem in the house itself; one room is there, and that is even a *kachha* one. The condition is awful; it is not even suitable to live in. So, it is a big deal to get a toilet (A middle-aged SC Woman)

There exists a notable discrepancy in the accessibility of WASH services among women belonging to diverse strata. Women belonging to the upper castes do not need to go outside to use the toilet or fetch water. However, women from lower castes make multiple trips to access

these basic resources. The observed outcome is a difference in the lived experiences of women. This creates hardship and tiredness in their everyday lives, especially when it comes to accessing toilets and fetching water. The availability of improved WASH infrastructure relies on elements of social arrangements, reliability, and economic aspects (Bazaanah and Mothapo, 2023)). Further, these elements are linked to the complex intersection of socio-economic factors, roles and inadequate infrastructure, which contributes to challenging conditions for women.

Further, the intersectionality of gender with the caste system continues to exist in society, resulting in an inequitable distribution of resources. The phenomenon can be attributed primarily to the deeply entrenched social and economic inequalities that are closely linked to the caste system. Historically, individuals from higher castes have enjoyed more favourable educational opportunities, enhanced economic prospects, and greater access to positions of authority. This phenomenon has resulted in the continuation of disparate allocation of resources, whereby individuals belonging to higher castes have been able to exercise dominance over resources, whereas individuals from lower castes have encountered restricted prospects and experienced marginalisation.

Intrinsic Values: Barriers for Lower-Caste Women

The participants indicated their awareness regarding the challenges and consequences associated with inadequate access to WASH services. Nevertheless, when inquiring about their ability to construct water and sanitation infrastructure, individuals belonging to lower castes expressed their reliance on the male head of the household.

My husband will build the toilet, or else who will build it (a Hindu, SC, middle-aged woman)

When there is no money, how will my husband build it? We are poor, and he depends on labour work with limited

income (a Muslim, OBC, middle-aged woman)

Furthermore, the awareness of women belonging to lower castes encompassed these specific roles and responsibilities about water, sanitation, and hygiene (WASH) within the confines of their households. The sentiment of lacking agency in the upkeep and management of domestic sanitation requirements was prevalent among the marginalised social strata. According to their statement, the individuals regarded the WASH-related tasks as their responsibility, which they felt obligated to carry out independently, without seeking assistance from their husbands or other male household members.

There are many things for women, such as preparing food, washing clothes, and maintaining cleanliness at home, among other things. These things are only for women (a Hindu, SC, middle-aged woman)

This demonstrates the conformity of women from lower castes to patriarchal norms and values. The beliefs individuals hold regarding gender roles, family structures, and societal expectations are influenced by cultural and social conditioning, ultimately resulting in their alignment with patriarchal values.

Nevertheless, it can be argued that women belonging to higher castes are perceived to possess a greater inherent worth compared to women from lower castes. Female individuals from the higher social strata have reported instances wherein they pressured their spouses to construct sanitary facilities. One alternative explanation for this phenomenon is that individuals from higher castes have historically had greater access to education, resulting in higher intrinsic values. It should also be noted that out of the 14 participants in the FGD, 13 do not have access to toilet facilities if they are uneducated. However, the household's economy does not guarantee the construction of the toilet. It is a behaviour phenomenon where open defecation is practiced in the name of purity within the households.

Prior studies in this field have elucidated the significance of education for women regarding their inherent worth, which is essential for their bargaining power within the household to construct toilets (Hajra and Dutta, 2017; Ashraf et al., 2022).

When her father (my husband) came home, I told him I would not go outside for the toilet. Going that far was not my ability; he built the toilet (an upper-caste, middle-aged woman)

Furthermore, our inquiry regarding the provision of outside toilet facilities highlights the practice among upper-caste women that she can ask a male individual to vacate the surrounding area during the act of defecation. This observation shows the ability of assertiveness exhibited by these women to relocate male individuals from the designated area.

We rebuke them that your meeting is over, now our meeting will happen (an upper caste middle-aged woman)

However, women and girls belonging to lower castes continue to exhibit reluctance to utilise public toilets in the presence of individuals outside their immediate household. The individuals in question opt to delay their use of the toilet, rather than going before the rest of the group.

