

# Interpreting Inclusion for Sanitation Perspectives from India: A Contextual Approach to Universal Design

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**Abstract.** Access to water, sanitation, and hygiene (WASH) for all is fundamental for sustenance. Goal 6 of the UN's Sustainable Development Goals urges that 'universal access to drinking water, sanitation and hygiene' is fundamental as a response in the current post-COVID scenario. Despite Government of India's efforts through programs like Swachh Bharat (Clean India) Mission, there is a long way to go to integrate equity and inclusion in the sanitation facilities of the public realm. This paper is an attempt to understand the aspect of inclusion in sanitation systems of urban public spaces of India, limiting the study to Delhi and Noida, which are in the National Capital Region (NCR). The aim is to explore the contextual challenges of universal design in public sanitation and develop an understanding of what makes a public toilet inclusive in the urban Indian context. A field-based, mixed methods approach is followed which begins with a literature review of government policies & schemes and theoretical understanding of inclusion as well as the role of universal design as an approach to achieve inclusion. This is followed by on-ground studies involving ethnographic surveys, analysis of imagery and field observations. The results show an analysis of the inclusive aspects of sanitation under the thematic domains of public perception, usage preferences and issues in the public toilet experience. The sanitation facilities in urban public spaces are used by a diverse population and the results showcase a collection of the qualitative experiences of a varied set of user groups. The subjective challenges of inclusive sanitation are highlighted through the various stages and components of the entire sanitation system - the design & infrastructure, operations & maintenance, and behavioural patterns. This paper tries to raise new grounded questions to further explore the highlighted marginal distinctions between inclusion and accessibility in the urban public sanitation experience of India.

**Keywords.** sanitation, inclusion, public spaces, universal design, India

## 1. Introduction

Access to water, sanitation, and hygiene (WASH) for all is fundamental for sustenance. Goal 6 of the UN's Sustainable Development Goals urges that 'universal access to drinking water, sanitation and hygiene' is fundamental as a response in the current COVID scenario. [1] With the government's efforts through the *Swachh Bharat* (Clean India) Mission, over 100 million toilets were built as of 2020. [2] Despite this effort, even today, the ground reality of public toilets has remained ignored for urban public spaces, although, some well-meaning attempts to understand the situation have been made.

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This paper is of critical relevance to inquire into the whole paradigm of inclusion in a complex social context of India. To understand inclusion, it is important to understand exclusion and its impact. That, by itself, is variable, as lack of inclusion differently affects people with disability, women, men, adolescents, transgenders, and other groups. Caste, class, age, religion, ethnicity, and cultural beliefs further makes the process of inclusion complex for the Indian context. [3] Now, when we add the layer of sanitation, it complicates it further. Thus, the aim of this paper is to interpret inclusion in sanitation in public toilets of the urban Indian context and try to map the issues to bring forth an understanding of the grounded reality and perceptions of varied user groups.

2. Literature Review on Public Sanitation & Inclusion

2.1. Government Initiatives

Throughout the years, the government of India has undertaken numerous initiatives to enhance public sanitation and some efforts have been made in terms of policies as well for enhancing inclusion in public sanitation. Table 1 lists the various government schemes and policies. [4]

Table 1. List of initiatives by Government of India for Public Sanitation & Inclusion

