Original Research Article

Accessible Public Environment in Mysore: A Case Study of Malls

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ABSTRACT

Purpose: In India, the attitude towards people with disabilities is changing and they are increasingly participating in society. It is therefore essential to study the existing accessibility standards of buildings that are open to the public and find ways to improve access where necessary. The current study aimed to assess the accessibility standards of malls in the city of Mysore, India.

Method: Two malls were selected on the basis of convenience sampling. The on-site audit of the physical accessibility of the malls was based on the physical accessibility audit checklist prepared by the Accessible India Campaign (AIC).

Results: While both the audited malls had accessible parking, entrance, reception and lobby, and toilets, these areas could not be considered fully accessible. The needs of people with different disabilities had not been met.

Conclusion: The malls in Mysore are not well equipped to cater to the needs of persons with disabilities. To be truly accessible, the buildings should be able to accommodate the diverse needs of all groups of persons with disabilities.

Keywords: access audit, people with disability, malls, disability, barrier-free environment, built environment

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INTRODUCTION

According to the Persons with Disability Act of 1995, all individuals, regardless of their abilities or disabilities, are entitled to government benefits, equal opportunities, protection of rights, and full participation in society(Rashmi et al, 2018). An inclusive city and social inclusion are essential for this Act to become a reality. An inclusive society is defined as a society that enables individuals to live in an unrestrained manner with self-esteem and actively contribute to society(Lutfiyya & Bartlett, 2020).Access is an inalienable part of inclusivity (Layer, 2002).

The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) 2006, to which India is a signatory, stipulates that state parties should enable persons with disabilities to live independently and participate fully in all aspects of life (Lombardi et al, 2019). Full participation includes private entities or organisations that offer facilities and services that are open or provided to the public, to consider all aspects of accessibility for persons with disabilities(Libertun De Duren, 2021).The Indian parliament passed the Rights of Persons with Disabilities Act in 2016 (RPWD Act, 2016) to fulfil the obligation to the UNCRPD, 2006, and mandated the standards of accessibility in the physical environment, different modes of transport, and public buildings (Balakrishnan

et al, 2019). As part of the push for inclusive spaces, the Ministry of Urban Development, Government of India, published model building by-laws in 2016 (Jawaid et al, 2018).In reference to that, every building meant for the public should have a barrier-free environment. This includes provisions for differently-abled persons, the elderly, and children, including site development, access path/walkway, parking, building requirements, stairs, lifts, toilets, drinking water, and signage (Jawaid et al, 2018).

As per the most recent census in India, as many as 21.9 million persons, i.e., 2.1 % of the population, has some form of disability. Across all the states and Union Territories, on average, 2 % of the population is with disability. Karnataka, where 1.8 % of the population is with disability, is one of the States with a lower-than-national-average disability population (Saikia et al, 2017).

The State profile includes, for every 1000 population, eight people with visual impairments, two people with communication disabilities, one person with hearing impairment, five people with locomotor disabilities, and two with intellectual disabilities. Visual impairment is high in the Mysore division (a tier two city in the southern part of Karnataka state) compared with the other three divisions(Rashmi et al, 2018). Another vulnerable group that requires provisions for inclusion is the geriatric population, that is, those who are 60 years of age and above(Lakshmana & Maruthi, 2018).

According to reports on social media and in social science literature, the recent trend in people fulfilling their social needs has shifted to malls. The main reason behind this transfer of social life from traditional spaces to malls is the availability and ease of finding most requirements under a single roof, including shopping, food, cultural and social events(Hagberg & Styhre, 2013; Miller & Laketa, 2019; Verma & Misra, 2021).

Malls are usually part of large conglomerates that follow the same standards of construction in all cities. The Indian Government has mandated several provisions for social inclusion, including for persons with disabilities. Therefore, it is essential to understand whether the malls adhere to the government's recommended accessibility standards.

OBJECTIVE

The present study was undertaken to perform an accessibility audit of malls in Mysore city. The findings from this study will serve as a pointer to the accessibility of these public buildings which are emerging as important landmarks and public utilities in most cities across the country. To the best of the authors' knowledge, this is the first study all over India that addresses the accessibility aspects of public places such as malls.