We wait for some time to go for defecation when someone is already there; often feel embarrassed to wait (a middle-aged SC woman)

Whenever I go to use the toilet, I want people around to go away and then use the toilet (OBC adolescent girl)

The influence of gendered norms on women's lives varies across different stages of their lives and affects various aspects of their social environment (Weber et al., 2019). Our results also demonstrate that the intrinsic value of women at different socio-economic strata varies significantly, which in turn influences their decision-making and behaviour regarding the accessibility of WASH services. These capabilities were influenced by several factors such as

education and income of the households. Additionally, it has been observed that women belonging to lower castes exhibit a higher propensity to encounter discriminatory practices. Hence, they take the traditional roles of water and sanitation obligatory and comprehend themselves for better sanitation practices. This comprehensive analysis sheds light on how caste, gender, and socio-economic factors intersect and influence individuals' attitudes and behaviours regarding WASH practices.

Decision-Making through Deflection

The majority of the participants expressed the viewpoint that women should be responsible for making decisions regarding household sanitation and water usage, as these matters have a greater impact on them. Nevertheless, a significant proportion of individuals belonging to lower castes exhibited a lack of assurance in their ability to participate in household decision-making regarding WASH infrastructure. It was asserted that decisions and choices pertaining to household sanitation were commonly made by male family members, mostly husbands. In instances where consultation takes place, it is commonly suggested that decisions about expenses be entrusted to the male partner, given that economic power within households continues to predominantly reside with males. As one of the respondents reacted:

My husband can build the toilet. Cannot he! There is no income for women, then how can we construct it? (a middle-aged OBC woman)

However, there have been reports indicating the involvement of women in the construction of toilets, regardless of the intended user demographic. Therefore, the responsibility for toilet construction lies with the bargaining power exerted by women within the household. Furthermore, women who come from favourable economic circumstances and attained education, including those from marginalised communities such as SCs and OBCs, possess significant agency in making decisions within the household.

I asked my father to build the toilet, and he constructed it (an adolescent SC girl)

It is essential to acknowledge that women typically do not utilise the position of power for personal gains but rather exert it on behalf of their daughters or newly married brides. These women possess firsthand knowledge of the constraints and disparities enforced by patriarchal norms and exhibit a profound commitment to safeguarding and assisting their offspring within their societal milieu. As one of the participants responded:

Now, we have a daughter and daughter-in-law. How can I send them outside? Likewise, my daughter-in-law cannot go alone to the toilet. That is why we planned to construct the toilet (an old OBC woman)

In addition, toilet facilities are designed to accommodate elderly family members and individuals with medical conditions that prevent them from engaging in outdoor defecation. This was reflected in the following narrative:

My health deteriorated; my daughter is young. It does not feel right to send her. Who will go with them? Hence, we constructed a toilet even though we needed to borrow money. Safety is the reason for the construction of the toilet (an upper-caste older woman)

Variations observed among women's experience were found to be influenced by a range of individual and interpersonal factors, including but not limited to the age of the women and their social roles within the family unit. Examples of such roles include daughters, daughters-in-law, and mothers-in-law. The experiences described by individuals were found to be influenced by various societal and community-level factors. These factors were observed to vary depending on the individuals' perceptions of prevailing practices within their respective communities. Firstly, the prevailing gender norms imposed significant limitations on women's autonomy and mobility, particularly in the context of marriage and their roles as daughters and daughters-in-law. Secondly, the

perception of taking care of the elders of the household along with their regular household chores. These perceptions shape the experiences of women resulting in their participation in the decision-making of toilet construction. Hence, it is essential to recognise that the intersectionality of age, position in households and gender substantially influence household decision-making dynamics. In instances where there are adolescent girls or elderly women, it is common for male family members to assume responsibility for the decision-making process regarding the construction of a toilet. Consequently, women often engage in negotiations with their husbands on behalf of their daughters, daughters-in-law, or elderly relatives residing in their household.

Fear Versus Pride Versus Norms: Perceived Notions for the Construction of Toilets

Women from various social groups hold distinct cultural perceptions regarding the construction of toilets within their respective households. For instance, women belonging to lower castes have expressed that there exists a constant sense of apprehension regarding the potential for harassment or mistreatment of their daughters during open defecation activities. Furthermore, there exists a certain apprehension regarding the act of encountering an individual while engaged in the process of excretion. Consequently, they have either undertaken the construction of the toilet or expressed a desire to do so.