Initiative	Year of Commencement	Relevant Objective
Integrated Low-Cost Sanitation Scheme (ILCS)	1980	Constructing/converting low-cost sanitation units with variations as per local conditions where low-income households have no sanitation system to prevent open defecation.
National Water Policy	1987	Instrumental in setting grounds for the provision of urban and rural sanitation services.
The 74 <sup>th</sup> Constitutional Amendment Act (CAA)	1993	Decentralisation of responsibilities of sanitation services to the ULBs (Urban Local Bodies).
The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act	1993	Prohibition of employment of manual scavengers and construction of dry latrines.
Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act	1995	Mentions adapting toilets for wheelchair accessibility but only for railway stations, bus terminals etc.
National Health Policy	2000	Recognition of the connection between unhygienic sanitation and unsafe drinking water in urban settings.
Valmiki Ambedkar Awas Yojana (VAMBAY)	2001	Mentions sanitation for the urban poor.
Jawaharlal Nehru Urban Renewal Mission (JnNURM)	2005	Instrumental in provision of sanitation infrastructure.
National Urban Sanitation Policy (NUSP)	2008	Mentions a ‘focus on hygienic and affordable sanitation facilities for the urban poor and women’.
Service Level Benchmark (SLB)	2008	Included performance indicators in various domains for assessing the service levels in the ULBs.

<i>Nirmal Shahr Puraskar</i>	2010	Encouraged full access to sanitation for all cities.
<i>Rajiv Awas Yojana (RAY)</i>	2011	Enabled all existing slums to avail basic sanitation.
The Prohibition of Employment as Manual Scavengers and Their Rehabilitation Act	2013	ULBs responsible for prohibiting manual scavenging and providing sanitation infrastructure.
<i>Swachh Bharat</i> (Clean India) Mission	2014	Instrumental in pushing every region to become open-defecation free.
SMART City	2015	Promoting ‘sustainable and inclusive cities’
<i>Sugamya Bharat Abhiyan</i> (Accessible India Campaign)	2015	Achieving universal accessibility for persons with disabilities in the Built Environment, Transportation, and ICT ecosystem
Rights of Persons with Disabilities Act	2016	Adaptation of toilets for usability persons with disabilities
Transgender Persons (Protection of Rights) Bill	2016	Safeguarding access to public spaces which includes public and community toilets

Apart from various schemes and laws, the government has also launched multiple handbooks and guidelines which promote inclusion for public sanitation. It is evident that multiple initiatives have taken place to make public toilets more inclusive and accessible, and this study helps us in taking a closer look at the on-ground translations of the initiatives.

2.2. Theoretical Understanding

If one is to go a step ahead and interpret the standard definition of ‘inclusion’, one looks at two things – ‘what’ to interpret for and ‘where’. Here, the ‘what’ is clearly public sanitation and the ‘where’ is urban Indian cities. Keeping in mind the context (‘where’ and ‘what’), an attempt is made to develop an understanding, which guides the interpretation of inclusion for the study (Figure 1).

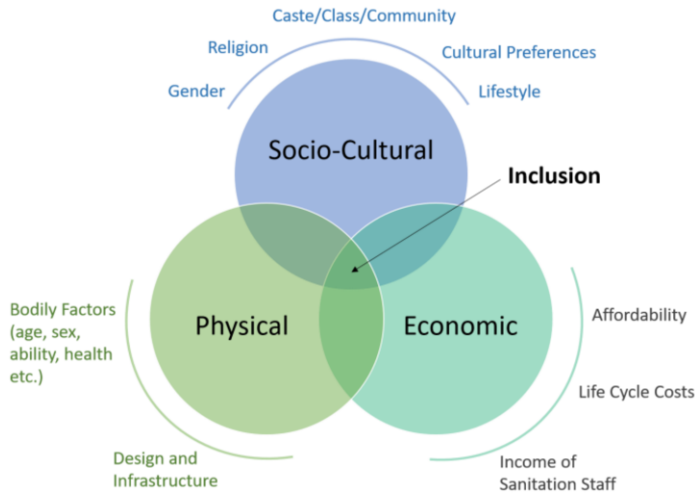


Figure 1. Factors of Inclusion for Public Sanitation. (Authors).

