

# PUBLIC CONSULTATION

on Guidelines & Standards for Universal Accessibility  
in India

## KEY FINDINGS



April, 2021



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# EXECUTIVE SUMMARY

Participation is the core component of stakeholder's engagement to achieve the goal of inclusive development. Stakeholders engagement, including the beneficiaries, helps in planning and delivering development interventions which are more responsive to their needs and ground challenges. The stakeholders feedback also helps in developing planning guidelines and strengthens stakeholders' ownership of the guidelines. The process of revision of guidelines and standards for universal accessibility in India by NIUA, under the BASIIC programme, in partnership with Indian Institute of Technology, Roorkee, includes stakeholder's participation as one of the key aspects. NIUA had organised public consultations to discuss guidelines and standards of universal accessibility on 22 & 24 April, 2021. The discussants included citizenry representing the related demographic groups - persons with disabilities, children, elderly and their caregivers and women (with/without disability). The two-day consultations were insightful and engaging.

- Planning age-friendly components in housing, provision of better & accessible information systems in mobility, inclusion of senior citizen corners in neighbourhood parks, improving access in market spaces, accessibility auditing frameworks for educational institutions and public buildings and easy communication in health care

institutions for persons with hearing impairment are identified as prime concerns.

- Significance of sensitivity while designing a built environment, replacing steps with ramps and use of right materials are other common concerns across all building typologies.
- Anthropometric concerns in housing, construction and maintenance of sidewalks, use of appropriate materials and layout while designing parks for children, issues of safety in independent mobility of women, lack of proper signage and facilities for nursing mothers in health care institutions, necessity of family toilet, baby feeding space etc in public spaces were important concerns raised.
- Benefits vs concerns of mixed land use development, development of commercial components in transportation hubs (metro stations), and right walking distance for different users.

The concerns were similar across all five thematic areas (residential, mobility, recreation, healthcare and education/employment) as well as among the different groups. The report contains suggestions made in each thematic with an overview of the consultation and key takeaways.

# 01 OVERVIEW OF THE CONSULTATIONS

The National Institute of Urban Affairs through the Building Accessible Safe Inclusive Indian Cities (BASIIIC) programme has been working on mainstreaming the dialogue on inclusion in urban India. It is in this context that a strategic partnership has been formalised with the Indian Institute of Technology, Roorkee. One of the key activities to be accomplished under the partnership is to revise the guidelines and standards pertaining to universal access and inclusive design in India. The activity is being supported by the Ministry of Housing and Urban Affairs.

This comes in light of the Rights to Persons with Disability Act of 2016 completing five years, which specifies “Harmonised Guidelines” to be followed in order to ensure a barrier free built environment. The act also recommends periodic revision of the guidelines to incorporate latest technology and upcoming needs of the persons with disabilities. A step further is proposed by promoting principles of universal design in order to accommodate the needs of ‘ALL’ types of disabilities, elderly, women and children, essentially covering the entire gamut of marginalized demographics in India.

A careful review of the document highlights inconsistencies with the widely referred National Building Code, 2016 - difficulty in readability, lack of legibility, and limitations within the Indian context. The present guidelines need a shift towards a universal design approach of looking at accessibility along with restructuring language and drawings/illustrations, consistency across the document, harmony with other guiding documents, and listing specific provisions for different building typologies, contextualisation among others.

## Thematic Areas

The discussions were divided into five critical thematic areas of urban development: Residential, educational/ employment, mobility, recreational and healthcare with an overarching coverage of issues relating to assistive/smart technology.