There always remains a fear of girls facing harassment (verbal, sexual and physical in the village (a middle-aged SC woman)

We have daughters, and we must go outside with them. If we do not go with them, then there is fear of abuse (a middle-aged OBC woman)

Nevertheless, the prevailing perception among upper-caste women is that the installation of a toilet contributes to the dignity and pride of their households. The practice of prohibiting adolescent girls and newly wedded brides from defecating outdoors is rooted in the desire to uphold the pride and dignity of their households.

My daughter has grown up, and sending them outside does not feel right. It is a matter of the dignity of our home (an upper-caste, middle-aged woman)

Moreover, Muslim women expressed that their adherence to the cultural practice of Purdah served as a driving force behind their initiative to establish toilet facilities for their daughters.

There are strict norms for girls and women in our religion, and hence, we cannot send our daughter outside of the house (a middle-aged Muslim woman)

Furthermore, the examination of obstacles to women's freedom of movement in relation to sanitation predominantly focused on cultural norms rather than household dynamics.

How can we send our daughter and daughter-in-law alone outside, and what will society think? We, therefore, always go with them (a middle-aged OBC woman)

It is important to acknowledge that there exist varying perceptions regarding the construction of toilets for various categories of women. The construction of toilets is undertaken by individuals from lower castes out of fear, while Muslims engage in this practice due to adherence to their religious customs. However, individuals belonging to higher castes construct toilets to uphold their respect and sense of self-worth.

The practice of upholding a woman's honour to demonstrate pride is frequently observed within the upper-caste families. This cultural phenomenon aligns with the principles of honour culture, wherein societal collectivism is fostered among individuals belonging to the same or different social groups. Fear is observed to be collectivised within societies that possess a power culture, wherein subjugation and oppression are prevalent towards certain groups. Religious norms are observed to be collectivised within the framework of religious customs, wherein adherents of a particular faith adhere to and embody their respective traditional behaviours and practices. The motivation behind the construction of toilets is

often driven by societal factors such as shame and adherence to religious norms. This can lead to the adoption of unimproved sanitation facilities, such as bucket toilets or toilets without slabs, while improved sanitation facilities are considered a source of pride. The empirical investigation has also revealed that women belonging to SC, OBC, and Muslims possess access to sanitation facilities. However, it is noteworthy that the structural conditions of these facilities remain suboptimal in numerous instances. In contrast, it has been observed that women belonging to higher castes tend to have access to more advanced sanitation facilities, such as septic tanks and double-improved pit toilets.

Structural Violence: Different Experiences from Different Categories

Women belonging to the SCs and OBCs are also victims of structural violence, which manifests in the form of domestic abuse and violence when they assert their rights to request their husbands to procure water. The prevailing narrative suggests that women consistently face challenges in their pursuit of basic rights necessary for a life of dignity.

He (my husband) threatened to beat us when we asked to fetch water from the handpump situated outside and scolded us that we could not even bring water (a middle-aged OBC woman)

If he (my husband) comes after work, we get beaten if asked to bring water. He even says that we cannot even fetch water. After doing the work outside, the husband has to perform household chores (a middle-aged SC woman)

This manifestation of structural violence extends beyond the confines of the domestic sphere. This phenomenon extends to the societal level, wherein individuals experience dual forms of discrimination, namely, gender-based discrimination as well as discrimination based on their lower caste status. The research participants of our study belonging to lower castes reported instances in which the individual experienced mistreatment from fellow

community members as a means of coercing them into engaging in open defecation.

We often get abused while defecating in other's fields. They tell us not to enter their field (a middle-aged SC woman)

The limited availability of water sources within the local area necessitates longer travel distances to obtain water. However, several participants indicated that they refrain from retrieving water from certain publicly available sources.

We can fetch water only from sources that are open to all. Some people prohibit us from fetching water from their sources. They tell us that this handpump is theirs and, therefore, we are disallowed to collect water from those sources (a middle-aged SC woman)

Nevertheless, empirical evidence suggests that women belonging to the general category do not typically encounter instances of abuse and violence, even when they engage in open defecation on occasion, despite having access to toilets. Furthermore, during conversations with women from the general category regarding the mistreatment and harassment of girls, their response indicated that such occurrences are unlikely among women from the general category but may be more prevalent within lower castes. Socially legitimised reasons given for sexual violence, physical and verbal assaults against SC women must embrace the notion of upper caste men that the SC woman does not possess virtue and dignity (Irudayam et al., 2012).

