

# Understanding the Accessibility Challenges in Urban Sanitation for People with Disabilities in India

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## Background

Access to clean and adequate sanitation remains a critical challenge in India's urban landscapes, despite being recognised as a fundamental necessity since independence. The condition of the urban sanitation facilities significantly impacts public health and quality of urban liveability. According to Census 2001, about 7.87 percent of urban households lacks access to latrines, and defecate in open, while about 8.13 percent of urban households use community facilities, and 13.4 percent utilizes shared facilities. Out of the total about 26.83 percent of households are connected to open drains and 13 percent of the total urban households do not have any drainage network. This challenges exacerbated among the urban poor, vulnerable populations including women, marginalised population, children and specifically people with disabilities are disproportionately affected.

Urban sanitation facilities often fail to accommodate the diverse needs of the people with disabilities, such as wheelchair users, individuals with visual impairment and those with cognitive disabilities. Persistent issues, such as poorly maintained facilities, inaccessible locations, and absence of assistive features exacerbate the exclusion experienced by the people with disabilities. Furthermore, social stigma and lack of sensitization in institutions and communities further alienate the people with disability communities from the public sanitation systems.

A review of existing policies, including the rights of persons with disabilities Act, 2016, and guidelines under Swachh Bharat mission reveals the significant gaps in their implementation and monitoring. The lack in awareness and training in universal design principles for the stakeholders involved in the design, planning and implementations of the sanitation infrastructure further widens the gaps further. Additionally, lack of robust data on the specific needs and challenges faced by the people with disabilities in accessing sanitation infrastructure demands urgent attention.

This research addresses these challenges and advocates for a multi-pronged approach: strengthening policy implementation with clear accountability, adopting universal design principles, increasing community awareness and leveraging technology for accessible sanitation solutions. Understanding addressing the data gaps and the unique challenges, faced by the people with disability in urban sanitation is vital for achieving equitable accessible urban development and fulfilling India's commitment to SDG 6 on clean water and sanitation. The proposed study underscores the urgency of integrating accessibility into urban sanitation planning to ensure safety, inclusivity and accessibility for all.

## Research Question

**How can urban sanitation infrastructure in India be made more accessible for people with disabilities?**

Data limitations pose significant challenge in urban research, especially when analyzing Census data. The terms such as "urban," and "disability" have definitions vary across various datasets, which leads to inconsistencies in comparative studies. In the Indian context, Census classifications fails to capture the complexities of urbanization and the diverse experiences of marginalized groups, including persons with disabilities. By integrating different demographic data with geospatial information, the access to key indicators related to sanitation infrastructure is crucial evaluation exercise. Without this integration, research on accessibility gaps and policy intervention may lack the granularity required for effective localized solutions and decision making.

## Methodology

- Both quantitative and qualitative approaches are demonstrated, using:
- Content Analysis (UN Sustainable Development Goals Targets and Indicators)
  - Literature Reviews (Journals, Articles)
  - Case Studies
  - Observation Mapping of accessibility audits of public and community toilets.
  - Review on reports, policy documents and existing research.

## Impact on Research and Applications

This research contributes to the evolving discourse on disability-inclusive urban development by highlighting the accessibility challenges faced by the people with disabilities in India in the urban sanitation systems.

- Policy recommendations for government agencies to improve implementation of RPWD Act, 2016 and by integrating universal design principles.
- Enhances urban planning practices framework for municipalities to conduct accessibility audits and retrofitting strategies.
- Encourages Participatory planning by involving PwDs in Sanitation decision – making.

## Results

### Inadequate Inclusive Infrastructure in Urban Sanitation

Most of the sanitation facilities in urban India do not follow to universal design principles. According to Census 2011, 18.6 percent of urban households in India lacked In-home toilet facilities, necessitating in reliance on public toilets and community sanitation facilities. Also, these facilities often lack the necessary assisting features such as ramps, grab bars, Braille signage, and sufficient maneuvering spaces for people with disabilities. Furthermore, although accessible toilets exist, poor maintenance and the number of nonfunctional facilities restrict the PwDs from using them, and there is lack of space for safe and dignified sanitation. .

### Implementation Gaps in Policies and Regulations

The Rights of Persons with Disabilities (RPWD) Act, 2016, requires the development of inclusive and accessible sanitation infrastructure; however, enforcement and implementation weak. The Swachh Bharat Mission (SBM), which is an initiative to improve sanitation across India does not address the special needs of PwDs. According to Disability Rights India Foundation, study done across 24 states, revealed that more than 50 percent had not notified rules under the Rights of Person with Disabilities (RPWD) Act, 2016. As per the RPWD Act, 2016 noted by the Parliamentary Standing committee stated that disability being a state subject, it is the responsibility of the State/UTs to provide accessible infrastructures. There is a lack of clear accountability frameworks which leads to non-compliance with accessibility standards.

### Financial and Institutional Constraints

There is a clear requirement for additional investment in disabled access sanitation infrastructure that is generally speaking not there. Usually municipal budgets fail to provide it because of poor development priorities within the municipalities, coupled with a shortage of funds due to competitive needs of "more conventional" urban development works. There also no scheme for financial support which would foster participation by private developers in making accessible and inclusive sanitation a reality.

### Lack of Data and Research on Accessibility Challenges

A major reason why the issue is not adequately address is because there is an absence of empirical data on specific sanitation challenges in Urban India among PwDs. More focused research and data gathering are needed to understand and effectively address varied sanitation challenges facing PwDs.

### Lack of Use of Technology for Accessibility Solutions

Technology can be a transformative tool in changing accessibility to sanitation and yet is integrated into the urban sanitation systems minimally. Assistive technologies such as smart toilets, sensor-based access features, and digital way finding tools are underdeveloped or underutilized. Solutions such as providing PwDs with mobile applications for finding accessible toilets or AI – based navigation tools have not been integrated broadly. In this respect, technology can be a great enabler of making sanitation use for the PwDs much easier and accessible.

### Socio-Cultural Barriers and Stigma

Beyond the physical and policy-related barriers, socio-cultural attitudes are critical to PwDs access to sanitation. Social stigma and a lack of awareness about disability rights lead to exclusionary attitudes in public spaces, including sanitation facilities. Discrimination or perception of being burdensome are common when asking for assistance. Cultural taboos and gendered challenges make access to sanitation for women with disabilities even more difficult including hygiene and safety.

### Inadequate Public Participation in Decision-Making

Exclusion of PwDs from decision making is a significant issue in urban sanitation planning and implementation. People with disabilities are rarely consulted during the design, planning or implementation of sanitation projects, and as such, the facilities are not tailored to their actual needs in accessibility. The lack of participatory decision making frameworks results in sanitation infrastructure that is designed without considering PwDs, this perpetuating their exclusion for essential services. In addition, meaningful participation of PwDs in Urban planning is crucial for the development of an accessible and inclusive sanitation solutions.

## Future Work

For future research, the study identifies key directions, including expanding data collection across multiple Indian cities, and exploring cost – effective retrofitting strategies for existing sanitation facilities.

**To ensure sustainable implementation, the proposal is to –**

- **Have a national-level open-access database to track sanitation accessibility.**
- **Integration of accessibility audits in smart city projects.**
- **A cross-sector partnerships to innovate and fund inclusive sanitation solutions**