## Insights from the Perception Survey

A public perception survey was conducted in February 2021 to gather opinions and suggestions for necessary improvement in the existing document of Harmonised Guidelines and Space standards on barrier free built environment for persons with disabilities and elderly persons, 2016. The respondents included persons with disabilities (27.5%), elderly (7.5%), parents/caregivers (20%) and women (25%). More than 50% of the

respondents were disability right experts and accessibility professionals. ULB/ SPV officials along with practitioners and architects also responded to the survey. Key insights of the perception survey are as follow:

- Majority of the respondents expressed confidence in Harmonised Guidelines in creating barrier free environment
- More than 40% indicated the need for improvement in the present title of “Harmonised Guidelines”.
- Enhancement in readability (25%), dimensional changes (25%), visual clarity (25%) were suggested as some improvements in existing guidelines, which are being addressed in the revision process.
- The major concerns which were highlighted include incorporation of specific missing elements and provisions for varied accessibility needs of different types of disabilities along with addressing challenges on ground. Complete interpretation of RPwD<sup>1</sup> act and UNCRPD<sup>2</sup> as well as lack of provisions for persons with intellectual/ mental disabilities were also specified by different respondents.
- The Survey also highlighted the need for availability of guidelines in accessible formats.
- Although more than 90% respondents agreed that the existing guidelines catered to the disability needs in the built environment, about 50% also hinted towards the scope for improvement.
- About 70% of the respondents indicated improper interpretation and implementation of the existing guidelines.

## Objectives of the consultations

The consultations were organised with the following objectives:

- Understand the diverse needs of vulnerable groups vis-a-vis various facets of independent or shared living including housing/ residential, healthcare, mobility, education, employment and recreational contexts.
- Understand the challenges, barriers / facilitators faced by them every day in accessing urban infrastructure and services.

<sup>1</sup> Rights of persons with disabilities Act, 2016

<sup>2</sup> United Nations convention on rights of persons with disabilities

- Gain insights from their experience and take suggestions for improvements in the built infrastructure and opinion on the recommended changes in the guidelines.

## Process of consultation

Each day of the consultation was of two hour duration with approximately 80 mins of discussion with participants. The event was initiated with a brief introduction to inclusive development and the activities undertaken under BASIIC programme for the revision of Guidelines and standards on universal accessibility, along with its significance. The participants were then invited to raise their concerns and provide suggestions for improving access to build environment, information & technology and services for

each of the thematic areas. Each of the thematic areas of housing, employment/education, mobility and recreation were discussed for 15 mins each while concerns in health care were discussed for 10 mins. Additional 10 mins were dedicated to a focused discussion on assistive and smart technology at different levels including personal, building and city level. Though participants were free to speak voluntarily, the team ensured all participants were heard.

The post event feedback indicates a high level of satisfaction among the participants. It was an inclusive event with live sign language translation throughout the event.

## Event recording are available at

### Day 1



**PUBLIC CONSULTATION**  
for  
**Guidelines and Standards for  
Universal Accessibility in India**

Date: 22<sup>nd</sup> April 2021 . Thursday  
Persons with disabilities, elderly & their caregivers

<https://youtu.be/a35udnwcyyo>

### Day 2



**PUBLIC CONSULTATION**  
for  
**Guidelines and Standards for  
Universal Accessibility in India**

Date: 24<sup>th</sup> April, 2021, Saturday  
Women and Children (with or without Disabilities)

