

TOWARDS INCLUSIVE DESIGN

Introduction:

A disability may be physical, cognitive, mental, sensory, emotional and developmental or some combination of these.

Disabilities are an umbrella term, covering impairments, activity limitations, and participation restrictions. Impairment is a problem in body function or structure, an activity limitation is a difficulty encountered by an individual in involvement in life situations. thus disability is a complex phenomenon, reflecting an interaction between features of a person's body and features of the society.

Impairment is the correct term to use to define a deviation from normal, such as not being able to make a muscle move or not being able to control an unwanted movement. Disability is the term used to define a restriction in the ability to perform a normal activity of daily living which someone of the same age is able to perform. For example, a three year old child who is not able to walk has a disability because a normal three year old can walk independently. Handicap is the term used to describe a child or adult who, because of the disability, is unable to achieve the normal role in society commensurate with his age and socio-cultural milieu.

A disability may occur during a person's lifetime or may be present from birth. All most all specially-abled people have the capacity to learn, to develop and to grow. A great majority can become economically productive, fully participating members of the society.

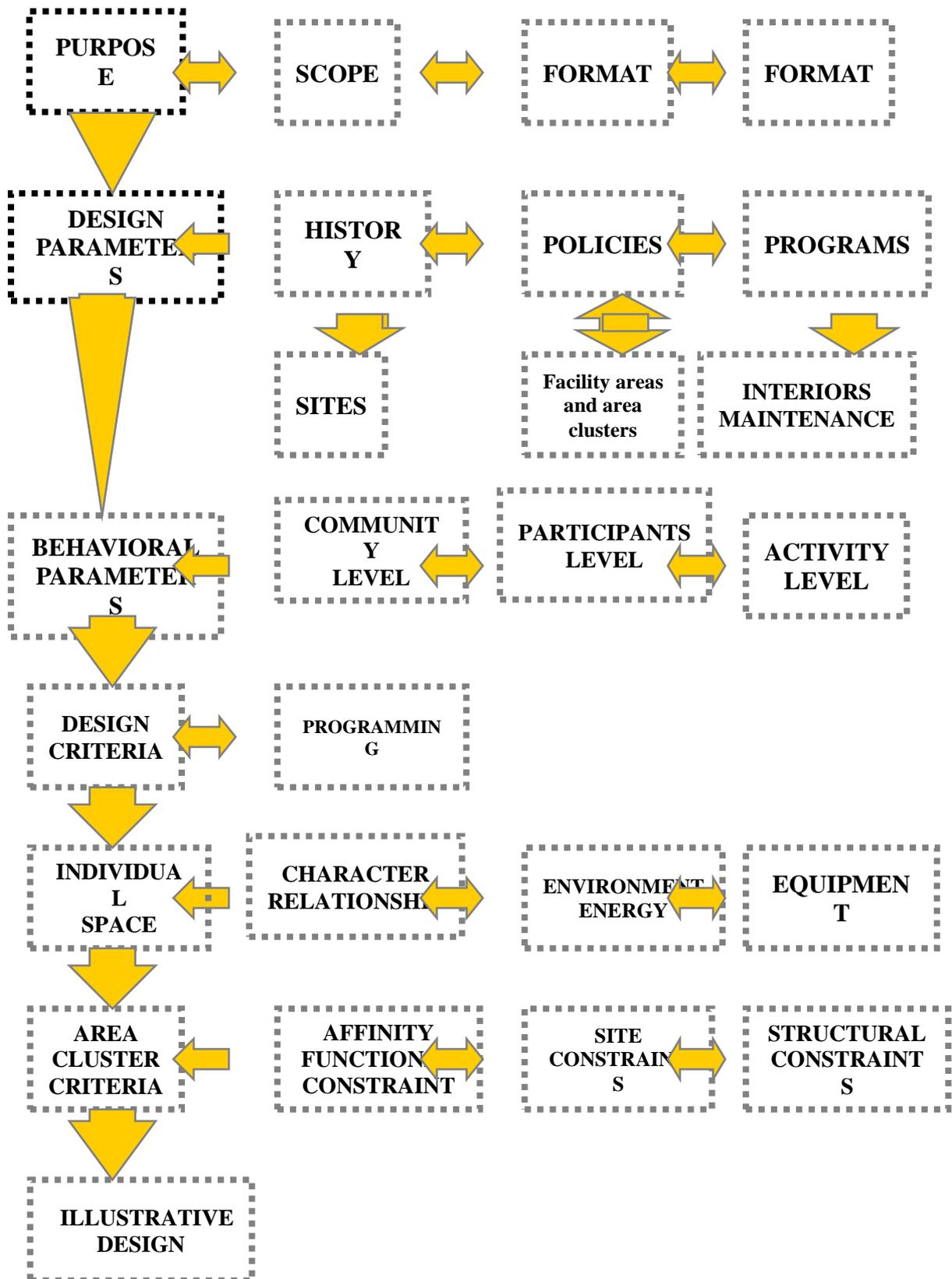
"Disabled people aren't like everyone else, they are everyone else"

-Anonymous.