### 2.3. *Role of Universal Design*

To achieve the state of inclusion that we have mentioned above, the approach is of universal design. In the context of India, some attempts have been made to better understand universal design as an approach for public sanitation with a prime example being developing five principles of Indian universal design which are as follows: equitable ('*saman*'), usable ('*sahaj*'), cultural ('*sanskritik*'), economy ('*sasta*') and aesthetics ('*sundar*'). [5] The need for a universal design in the context of Indian public toilets are demonstrated in a study that uses full scale simulation methods to derive specifications of universally accessible toilet design. The study concluded that there is a need to develop thorough universal toilet design standards for India. [6]

## 3. **Study and Its Context**

This study was conducted within the Delhi NCR (National Capital Region), specifically the cities of Delhi and Noida, since the aim was to understand the on-ground reality of the public sanitation systems specific to urban Indian context. Six public toilets situated in different urban public spaces of Delhi and Noida, were selected for this study. The context of each of the locations varied from Metro stations, urban marketplaces, malls, commercial hubs and/or a mix of more than one of them.

## 4. **Research Methodology**

The methodology was survey-based, and a qualitative approach was followed. The process involved selection of public toilets, photo-documentation, conducting qualitative surveys of users, passers-by and sanitary workers/operators. This is accompanied by field observation and developing field notes.

### 4.1. *Selection of Public Toilets*

The toilets were purposively selected after a reconnaissance survey on the following criteria – location feasibility, unique design distinctions and diversity of contexts of the urban public spaces.

### 4.2. *Tools*

- **Data Collection:** The tools used for data collection are short, semi-structured, qualitative surveys, photographs and field observation notes. The reason this method was adopted is that most people in the chosen busy public areas do not have much time to spare.
- **Data Analysis:** Once the user responses, photographs and field notes were collated, they were manually analysed. As per the analysis, the emerging and recurring points were grouped to develop thematic clusters.

### 4.3. Research Ethics

Ethical considerations have been ensured throughout this study. The survey participants gave their due consent for the study. The intent and purpose of the study was explained to them before they gave consent. All the survey participants were free to opt out of the survey at any point of time. The anonymity of the participants has been maintained as all personally identifiable data has been kept confidential. No physical, social, psychological or any other type of harm has been caused to anyone in this study.

## 5. Field Survey: Ground Reality Perspectives

Based on the data collected we can classify the various stakeholders into two groups as follows:

- Sanitary Workers and Operators (S1)
- User Groups
  - Male (S2)
  - Female (S3)
  - Elderly (S4)
  - Persons with Disability (S5)

As is evident, this study primarily focuses on out of the list of all user groups possible. The survey was qualitative in nature which involved the following open-ended questions.

1. What do you think about the public toilets that you have visited?
2. How would you narrate your experience of using public toilets?
3. What are the issues you face in using a public toilet?

Out of the six (06) public toilets that were selected for the field study, two (02) were primarily located near a metro station, one was a female-only 'PINK' toilet located near a highway, one located near a popular marketplace and metro station simultaneously and two located in the central commercial hub of New Delhi known as Connaught Place. (Figure 2) A total of 42 individuals participated in the user surveys. The sample set has individuals aged between 19-76 with a representation of diverse user profiles.



**Figure 2.** Public Toilet Imagery. (Authors).

## 6. Results and Discussion

Policy schemes of the government primarily focuses on making India an open-defecation free nation, ensuring sanitation for all. The impact of such schemes has been phenomenal – leading to over 100 million toilets being built. However, it would now be critical to ensure access to person with disabilities and other diverse needs, as an inclusive thought and not as a segregated concept. Universal accessibility thus has a potential to be contextualized with this Indian lens that supports the Universal Design India Principles of availability, accessibility and affordability as overarching ideas of inclusive sanitation. With this direction, the analysis of the responses of the participants for each of the questions that were explored in the previous section leads to three distinct thematic domains as given in the following sub-sections.

### 6.1. *Public Perception*

Majority of the participants (~60%) with representation of men (~70%), women (~30%), elderly (~7%) and persons with disability (~5%) reflected about the unhygienic conditions as a challenge in public toilets. Most women highlighted the issues of cleanliness and odour (foul smell). However, most men had a perception of improved existing toilets. Senior citizens had a perception that in certain areas, public toilet condition has improved a lot but in other areas, the condition still has a scope of improvement. Persons with visual impairment and locomotor disability mentioned that despite some well-meaning design interventions in public toilets, accessibility is still a major concern apart from cleanliness and hygiene. A select few participants highlighted their perception being that ‘mostly people from lower socio-economic classes’ use public toilets.