<https://youtu.be/1stxeOyp9D4>

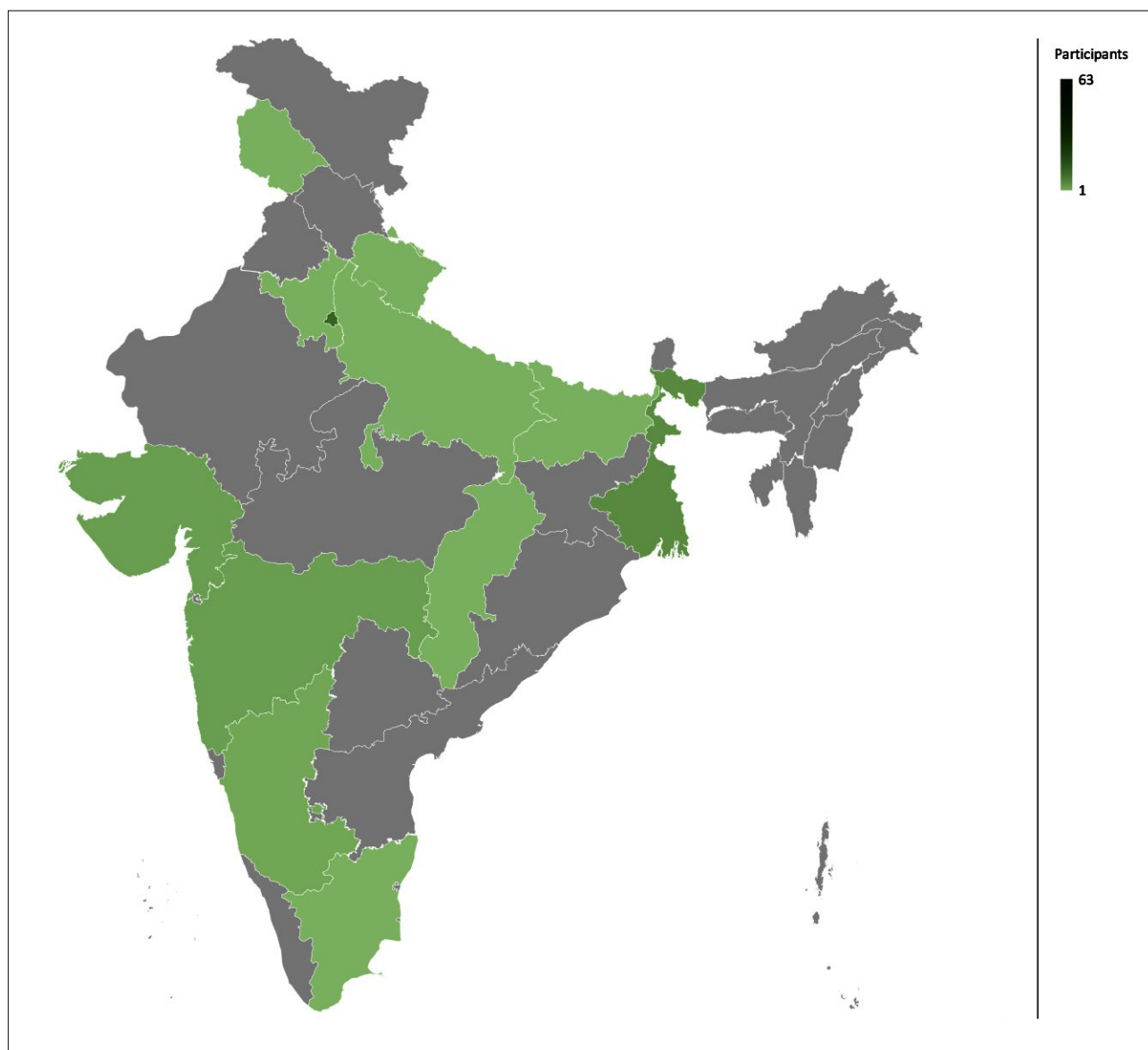
## 02 PARTICIPATION

The consultation received 63 registrations for both days across the country. (Figure 1 showing the distribution across the country).

Each day of the consultation catered to different demographic groups. The first day of consultation, held on 22 April 2021, involved participation of persons with

disabilities, elderly and their caregivers. The consultation had more than 40 participants at any given time. The second consultation for groups of women and children (with or without disabilities) and their parents/caregivers was held on 24 April 2021 and had participation of over 35 participants.

Figure 1. Distribution of Participants across India





67% of the participants were women (figure 2) and about 20% of the women/children participants are with disability.

There was a fair representation of all types of disabilities among the participants (figure 3). The participants highlighted their concerns across different age-groups, through their varied experiences in cities including Kolkata, Meerut, Delhi, Bengaluru, Mumbai, Surat, Baroda, Ahmedabad, Roorkee, Coorg, Chennai, among others. Many good practices and successful examples were also cited by the participants (Annexure 1).