The social aim is to integrate disabled people into society in order for them to take an active part in society and lead a normal life. To be active, a disabled person should be able to commute between home, work and other destinations, to provide a barrier-free environment for the independence, convenience and safety of all people with disabilities.

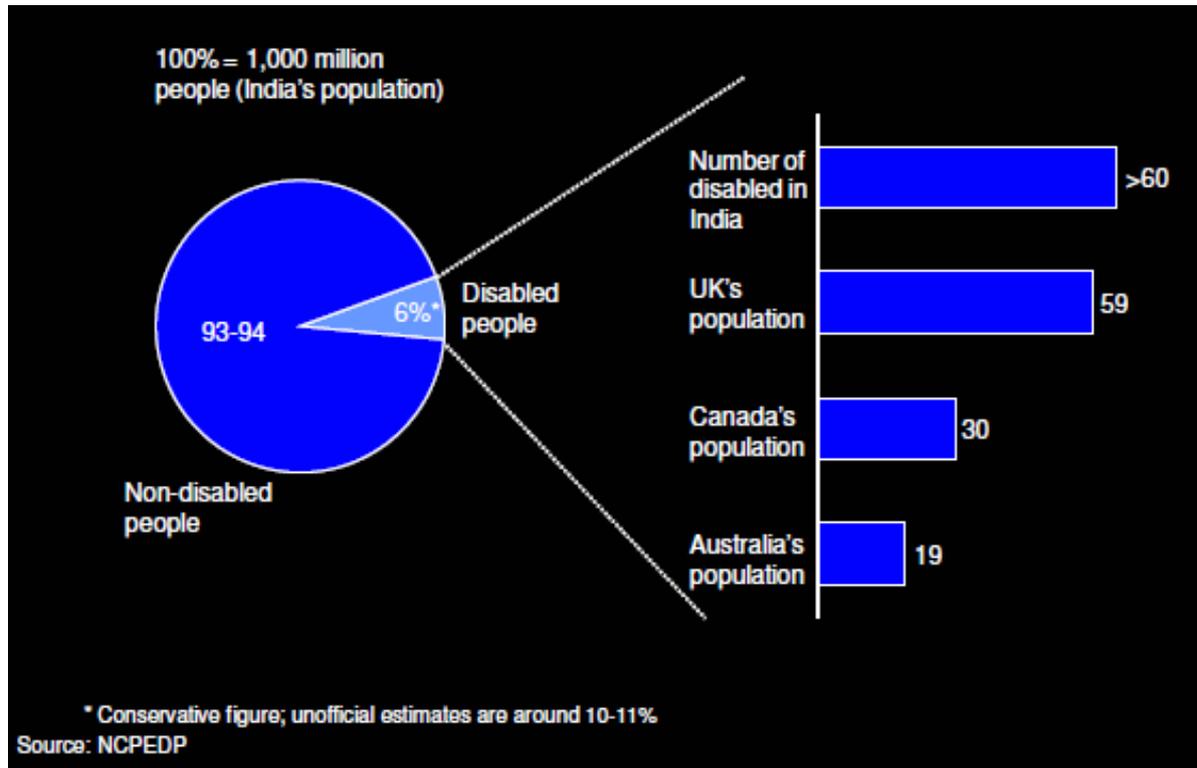
Objective:

- To be a prototype design. Towards universal inclusive design.
- To educate: the cycle of poverty of a disabled person starts from schools rejecting admission.
- To train: vocational training.
- To empower: creating employment opportunities.



Why we need this in India?