METHOD

Study Design

A cross-sectional study was conducted in the selected malls of Mysore city, in the State of Karnataka, India.

Study Site

Mysore is a well-planned city with wide roads and flat terrain. It attracts many tourists and has a large population of retired people. For tourists as well as city residents, malls are popular destinations for shopping, food, social and cultural events, and entertainment.

Mysore has six malls, most of which are fairly recent constructions. The oldest mall opened in 2010.

Sample

A convenience sampling strategy was used. All six malls were approached and the audit procedure was explained. Only two mall authorities consented to participate in the study.

Mall A, one of the popular malls in Mysore, became operational after 2010. It has five floors with an area of approximately 262000 square feet.

Mall B, another popular and relatively newer mall, has five floors with approximately 585000 square feet of built-up area.

Data Collection

An on-site audit of the physical accessibility of malls was done, using the physical accessibility audit checklist prepared as part of the Accessible India Campaign (AIC) by the Department of Empowerment of Persons with Disabilities, Government of India.

The AIC checklist is a validated instrument within the framework of the International Classification of Functioning and Disability(Nischith et al, 2018; Garg et al, 2024).

The checklist has been developed with inputs from various stakeholders and is the tool recommended for auditing public buildings. The AIC checklist follows the Central Public Works Department (CPWD) guidelines for architecture and planning.

The checklist is divided into three sections:

The first section includes an audit checklist for the accessibility of information and communication relating to the service (website information).

The second section contains the evaluation of the service, addressing how services are provided in the building being audited.

The third section includes an audit checklist for the physical aspects of the building (external environment and internal environment).

The external environment includes parking, alighting and accessible routes.

The internal environment includes accessible entrance, reception, lobby, stairs and ramps, handrails, elevators, escalators, corridors, doors and doorways, toilets, cafeterias, drinking water facilities, and signage.

For this study a few components of the AIC checklist were selected, such as parking and exterior access, accessible entrance and internal environment, doors and doorways, and accessible toilets. A metallic Inch tape and a digital camera were used for the audit.

The audit was conducted by two physiotherapists who had over five years of experience in the area of community reintegration of persons with disability. The backgrounds of the malls were identified and the website details were taken before conducting the audit.

Data Analysis

A descriptive analysis of the collected data was done and the findings are represented in a Table (see Table 1).

RESULTS

Table 1: Key Findings of the Accessibility Audit of Malls

Audit Category	Sub-Category	Mall A	Mall B
Parking and Exterior Access	• Parking lot	Yes	Yes
	• Firm, levelled pathways between parking and building	Yes	Yes
	• Ramp	Yes	Yes
	• Accessible route connecting entrance, parking and alighting point, with adequate lighting	Yes	Yes
	• Tactile guiding path	No	No
Accessible entrance and internal environment	• Accessible entrance	Yes	Yes
	• Identification signage at the entrance	Yes	Yes

	• Satisfactory reception and lobby	Yes	Yes
	• Satisfactory corridor width	Yes	Yes
	• Auditory input regarding the direction	No	No
	• Tactile guiding path	No	No
	• Elevators	Yes	Yes
	• Ramp	No	No
	• Adequate space for wheelchair propulsion	Yes	Yes
	• Braille letters	No	No
Doors and doorways	• Door width 900 mm	Yes	Yes
	• Kick-plates on doors	No	No
Accessible toilet	• Outward-opening doors	No	Yes
	• A horizontal grab bar on the adjacent walls	No	Yes
	• A wash basin installed at a distance of at least 400mm from the side wall	Yes	No
	• Non-slip floor surface	Yes	Yes
	• Mirror at an accessible height	No	No
	• Toilet accessories at accessible heights	No	No

Parking and Exterior Access

Both the malls had parking areas of the required size, but there were no separate accessible parking bays reserved for persons with disabilities. According to CPWD guidelines, ideally in public places separate parking bays with a minimum size of 3600 x 6000mm should be provided for persons with disabilities.These accessible parking bays should be located within 500mm from the accessible entrance and should have signage and parking shelters. Since both malls did not have separate parking bays for persons with disabilities, the accessibility standards of existing parking areas (common parking areas) were assessed. The common parking areas of these malls had signage, shelter, and a firm, covered, levelled pathway of 1200mm width connecting the parking area with the building entrance. In addition, the malls had an accessible route connecting the entrance, parking and alighting points, with adequate lighting. However, both malls lacked tactile floor guidance in the parking area, for independent mobility for people with visual impairments.