Figure 2. Gender Distribution among participants

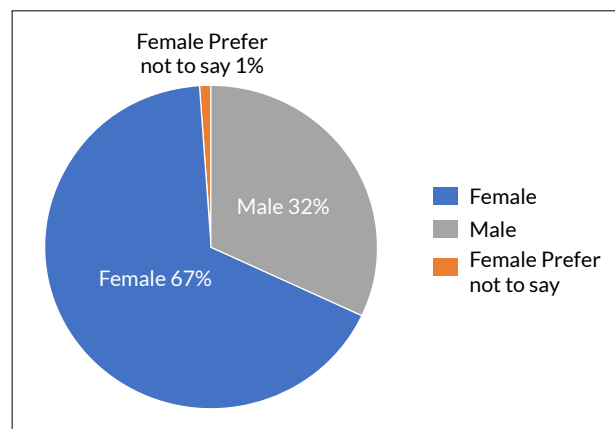
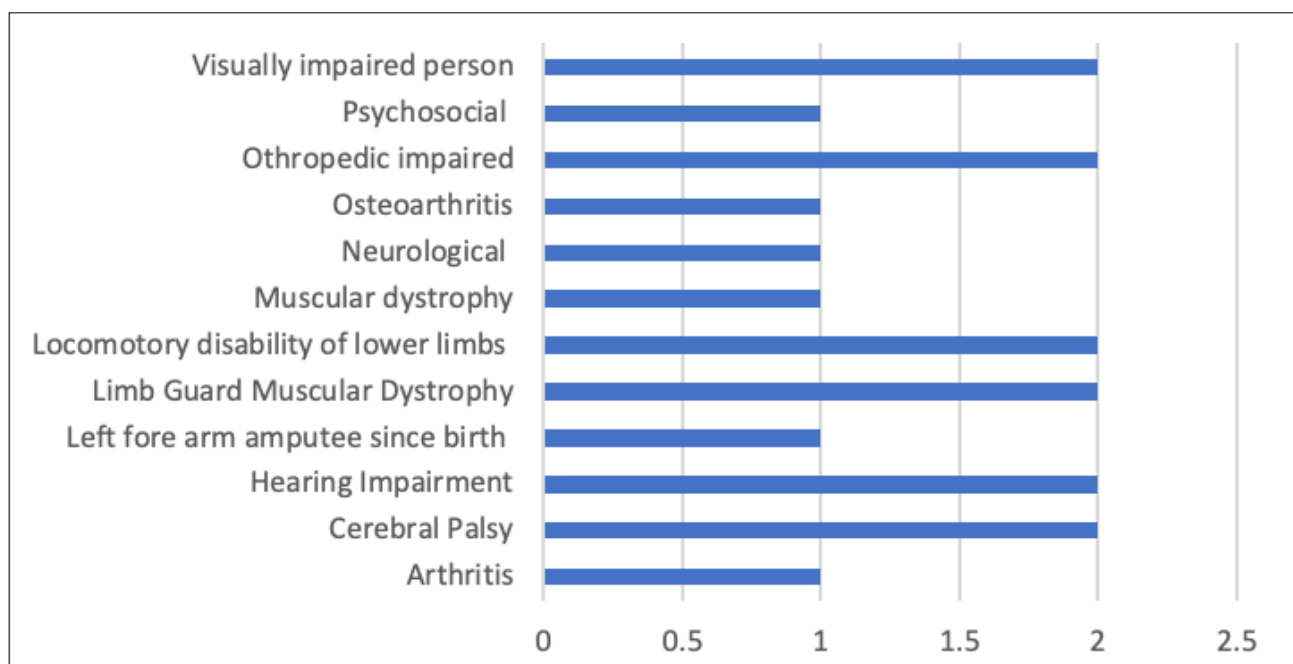


Figure 3. Representation of various disabilities



## 03 KEY INSIGHTS IN EACH THEMATIC

### RESIDENTIAL/ HOUSING



#### Points of discussion

- Existing barriers/ facilitators with Housing Typology
- Accessibility issues in Housing context (Internal spaces like Washrooms, kitchens, bedrooms, etc.)
- Accessibility aspects in Neighborhood facilities
- Accessible Components essential for Independent/dignified living
- Suggestive Assistive Technology