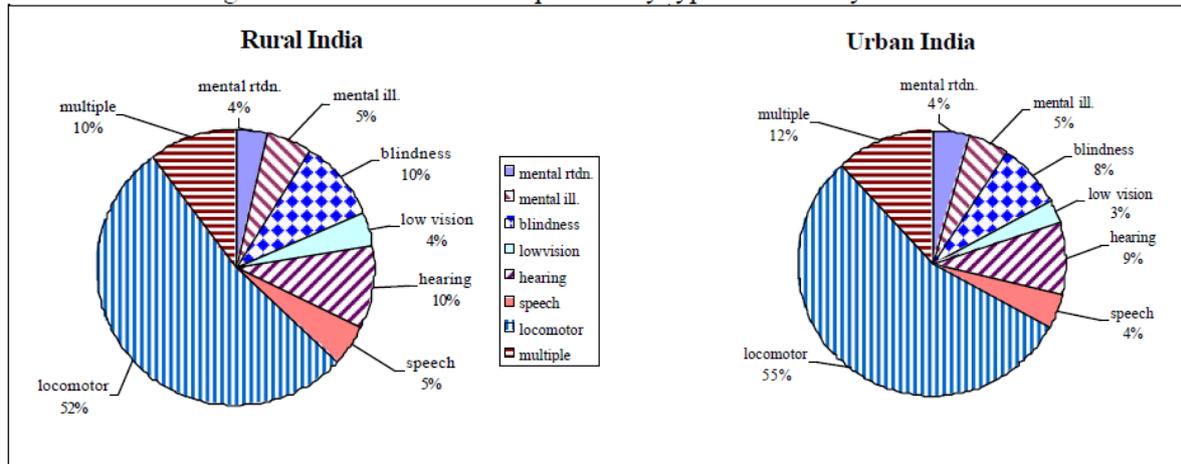
Statistics show us why. India has more disabled people than the total population of some fairly large countries.



- India has some 40 to 80 million people with disability.
- At least one in twelve households has a member with disability.
- Disabled people in India are mostly unemployed.
- Only 0.1 million people have been employed in the last 40 years.
- Only about 3500 disabled persons are employed each year.
- Unemployment rate is very high despite a 3% reservation in all government jobs.
- Bringing down the unemployment rate cannot be achieved without addressing the employment issues of people with disabilities, who constitute about 5-6% of the population.

[Source: world development indicators]

Chart 1: Percentage distribution of disabled persons by type of disability



[Source :NSSO]

Low literacy, few jobs and widespread social stigma are making disabled people among the most excluded in India. Children with disabilities are less likely to be in school, disabled adults are more likely to be unemployed, and families with a disabled member are often worse off than average. With better education and more access to jobs, people with disabilities can become an integral part of society, as well as help generate higher economic growth that will benefit the country as a whole.

The Education:

By creating special schools and by creating special teachers in the country - in the world in fact - a big mistake has been committed. If there were no special schools, no special teachers, probably the society would have learnt over the years to cater to different disabilities. By segregating them, somewhere, **the main stream schools have never felt it to be their responsibility to include all children.**

It is a well-known fact that enrolment in mainstream school alone is not the answer. It is important for the education system to respond to the needs of disabled people. Even the integrated education system is catering only to mildly disabled people. Whoever receives special education never gets standardized curriculum; and a very few reach up to college education or even 11th or 12th class.

The results of a survey conducted in 320 odd universities and schools shows that only 0.1% of disabled students are in universities and 0.5% in mainstream schools. Clearly, a huge amount of neglect prevails in the society.

Least priority has been given to the education of disabled children, due to the following reasons:

- (1) **The attitude of the parents, family members and the community is that,** there is no use of a disabled child being educated and it is a wastage of time, money and other resources, as they think that a disabled child / adult is not productive in any way. The capitalist mentality of the society also prevents the disabled child from enjoying the Right to Education as conferred by the Constitution of India.
- (2) **When there are other siblings for a disabled child, the disabled child gets the least priority in education compared to his/her siblings, either due to poverty of parents or the attitudinal barriers in the society.** Poverty and Disability is a

vicious circle. Due to poverty education is denied for children. Even if parents from the economically weaker sections of the society want to educate their children, the opportunity of a disabled child going to school is a rarity, as the cost involved in educating a disabled child is more when compared to a non- disabled child, due to the architectural barriers in the society.

- (3) **The prevalence of architectural and environmental barriers such as inaccessible built environment, school buildings, roads, transport and so on.** Many times parents will have to carry their disabled child due to the architectural and environmental barriers. They cannot use public transport and private transport is too expensive for them. Thus as the child grows older their environment is restricted to their home.
- (4) **The education system is also inaccessible for many disabled students,** as the teaching methods, learning aids, the curriculum itself and the evaluation system is not disabled friendly. (Braille books and materials, readers for students with visual impairment, sign language interpretation and teaching are not available in most schools). Even when alternative teaching methods are used, the same methods are not used for evaluation. For example if a child is taught using the Picture Communication System they are not evaluated using this system. This allows little opportunity for Disabled People to continue with their education. Augmentative and Alternative Communication Techniques are confined only to few special schools.
- (5) **Sarva Shiksha Abhiyaan (SSA) talks of Education for all. The fact remains that many disabled people are not enrolled under this scheme due to the severity of Disability.** Also teachers are not trained in inclusive education.
- (6) **The Persons with Disabilities Act, 1995 does not speak of reservations in Higher Educational Institutions and only talks about open universities. Many Disabled People are denied entry into professional courses like MBA, Engineering and Medicine due to their disability.**

The Training :

Work is a central part of adult life, consuming as much as half of our waking hours. People often identify themselves by the work that they do. Finding the right job—simply knowing what it might be—is not easy, even for highly skilled individuals. Doing so is even more difficult for those who lack adequate training or face special challenges, such as a disability. Various vocational training courses suitable for disabled people are recognized to make disabled people productive and independent citizens. Disabled people are as capable as productive as other people, a case study of a few great people gives us a picture of their achievements even with disability.