### 6.2. *Usage Preferences*

Half of the participants (~50%) prefer to use public toilets only in case of emergencies or do not use them at all. These participants alternatively prefer to use toilets in a nearby restaurant/hotel or prefer to wait till they reach their destination during commute within the city. The reasons quoted varied between ‘never had the need to use public toilets’ to ‘too dirty to use’.

### 6.3. *Issues*

Diverse issues have been tabulated from diverse stakeholder perspectives as documented in Table 2. (S1 – Sanitary worker/Operator, S2 – Male users, S3 – Female users, S4 – Elderly, and S5 – Persons with Disabilities)

**Table 2.** Issue Mapping of Public Toilets

Issue	Description	Stakeholders
Location and Availability	Often toilets are located at inappropriate places (e.g., locations with insufficient lighting) or are unavailable which makes it difficult for multiple user groups to access.	S3 (23%), S5 (100 %)
Accessibility	Some toilets are wheelchair accessible but not accessible for persons with other disabilities. Different layouts and unavailability of tactile features makes it challenging for persons with visual impairment.	S5 (100%)
Infrastructure	Doors, fixtures, etc. are often working improperly/damaged, with other issues of leakage, electrical equipment issues, water supply issues and poor construction quality.	S1(17%), S2(10%), S3(27%), S4 (100%), S5 (100%)
Amenities	Unavailability of handwash liquid/soap, waste bins, napkins/hand dryers, sanitary pad disposal systems and pad dispensers for menstruating individuals.	S2 (10%), S3 (40%), S5 (100%)
Safety and Privacy	Broken doors and inappropriate location lead to privacy and safety concerns, primarily for women.	S3 (32%)
Hygiene	Cleanliness and odour issues were widely reported, with issue of insufficient cleaning supplies.	S1 (60%), S2 (41%), S3(63%), S4 (66%), S5 (100%)
Aesthetics	People mention that the overall look of the toilet should stand out else they miss it.	S3 (5%)
Public Behaviour	Irresponsible disposal of sanitary pads, diapers, etc. and indecent behaviour by users towards sanitary workers and vice versa. Homeless individuals are discouraged from using toilets.	S1 (100%), S2 (7%), S3 (10%)
Finance	Staff prevents the use of toilets if not carrying change of low denominations, with unavailability of digital payment methods. On the other side, the sanitation workers earn a very meagre income and often reside in the toilet complex itself.	S2 (7%), S3 (11%)

#### 6.4. Key Findings

Some key findings from above mentioned issues and field observations are as follows:

- Users with disabilities need more time to use a public toilet and that leads to impatience of other users in queue.

- Women face a queueing issue as the number of WCs are not always sufficient. Additionally, there is a lack of provision of a sufficiently large waiting space.
- The accessibility of the elderly in public toilet design requires further studies owing to the various dimensions of elderly needs, e.g., incontinence owing to health conditions,
- People, largely men, prefer to urinate in open and secluded areas despite availability of public toilets nearby.
- Some users are not comfortable to use Western toilet typology and hence, they tend to search for toilets which have an Indian toilet typology.
- The subject of toilets and public sanitation is considered a taboo topic to converse about, as reflected by some respondents' hesitation.

## 7. Concluding Remarks

This paper has been able to bring out the marginal distinctions between accessibility and inclusion and decode the perceptions of accessibility from a grounded urban Indian perspective, to bring universal design to a uniquely contextual perspective where age, gender and ability are reflected. Developing inclusive sanitation for heterogeneous groups, like the ones represented in this study, reflects the need of rethinking universal design in the Indian context.

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