- There is a need for integration of caregiver housing in apartment complex design. Availability of caregivers in times of emergencies is essential for both persons with disabilities as well as elderly.
- Complexes designed as retirement homes include elements and facilities designed for independent living of elderly and thus, are becoming popular. Their distant location from the city and unaffordability for middle income families are concerning. It is recommended that all housing complexes may include facilities like canteen, on-call doctor, etc.
- All housing complexes should have anti-slip flooring and grab rails in common areas/spaces for the benefit of all.
- A specific percentage of accessible houses- "Model Houses" should be constructed with essential elements of design.
- It is important to identify the "Right walking distance" for various demographic groups, in neighbourhood planning.
- Accessible sitting spaces along walkways, segregated green space would make the environment more conducive for everyone including elderly, pregnant women, parents with toddlers and persons with disabilities.
- Consideration of anthropometric attributes including average height of Indian women, person on wheelchair into design of wardrobes/ cupboard design etc. are important.
- Wider corridor spaces, higher parapet heights in terrace, proper design of balconies are important concerns for safety.
- Universal design of toilets and bathrooms is critical. The clear widths of the doorway should be one or two inches wider than the standard dimensions for making it more accessible. Anti-slippery tiles should be provided.
- Floorings and finishes play a major role in defining accessibility and safety for persons with disabilities, elderly, children and women. Uneven and slippery surfaces should be avoided to the extent possible or provided with grab rails or supports at appropriate places.
- Design, specially of washrooms, should not be rigid and allow customisation, if required.
- Mats and ledges outside the bathrooms, lifts, etc create hindrances for wheelchair to pass through. Different materials need to be explored to soak water and dirt without making the surface slippery.
- Proper design of lift areas is another critical element. Egress of Lift cars should be comfortable for baby prams and wheelchairs, lift lobby should have adequate waiting space, automated lift timings should provision for additional time required by persons with disabilities, children, family, and elderly to board the lifts. Braille numbering is another important feature.
- All of these universal access interventions should be done prior to the floor plan and its construction, and not as an improvisation to the already existing infrastructure.
- Smart/assistive devices in buildings can help ensure



*We depend on our caregivers and they need to be accessible to us.*

*- Ms. Kala Sunder*

independent living of a wheelchair user and elderly. Prompt response systems consisting of alarm/alert devices and assistance staff for emergency situations should be put in place.

- Fire escapes should be adequately designed. Faster Emergency evacuation systems like evacuation chairs should be incorporated.

## MOBILITY



### Points of discussion

- Preferred mode of travel
- Issues in last mile connectivity
- Problems faced in using Public Transport
- Problems faced while using Private vehicle
- Essential Accessible Components for Last mile connectivity
- Essential Accessible Components for Public Transport
- Suggestive Information System

- Tactile tiles are the most crucial for independent movement of persons with visual impairment and should be carefully designed and constructed.
- Physical assistance is sometimes required for persons with disabilities and such services should be provided at transit hubs.
- Public Buses should have ramps for easy movement of wheelchair.
- Materials which give an even and non-slippery finish should be used for sidewalks and footpaths. Footpath design should cater to the varied needs of the diverse Indian Population.
- Kerb ramps should be provided at adequate places. Right design of the kerb ramp should be included.
- Accessible Information systems should be introduced in public transport. Audio announcement systems should be in local vernaculars, and braille maps should be provided at all bus stops and buses. An accessible mobile application would be helpful in tracking the buses and their routes.
- Navigational systems and interactive maps should be developed about availability of accessible infrastructure and buildings. PwDs are not aware of the places that are accessible. Accessible mobile applications for the same could be developed to empower persons with disabilities to make prior decisions on their journey and to access services without any hassle.
- Compatible (safe and usable for all including women)



*While we do have policies to provision for ramps and slopes, there are issues in design and implementation of such policies. Sensitization and awareness of designers about ideas of inclusion should be done in Design school itself.*

- Ms. Shreya Shetty



*India needs "Kohlapuri friendly streets" to become accessible by majority of its population.*

- Ms. Kriti Aggarwal

commercial spaces should be planned in transit hubs like metro stations.