If someone abuses or teases the girls of Brahman and Thakur communities, then they will be two feet less (dead) (A middle-aged upper caste woman)

The findings demonstrate that the presence of a male bias within the framework of patriarchal democracy has resulted in the emergence of patriarchal structural violence, which subsequently marginalises 'women's issues' to the domain of the 'private' sphere, thereby transforming them into matters of personal concern. Hence, women who do not have access

to WASH services within the private spaces of their homes or premise take structural violence acceptable due to patriarchal norms. Furthermore, underprivileged women who did not have access to social or familial assistance were found to be more likely to experience violence. Therefore, it can be inferred that the ability of women to navigate and manage their experiences of violence effectively is contingent upon the specific social environments and support systems in which they are situated (Molin, 2018). Further, the phenomenon of heightened social segregation has been observed to contribute to the rationalisation and legitimisation of violence, thereby eroding social capital among communities and social groups. Therefore, it can be observed that women belonging to lower castes are comparatively less empowered to resist instances of societal violence in comparison to their counterparts from higher castes.

Discussions

Our discussion revolves around two crucial dimensions of this research. Firstly, we examined the relationship between gender equality and the intersectionality of identities in relation to the WASH services. Additionally, we compared our findings with the existing literature on gender equality. Further, we examined the policies related to the WASH sector in India. We also discussed the practical implications of our research to further the development of the WASH sector.

Intersectional Insights: Unravelling Gender Disparities in WASH

Our research used an intra-categorical approach to elucidate the intersectionality of identities in the sanitation sector for different categories of women's water and defecation. The concept of intersectionality enables us to acknowledge the presence of several facets of inequality and the ways in which different human identities, such as gender, sex, caste, religion, and age, together with other perspectives, can influence an individual's access to rights, opportunities, and services. The results of our study indicate that women express comparable levels of concern regarding issues related to water and sanitation.

However, our findings corroborate with the findings of Mosse (2018), who argued that various social identities, such as caste, religion, and age, have distinct impacts on individuals' access to basic facilities. This disparity arises from gendered social relations and power dynamics that have emerged at the individual, household, and community levels. Furthermore, utilities' acceptability, affordability, and availability are influenced by personal, cultural, and socioeconomic contexts. Hence, there is variation in basic needs among women belonging in intersection to different castes, class and religion categories.

Our findings also indicate the availability of WASH services (Oláh et al., 2018). The availability of improved WASH services not only ensures the community's well-being but also highly impacts women's lives. The roles, expectations and interactions of women highly depend on the gendered norms. Hence, their participation goes beyond mere utility. It becomes a mechanism through which societal relationships are negotiated and redefined. For example, women belonging to marginalised sections of society face significant challenges in accessing basic services related to WASH. Our findings unravelled that even economically well-off households belonging to the SCs, OBCs, and Muslim communities sometimes have to travel a significant distance to access water. The absence of water served as a constant reminder of their lack of acknowledgement and legal position, as well as their physical degradation. The varying levels of water insecurity and precarity consistently intensified feelings of exclusion and inclusion in their everyday lives (Sultana, 2020). However, it is worth noting that the village primarily consists of upper-caste women who have access to an abundant supply of water and sanitation facilities. Hence, their roles and responsibilities change in accordance with the availability of services.

Women belonging to the SCs and OBCs face a higher degree of vulnerability to societal stigmas and norms, resulting in a greater likelihood of experiencing domestic violence and abuse (Chowdhury et al., 2022). Women belonging to

these intersecting categories exhibit a lack of empowerment and tend to perceive their gender as a hindrance rather than a source of strength. Individuals are exposed to structural violence that is shaped by prevailing values, morals, and cultural norms. Our research demonstrated that there have been instances where women have reported experiencing abuse, including physical violence when they request their spouses to retrieve water. The prevailing cultural expectations regarding household chores primarily assign this responsibility to women, while men predominantly engage in economic activities.