Accessible Entrance and Internal Environment

The main entrance of mall A and mall B was accessible to all users including persons with visual impairments as there was a difference in floor finish that could be identified by the latter group. Though the entrance did not have an audio signal to assist the users, the main entrance was accessible for persons with disabilities to a larger extent because of the adherence to other accessibility standards.

Malls A and B had a reception counter identifiable from the entrance, with a clear clutter-free space in front. The counter-top was adequately illuminated and the counter surface was non-reflective; also, live assistance was available to guide persons to their destination. However, the staff members were not sufficiently trained to communicate in sign language. The lobby was at one level with adequate manoeuvring space for wheelchair users, but seating in the lobby was insufficient for waiting, especially when the malls were crowded.

The corridors of malls A and B were more than 1200mm wide, which falls within the CPWD guidelines, and were clutter-free without any protruding objects or other barriers.

The corridors were spacious enough to allow a wheelchair-user to turn around at some point. The floor finish was non-slip, non-reflective, and well-illuminated. Handrails were provided on both sides of the corridor but there was no colour contrast between the floor, walls, doors, and the ceiling.

Another accessibility standard that public buildings should maintain is the provision of ramps as an alternative to the stairs; these ramps should be not less than 1800mm in width. There should be landings provided at specified intervals and at the beginning and end of the ramp, and tactile warning blocks should be installed 300mm from the top, bottom, and landings of each ramp. Malls A and B did not have ramps as there were elevators everywhere.

Malls A and B had elevators that connected all the floors of the building, and these elevators had step-free access from the entrance. The elevator cabin was spacious and the elevator door width was 900mm, which falls within the recommended guidelines. However, visual and audio floor-announcement systems were absent in the lift, and the elevator call buttons and floor numbers outside the lift on each floor were not in Braille or raised lettering.

Doors and Doorways

Malls A and B had doors with a clear width of 900 mm and no thresholds on the floor. The doors had a lever-type handle, were double-hinged and swung both ways but had no kick- plates. In addition, automatic doors were provided at the entrance of both malls.

Accessible Toilets

Malls A and B had separate toilets but these were not fully accessible and did not follow accessibility guidelines. Mall B had toilets with doors opening outwards and a few toilets had sliding doors. However, mall A had toilets with doors opening inwards, which is not very disability-friendly. Mall B had a horizontal grab bar which was installed on the adjacent wall of the toilet, at a height of 200mm from the wheelchair seat. Mall A had a wash basin with automatic faucets installed at a distance of 400mm from the side wall.

Both malls A and B had non-slippery floor surfaces, but the mirror and toilet accessories were not at an accessible height for wheelchair users.

DISCUSSION

All citizens of India have the right to access the places and services which are meant for the public. The provision of an accessible environment is a fundamental human right. An accessible building facilitates the effective utilisation of resources and amenities within, while an inaccessible building hinders individuals, particularly those with disabilities, and results in distressing and debilitating experiences. An accessible environment is an indispensable feature of an inclusive society.

The repercussions of any inaccessible environment on persons with disabilities are:

- Social exclusion;
- Lack of self-esteem;
- The increased cost of living;
- Lack of opportunities including employment and education.

An inaccessible environment prevents persons with disabilities from going out and interacting with other people and being involved in cultural events, religious meetings, family functions, and leisure activities, all of which will lead to feelings of isolation and depression. In addition, an inaccessible environment makes them dependent on others for their needs which will lower their self-esteem. Moreover, dependence on others entails additional expenses as caregivers will have to be employed. When persons with disabilities have limited opportunities to explore employment, education, and career advancement, their quality of life will be impacted.