- Though mixed land use development facilitates "Eye-on street" principles, it has its own challenges for the vulnerable population segments. It is important to create spaces inviting a mix of all groups of population including elderly, children and women.
- Women's perceptions of safety differ in crowded and isolated areas, and their concerns should therefore be addressed in both scenarios.



## EDUCATION/ EMPLOYMENT



### Points of discussion

- Barriers / Facilitators in Institutions / Workplaces
- Facilities provided by special schools/ Institutions
- Barriers / Facilitators in Public Buildings (Offices)
- Essential Accessible Components
- Suggestive Assistive Technology

- Accessibility audit frameworks should be prepared and circulated to all educational institutions. Competent authorities should be made responsible for periodic accessibility audits.
- Proper signages and guidance systems (specially for facilities including lifts and accessible toilets) are essential for independent and faster movement of persons with disabilities, parents with toddlers and elderly.
- Lift lobbies and lift cars should be adequately designed for wheelchairs in institutional buildings. Automated lift timings should provide for additional time required

by elderly, persons with disabilities and parents with toddlers. Universal systems of numbering in lifts should be promoted.

- Adequate number of lifts should be provided at various locations within the complex. Ramps are essential components specially for accessibility to ground floor of buildings.
- If proper lift service cannot be assured, ramps should be built as an alternative. In either condition, important facilities, as far as possible, should be provided on the ground floor.
- Accessible toilets, designed in accordance with standards, should be provided in adequate number in public buildings. Norms to derive the required number of female toilets should be reworked. There is the need for the development of family toilets with facilities for all and standards for same should be developed.
- Proper design of staircase needs to be ensured for its safe usage in the absence of ramps. Tread and riser of the steps should be comfortable with steady handrails for support. Even ramps should have grab rails on both sides for support.
- Materials should be carefully chosen while designing public buildings. Rough and uneven surfaces, slippery floorings should be avoided.
- Pre-schools should be designed with proper ventilation and lighting. Integration of day care and play school with work spaces was highly recommended.
- Innovative and globally popular systems like temporary ramps, transactional stairs into ramps and car lifts may be incorporated to retrofit and improve accessibility to the buildings in India.

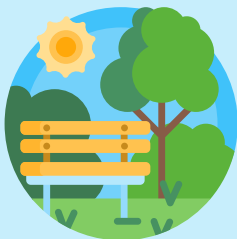
**“** Lack of Sensitivity among practitioners leads to design flaws, which later requires retrofitting. Sensitization of practitioners to embed accessibility at design stage itself is required.

-Dr. Deepa

**“** The width of the steps is very small and even if the grab rails are on the side, there are flower pots placed for the sake of aesthetics which nullifies the purpose of grab rails. Guidelines on how stairs should be designed should be made.

-Ms. Kala Sunder

## RECREATIONAL



### Points of discussion

- Needs for everyday recreation
- Problems while accessing parks and playgrounds
- Problems in accessing other recreational spaces
- Suggestions for improving accessibility in parks
- Any other suggestion

- Boundary walls along the parks/ play areas should be of low height and porous. Open design of parks enhances perception of safety among parents.
- Resting spaces along pathways should be designed for pregnant women and elderly.
- Senior citizen corners should be developed with proper seating and shading facilities.
- Proper lighting within recreational spaces as well as on streets should be incorporated to ensure safety.
- Facilities for parking of prams and cycles of children should be provided. Cycle lanes which allow wheelchairs could be constructed within the neighbourhood.
- Careful selection of materials of pathways within the parks should be done considering the weather conditions and usage. Pathways (with materials like cement concrete tiles) should be properly constructed to ensure even surface. Ramped earth pathways are found to be acceptable by people in non-rainy seasons.
- Children's play spaces should be designed with right spacing, material and equipment. Synthetic rubber flooring, EPDM and sand were suggested as acceptable materials. Plastic is accepted as a better material than metal for play equipment.
- Swimming pools and ghats should have provisions of pool-lifts. Reasonable accommodation should be made for persons with disabilities who are willing to engage in activities like scuba diving.
- The museums, art galleries, monuments often have irregular stairs. Provision of proper ramps to negotiate the level difference should be made at such places.
- Playgrounds with rugged terrain and uneven tiles pose great inconvenience for wheelchair and crutches users. Even surface and non-slippery materials should be used.
- Renting of wheelchairs and provision of golf carts in public spaces should be encouraged.
- Audio texts/captioning should be incorporated to make performance arts/theatre accessible to people with hearing impairment.
- Beaches should be made accessible.
- Learnings from successful examples from Chennai (All-ability park and accessible beach) may be included in future projects.