Moreover, gendered norms of systematic disparity and subjugation have been identified while discussing the concerns about defecation. This subjugation is not limited to the household level (Jadhav et al., 2016). The study demonstrates that women from lower castes were subjected to the notion of fear. Although there is no instance of teasing and rape reported in the village or nearby, women from lower caste fear for their daughters/daughters-in-law as someone can tease them. Further, they often get abused by the landowner for defecation in the field. Socially legitimised reasons for physical and verbal assaults against SC and OBC women embrace the notion of men that these women do not possess virtue and dignity (Irudayam et al., 2012; Gupte, 2013).

Older women from upper castes frequently conduct open defecation even if they have access to toilets because it allows them to be free of social conventions that forbid them from leaving their homes. Although they occasionally practice open defecation, they are not subjected to harassment. Furthermore, there is no fear of being teased and assaulted. These women consider it dishonourable if their daughter or daughter-in-law practices open defecation or fetches water from outside. Hence, the construction of toilets is carried out by individuals belonging to lower castes due to concerns and hesitation, whereas Muslims participate in these endeavours because of their cultural norms of (Purdah) seclusion (Devi & Kaur, 2019). The purdah system is widely used in

Muslim communities, where it is applied to women and girls shortly after they reach puberty. Nevertheless, individuals belonging to higher castes endeavour to build toilets to maintain their social status and preserve their sense of dignity.

Further, the power dynamics within a society significantly influence the formation and maintenance of gendered social relationships. According to Routray et al. (2017), women's perceptions of their abilities and limitations are influenced by the constraints imposed on them at societal and domestic levels. 'Being in upper social strata' arose as a flexible yet significant notion in the context of our research sites, determining which component of a woman's identity had the most influential impact in shaping their experiences. These individuals have positions of power, prestige, and influence. The elements of 'being in upper social strata' contribute to their ability to negotiate for WASH facilities. However, the ability to intervene may be one of the reasons for the prevalence of education within their social group. Our findings also demonstrate that women from upper castes have a greater ability to negotiate compared to lower-caste women. However, it is important to note that these negotiations are not solely for their own benefit. Instead, they primarily advocate for the well-being of their offspring, the elderly population, girl children, and newly married women. It is important to highlight that in India, the primary responsibility for making economic decisions still lies with the husband (Biswas & Mukhopadhyay, 2018). Furthermore, reports indicate that village leaders often demonstrate biases towards individuals with higher socioeconomic status. Nevertheless, our findings suggest that women from lower strata cannot make decisions to access the WASH services.

Sanitation Policies in India Through Intersectional Lens

Article 15 in India's constitution prohibits discrimination based on religion, race, caste, class, sex, or place of birth. Moreover, several legal and policy changes have been introduced to mitigate discriminatory practices, leading to

inequalities. The legal and policy framework governing sanitation in India also recognises gender and caste. For instance, the Central Rural Sanitation Programme (CRSP) promoted the provision of dignity and privacy to women as an objective of the programme. This sensitivity towards gender has continued in each programme.

The Swachh Bharat Mission (SBM) (Gramin) proposes equity and inclusion for the socially and economically marginalised population. Further, it advocates gender dignity and safety through participation at each level of planning and implementation and promotes leadership and empowerment of girls and women at the institutional level. However, these frameworks remain silent regarding the intersectional inequalities in the approach. Earlier, it was up to implementing agencies to identify the cases to prioritise inclusion and equity without proper guidelines and frameworks. The provision for the appointment of the voluntary position of Swachhagrahis (Cleanliness Ambassadors) recommends the priority of women. However, the guidelines do not explicitly state the appointment of women from marginalised sections of society.

The recently launched Har Ghar Jal Scheme of 2019 aims to provide a functional water tap system to each household in rural areas by 2024. The two main reasons for undertaking this scheme are to empower women and girls by stopping them from fetching water outside their houses and promoting sustainable open defecation-free status in the villages. The guidelines provided by Jal Shakti's Ministry are the same as the SBM(G) for inclusion and equity, such as the representation and participation of women, SCs, and STs at all levels of institutional arrangements.

The village water and sanitation committee constitution also advocates the inclusion of marginalised classes — women, SCs and STs for representation but ignores the intersectional oppression and inequalities. Furthermore, the recommendation for training at least five women to monitor water quality and activities goes wide of the critical approach of

intersectionality. It has been seen that if women are members of such committees or training, they belong to higher categories of society, signalling that women from marginalised sections fail to get representation. Again, the policies and programmes do not discuss different cultural practices in another religion. Religious aspects shape the public space attitudes towards water bodies and even sanitation and hygiene (Faure et al., 2018). Hence, women from different faiths have different needs for water and sanitation infrastructure. For example, our findings suggest that Brahmins in India bathe many times a day to keep themselves clean. Moreover, they do not want to install toilets inside their houses because they collect human waste, so the toilets are considered unclean.