Malls are a relatively new concept in the country and the buildings are relatively disability-friendly. The audits of both malls revealed that they largely adhere to accessibility recommendations, indicating a shifting mindset towards inclusivity in India. Nevertheless, neither mall fully complies with the accessibility standards outlined by CPWD guidelines. While these buildings incorporate some general accessibility features, they were found wanting in accommodating the diverse needs of persons with disabilities. For instance, malls A and B in the study had spacious and wheelchair-friendly elevators. However, these elevators did not have Braille buttons or auditory assistance, which would have enabled persons with visual impairments to use the elevators independently. This is an important aspect to consider in making the malls truly accessible for all individuals. The absence of Braille letters and auditory guidance in the entire building hinders hassle-free access to these malls by persons with disabilities. Moreover, the mall staff are not adequately trained in sign language and such inadequate service results in unpleasant experiences for persons with disabilities. To make matters worse, malls are always crowded, especially during the weekend, so that it is almost impossible for persons with visual impairments to visit these places without the assistance of a caregiver or friend.

Another example is the toilets. Both malls had separate toilets which have been mentioned as accessible toilets. In actuality, these toilets do not meet all the criteria of accessible toilets. Ideally, accessible toilets should have doors that are outward-opening, double-hinged, or the sliding type. There should be a wheelchair installed in a corner, with the centre line of the wheelchair at a distance of 450mm to 500mm from the adjacent wall. The wheelchair should have a back rest and the seat height should be 450mm. A lever-type flush control should be installed at a height of 1100mm from the floor surface or on the transfer side of the wheelchair, and the force required to flush should be comfortable. A horizontal grab bar should be installed on the adjacent wall, at a height of 200mm from the wheelchair seat. A wash basin should be installed at a distance of at least 400mm from the side wall and there should be clear knee space of at least 750mm height x 750mm width x 200mm depth under the wash basin, with additional toe-space of 300mm height x 750mm width x 230mm depth. The toilet's floor surface should be non–slippery and there should be an alarm system within easy reach to alert persons outside, in case of an emergency. Visual alarms must be there to alert people with hearing disability in case of emergency, and although the door can be locked from inside there should be provision to release it from outside in case of emergency (Chapter 8 of CPWD Handbook). The malls that were audited for this study had few of these provisions. These cannot be called accessible toilets as they cannot be used by all groups of persons with disabilities.

In what ways can malls be made fully accessible for people, irrespective of the type of disability?

Some of the points to consider are:

- Employing adequately trained staff to accompany and assist persons with disability, especially in crowded and cluttered areas.
- Installing tactile pathways and Braille signage which will enable persons with visual impairments to explore the areas and resources of malls.
- Elevators must have Braille buttons so that persons with visual impairments can use them safely and effectively without any assistance.
- There should be an audio assistive system or audio guides that help persons with disabilities to find their way and navigate independently.
- The toilets and cafeterias should be completely accessible.

An inclusive design should embrace and accommodate the diversity of people and cater to the needs of all types of disability. Adherence to the country's law and taking necessary actions towards creating an inclusive city is a responsibility to be shared by everyone. The

national accessibility standards must be followed in every State at a policy level. Accessible buildings and social inclusion will come to fruition only if there is greater awareness, accessibility-seeking behaviour, empowerment of persons with disability, and continued reinforcement by the law. Stakeholders must focus on measures like repeated access audits, and persons with disabilities and NGOs must be part of the decision-making, design, and implementation process. In addition, State parties should implement and ensure inclusive design in all infrastructure developments.

Implications

By reporting the accessibility standards provided by these malls, the findings from this study can guide persons with disabilities to utilise these facilities as best they can. Additionally, the recommendations from this audit will help the mall authorities and policymakers to improve the facilities to accommodate the accessibility needs of persons with disabilities.

Limitations

The major limitation of the study was that the AIC checklist was quite extensive, used unfamiliar terminologies and had some components which were not applicable in the Indian context. It would help if there were a more succinct checklist which factored in the cultural differences of different states, as well as the available resources and diversity of urban and rural populations. Further studies should explore the accessibility standards of malls in rural areas, urban areas, and suburban areas.

CONCLUSION

The current study, in a nutshell, discusses the extent to which malls in India are prepared to accommodate people with disability.

The study found that both the malls that were audited had accessible parking, entrance, reception and lobby, and toilets. However, these areas did not fully accommodate the needs of people with different disabilities. Greater accessibility of the built environment can be achieved by increasing awareness, empowerment, and accessibility-seeking behaviour among persons with disabilities and by the reinforcement of the law.

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