*When the cities are not walkable, there should be a space for people of the same cohort where they can meet and recreate.*

*-Ms. Kala Sunder*

## HEALTH CARE



### Points of discussion

- Problems faced in Primary health care centers
  - Accessible Facilities required for special needs
  - Essential Accessible Components in healthcare
  - infrastructure
  - Suggestive Information Systems
- Accessibility provisions like ramps (with grab rails) become even more significant in health care infrastructure including physiotherapy centres.
  - Special facilities like breastfeeding, diaper changing areas for nursing mothers and play spaces for toddlers should be included in primary health care centres catering to young children.
  - Use of sanitizers and floor disinfectants used in health care institutions make the floor slippery and lead to accidents. Use of non-slippery materials and grab rails even in corridors are essential in health care institutions.
  - Informational signages should be provided at proper locations.
  - Assisted or accessible navigational systems should be included into the bigger institutions.
  - Special provisions for communication for all types of disabilities including sensory should be provided.





# 04 KEY FINDINGS OF THE CONSULTATION

## 1. Different interpretation accessibility, safety and inclusivity among different demographic groups

The socio-cultural aspects of Indian cities have developed a very different interpretation of accessibility, safety and inclusivity (tenets of BASIIC programme) for various

demographic groups (as listed in table 1). Women are more concerned about safety from sexual assault and harassment, issues which are difficult to address through enhancement in built environment. Elderly, children and persons with disability perceive safety as lower risk of an accident and the built environment can be designed to address their concerns.

Figure 4: Different Interpretation of tenets of BASIIC

	Women	Elderly	Children / caregivers	Persons with Disabilities
<b>Accessibility</b>	Prevalence of shorter height of Indian women is an important consideration while designing cupboards in the house, specially kitchens.	Grab rails are an essential accessibility component.	Parks and playgrounds should be accessible (at walking distance and without crossing heavy traffic).	Unnecessary use of levels should be avoided. Level change with one or two steps could also have ramps.
<b>Safety</b>	It was identified as a major concern. From security of personal information to harassment by staring, urban environments don't make women feel safe. Careful planning and design of the urban infrastructure could provide the sense of safety among women.	Slippery floorings and absence of grab rails often lead to accidents for elderly.	Materials and design of the play areas doesn't ensure safety of the children. Careful selection of materials for play equipment as well as cautious design of the play area would ensure safety. Physical and mental health should be safeguard with proper light and ventilation in pre-schools.	Risk of accidents is a major concern which increases with improper implementation.
<b>Inclusivity</b>	Adequate provision for facilities to ensure their safety and empowerment.	Adequate provision for facilities to interact with their peers as well as get care at time of need.	Simple provisions like cycle lane, children play areas, safe footpaths for better psychological and physical development of kids.	Provisions of accessibility and reasonable accommodation to ensure their empowerment and independent movement. E- Disability Cards systems to ensure reasonable accommodation.



## 2. Lack of implementation of universal accessibility guidelines and standards

Lack of adoption of the guidelines and standards was highlighted as a prominent concern in both the consultations as well as the perception survey. There is the need to incorporate accessibility and inclusion in the entire cycle of project design, development and implementation cycle along with capacity building of the practitioners. The practitioners should be trained to understand the various components of universal accessibility and equipped with skills for appropriate execution. The same should be addressed in the tendering process as well.