Implications for Development Programmes

The study presents results highlighting how socio-economic status, age, marital status, and education influence women's experiences. This research emphasises the crucial factors that development programmes focusing on WASH services should consider the intersectionality of identities in developing development programs. To promote diversity in society, exploring how we can empower individuals who may face limitations due to intersecting societal structures and social norms is crucial. This is particularly important for women who are not as well-positioned, as they may face obstacles that hinder their ability to participate and contribute as decision-makers.

Building on the above, there is a need for proactive efforts to tackle the inequalities prevalent in society. To address the long-standing discriminatory practices in society, all key stakeholders must acknowledge and address them. Further, there is a need to rethink for investments in water, sanitation, and hygiene services, which are necessary to meet the needs of women and girls and other forms of gender, especially from marginalised sections of society. Allocating specific space for dialogue that prioritises listening to and considering the perspectives of the marginalised women might also contribute to this goal. Lastly, development

partners can play roles in shifting the broader context at the implementation level through public awareness campaigns, financial support, provisioning of centralised water tanks, and linkage to the other social entitlements and rights.

Conclusion

The cultural norms, traditions, and taboos make Indian rural women vulnerable and expose them to suppression and deprivation in the patriarchal society. Hence, the gender lens provides critical insight into women's needs for water and sanitation. Moreover, in many ways, it has been overlooked in technical and mainstreaming approaches to gendering water, sanitation, and power structures. Here, the intersectionality of identities offers an analytical and critical tool to particulate and differentiate the different experiences of women in terms of sanitation and water.

The intersection of identities such as caste, age, religion, education, and gender plays a crucial role in the deprivation of women. These deprivations are invisible until one properly assesses their roles and responsibilities, which differ for different categories of women. This study shows that adolescent girls and women from low social status are vulnerable to intra-personal violence and social harassment due to a lack of proper infrastructure for water and sanitation. Caste and religion play a central role in deprivation and inequalities. Moreover, newly married women are restricted and must negotiate the place for defecation. Women aspire to build a toilet and water infrastructure within the households to protect their girls, children, and newly married women. However, economic constraints are still a significant obstacle to building a toilet.

Intersectionality offers an opportunity to uncover the social dynamics of power, privilege, discrimination, and inequality in the water and sanitation sector. These critical analyses about roles and responsibilities can deepen the understanding of different human experiences and sustainably transform society's relation to water and sanitation. Social workers, policymakers, and activists can think beyond the

single dimension of social differences to achieve holistic development in the water and sanitation sector.

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Ethical Approval and Conflict of Interest

This study has been reviewed and granted ethical approval by the institutional ethics committee of the Institute of Medical Sciences, Banaras Hindu University. Further, there is not any conflict of interest between the authors regarding the publication of this study.

Informed Consent

All participants in this study were informed about the procedures, objectives, their right to withdraw at any stage, and the guarantee of confidentiality. This information was effectively conveyed in the local language and dialect, specifically the Kannauji dialect of Hindi, to ensure clear understanding and foster a sense of confidence among the participants. Verbal consent was obtained from all female participants in individual interviews and focus group discussions, acknowledging potential literacy limitations despite self-identification as literate or having completed primary education.

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Author Contribution Statement

Sumit Shekhar, the primary contributor, played a crucial part in the conceptualisation and design of the study, as well as in the data collection and initial drafting. Furthermore, he analysed the

findings, generated tables, and guaranteed the consistency and precision of the paper.

Dr Amrita Dwivedi, the co-author, made substantial contributions to both the execution of the study and the analysis of the results. The individuals actively collected and analysed data, enhancing the findings' overall strength and reliability. Dr Dwivedi made significant contributions to the article by doing a thorough review and implementing insightful revisions, thereby improving the overall coherence and clarity of the text.

Data Availability Statement

The primary data generated during this study is currently not publicly available due to confidentiality and ethical considerations. Upon request, access to the dataset may be considered for research collaborations.

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