Accessible India

Ketaki Limaye

Student, Department of Architecture, SDPS Women's College, Indore, India

Abstract—**These instructions give you guidelines for preparing papers for IEEE This study will examine the reality that environmental barriers serve as leading factors isolating people with physical disabilities. The research will focus not only on safety, functional ease but technical accuracy, but also on the operational requirements, the attitudes that are reflected by the solutions provided and the visual impact they have. This study seeks to discover the data that will support the fact that environmental barriers do significantly impact the seclusion of physically disabled persons.**

Index Terms— **Accessibility, inclusive design, retrofitting, barrier-free environment.**

I. INTRODUCTION

My advice to other disabled people would be, concentrate on things your disability doesn't prevent you doing well, and don't regret the things it interferes with. Don't be disabled in spirit as well as physically. –Stephen Hawking.

Accessibility is a vital issue for every single inhabitant on earth. Accessibility has a notion with architecture as it all revolves around human comfort. It isn't just an approach to life, it's a basic need. Considering how far we have come with lifestyle and development, in 20th century, anything and everything should be accessible to all. Some examples of common disabilities: Vision impairment Deaf or hard of hearing, Physical disabilities, Mental health conditions. Census 2001 has revealed that over 21 million people in India are suffering from one or the other kind of disability. This is equivalent to 2.1% of the population. Over the time and public needs CPWD norms have evolved in aspect with time and technology.

The other segment of paper includes the retrofitting of existing buildings that involves modification to existing design so as to make it accessible for all. Whereas retrofits are often used to upgrade the energy performance of a building as according to its needs. This paper revolves around Indian national action plan on disability 2012-2020, that comprises of making government establishments accessible to all. The government is backing an initiative to encourage architects and urban planners to ensure all buildings are accessible to all, regardless of their physical capabilities.

II. ANALYSIS CPWD NORMS

Analysis of norms of 1998 and 2014 leads us through some changes in design. Ramps, the ramp ratio has changed over time due to comfort and technology change in the wheelchair. The handrail detailing the length all varied with time.

These norms not only specified about the physically disabled but also to blind people.

Handrail was then designed tubular that provided a firm grip to the occupants. The areas where staircases are provided are continued with a lift nearby. The staircases are well equipped for all that includes nosing around the tread, proper heighted handrail on the sides, Braille and tactile information on a directional arrow and floor numbers. The top of handrail shall be at height of not less than 850mm and not more than 950mm above nosing.

Corridors, the width changed after taking the review of occupants, so as one wheelchair won't block the movement within the space. The turns in the corridors also had minor curve which will now be easier.

Clear width of 1500mm will allow two wheelchair users to pass each other.

Door closing devices firstly opened in ongoing way that created a hustle for wheelchair operating people, further these are designed to open in both interior and exterior. The closing period for the automated door has to last for three seconds. Usages of frameless glass door, with purpose of aesthetics are now supposed to be prominently marked so as to make it visible, thus not creating a chaos.

The factor including study of barrier free architecture, analysis of norms and inclusive design has a main factor of design of toilet for wheelchair equipped occupant.

1998:
Size: 1500x1750mm
Clear opening of door: 900mm
W.C. shall be 500mm from floor.

2014:
Size: 1500x2200mm
Wheelchair turning radius: 1500x1500mm
Rails specification: drop down rail and wall mounted rail by the sides of W.C.
Alternative door position

III. RETROFITTING

On account with national action plan, it states to make all the public buildings accessible by all. The buildings which are already made cannot be redesigned and thus retrofitting comes in role. It can be based on, adding some space and elements to

International Journal of Research in Engineering, Science and Management
Volume-1, Issue-10, October-2018
www.ijresm.com | ISSN (Online): 2581-5782

93

the existing building for increasing its energy efficiency or the building's life span.

Fig. 1. Better health for people with disabilities

The common strategies adopted in field of retrofitting of existing structures are partial demolition or redesigning, strengthening of columns according to the load applied on them, or changing the use of the building according to the spaces designed in it. The overview of retrofitting can be defined as not only the adding of some elements but improving the performance of already existing structure elements. While the procedure of retrofitting of building in terms of making it accessible to all occupants, firstly a proper study of existing structure and site is supposed to be done, including the architecture style, structural elements, existing space, measurements of the desired areas, list of requirements, type of material used and foot count of the space.
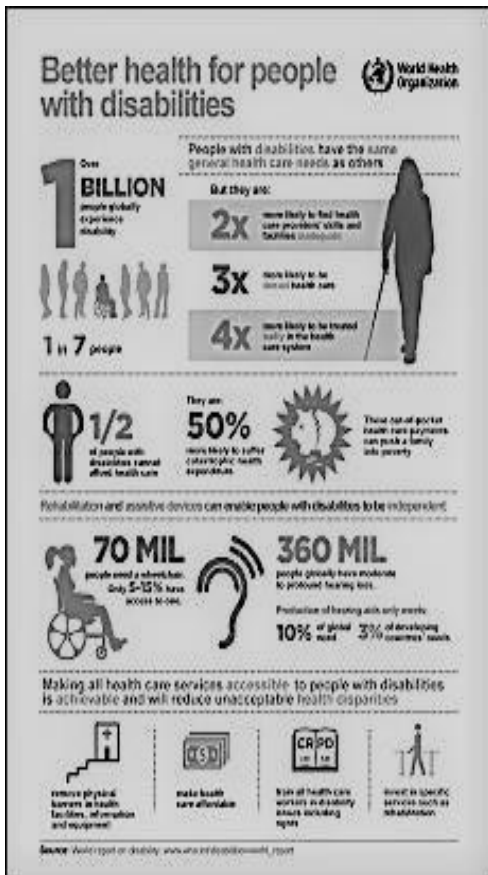
IV. CONCLUSION

The upcoming evaluation criteria have many aspects that have to be considered not only when evaluating but also when creating a barrier free environment. The evaluation framework will emerge as I try to judge and classify the accessibility features I will observe in the existing buildings. This study will be having a technical approach so as to analyze the norms and their actual circumstances.

REFERENCES

[1] Ann Heylighen, "Enriching our understanding of architecture through disability, experience" University of Leuven
[2] Central public works department norms of disability of 1998 and 2014
[3] Census 2001
[4] Info graphics : world health organization