## 3. Stringent compliance assurance

The need for a stringent monitoring of compliance was pointed out at multiple times. Integration into the building plan approval systems of the municipal bodies can be one of the effective ways to achieve compliance.

## 4. Technology should be used as an enabler and not as a barrier

Various technological interventions including transforming stairs and wheelchairs, pelican signals and automated security systems were discussed to enhance empowered living. Many concerns were raised on acceptability, usability and accessibility of existing technological systems. While women questioned the usability of SOS mobile applications in emergency situations, the inaccessibility of important mobile applications including the recent Cowin

app is disheartening. The four A's (availability, affordability, accessibility, acceptability) can be a useful check for ensuring technology as an enabler.

## 5. Need to include non-conventional provisions for better accessibility

Non-conventional provisions like unisex toilets or family toilets need to be provided in public places despite the cultural apprehensions. Also, with the increase in the number of working and independent mothers, feeding areas and diaper changing rooms have become essential provisions, especially in transit hubs and public buildings. Standards and guidelines for the same should be developed and integrated in the Guidelines for universal accessibility.

## 6. Effective navigation and information system

Proper design of signages (in accessible formats) and their strategic location is very important in the design of public buildings and spaces. Effective technology can also be used to enhance accessibility of information to different user groups.

Appropriate and adequate use of Tactile tiles is very crucial and should not be compromised. This will not only ensure ease of navigation for persons with visual impairment but also provide safety from accidents. Integration of accessibility provisions for all types of disabilities including visual and sensory impairments should be ensured.



## 05 | WAY FORWARD

It is understood that the inclusion is meant to be integrated into the entire cycle of urban development. The key insights can be categorised into provisions relating to urban planning and built environment. The relevant points from the discussion will be translated into technical recommendations and will be included in the revised version of Harmonised Guidelines and Standards for Universal Accessibility in India, to be launched by the Ministry of Housing and Urban Affairs later this year. Though the mandate includes only the guidelines related to the built environment, some insights will be used as

recommendations in other subsequent activities of BASIIC programme including research, capacity building and development of inclusive city framework.

Public consultations will be included among the future activities planned for the endorsement of the revised guidelines. Under the BASIIC programme, sensitization and capacity building of the practitioners and ULB officials will also be conducted to ensure better accessibility in Indian Cities.





# ANNEXURES

## Important Examples Cited

- Accessibility features in Powai, Mumbai
- Signage and information system within public transport in Singapore
- Accessibility features in buildings, Hongkong
- Mobi-pick cabs, Bengaluru
- Parks for children with disability, Chennai
- Brezzy corner, Mumbai
- Lal bagh, Bengaluru
- National gallery of modern arts
- Swimming pools in UK
- Cycle system, Copenhagen
- Temporary arrangements for ramps, Chicago





**UK Government**

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**National Institute of Urban Affairs**

Established in 1976, National Institute of Urban Affairs (NIUA) was tasked to bridge the gap between research and practice on issues related to urbanization, and suggest ways and mechanisms to address these urban challenges of the country. For more than 40 years now, NIUA has been the vanguard for contributing to, and at times, building the urban narrative for a fast-evolving urban India. The Institution has been actively working towards bringing forth key areas of concern for urban India in order to build the urban discourse at various scales.

It has utilized its competencies in research, knowledge management, policy advocacy and capacity building to address the urban challenges, and continuously strive to develop sustainable, inclusive, and productive urban ecosystems in India. It has emerged as a thought leader and knowledge hub for urban development in India, and is sought out by both Indian and International organizations for collaborations and partnerships for India's urban transforming journey. NIUA is committed towards aligning its efforts towards achieving the Sustainable Development Goals (SDGs) through all its initiatives and programs.

# Empower through inclusivity

#BASIIC\_NIUA  
#AccessibleCities  
#InclusiveCities  
#SafeCities  
#EmpowerthroughInclusivity

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