Disability dictates design requirements , a barrier free environment is to be created to make a building usable to the fullest by everyone.

Vocational education and training (VET) is an education that prepares trainees for jobs at various levels from a craft or trade to a professional position in engineering, accounting, nursing, medicine and other health practitioners, architecture, pharmacy, law etc.

- Craft vocations are usually based on manual or practical activities, traditionally non-academic, and totally related to a specific trade, occupation, or *vocation*.
- It is sometimes referred to as *technical education* as the trainee directly develops expertise in a particular group of techniques.
- Enhancing employment opportunities for people with disabilities is one of the main concerns.
- Vocational education can be at the secondary, post-secondary level, further education level and can interact with the apprenticeship system.
- Increasingly, vocational education can be recognized in terms of recognition of prior learning and partial academic credit towards tertiary education (e.g., at a university) as credit; however, it is rarely considered in its own form to fall under the traditional definition of higher education. All most all specially-abled people have the capacity to learn, to develop and to grow.
- A great majority can become economically productive, fully participating members of the society.

Possible training programs for specially-abled:

- Academic Skills
- Communication Skills
- Social and Interpersonal Skills
- Occupational and Vocational Skills

RESEARCH QUESTIONS:

- What are the possible conflicts of interests identifiable in instances where two or more physically disable people are to be catered for at the same time in a particular environment?
- How can integrated design be made more functional for the mobility impaired?
- What are the common accessible features predominantly used by the mobility impaired.
- What are some mobility-impaired persons' perceptions or response and experiences of some accessible features in selected "accessible" buildings or institutions?
- How well do the various accessible features meet the needs of persons in the various categories of mobility impairments?

A FEW JUSTIFICATIONS:

- The up-surgng road and industrial accidents as well as the emergence of new forms of diseases paralleled by advancement in the field of medicine are increasing the possibilities of a lot more people who would have rather died to become physically disabled. This therefore justifies the need to research and identify better ways to design the built environment to meet the needs of the increasing disabled persons if all the above factors are to continue to increase the population of the physically disabled in the society.

- Most designers also conceive of disabled bodies as wheelchair users, with little perception of the wider range of physical and/or mental impairments which need to be catered for in producing inclusive design (Imrie, 1996). There is therefore the need to reconsider better ways of removing or reducing any possible bottlenecks resulting from relegation of members of the other disability groups to the background and unobtrusively integrate their macro-accessibility needs into all designs.

How architecture can help towards social inclusion;

“Architecture, by definition, is built for people. Architecture is the enclosure in which people live their lives. Why then talk of behavioral architecture; why not architecture for people or human architecture, or just architecture? The word "behavior" suggest people in action, with things to *do*, with other people to talk to and interact with. Behavior suggests an awareness of the social fabric of people, a moving together dynamically in time. Buildings are static. The tragedy of architecture is seeing people as static, too.

If a physical space will dimensionally ‘accommodate a person, we feel that somehow that person has been provided for properly. Yet only by considering an individual’s behavior in the space can we validate the design. There is a great interest today in people's behaviour. Books are written on territoriality. Linking the animal need for territorial definition with the same human need books on nonverbal communication are popular, documenting what we have all suspected for a long time, that people.

Certain measures that could be used in relation to architecture:

- Openness - to feel the presence of balcony/garden - sensory garden.
- Ceiling height is important - no low height spaces.
- Play with the shapes of the columns, textures of walls and flooring etc.
- More water bodies.
- Good acoustics.
- Well landscaped gardens, therapeutic gardens.
- Large open spaces.
- Spacious classrooms.
- Suitable furniture.
- More natural lighting and ventilation.
- Verbal tapes, railings - a barrier free design.

UNIVERSAL DESIGN PRINCIPLES

© 1997 NC State University, The Centre for Universal Design These can be applied to all aspects of design: the built environment, product design, and outdoor spaces.

Equitable use

The design is useful and marketable to people with diverse abilities.

Ex: Designing a ramp for the entry to a building instead of stairs.

Flexibility in use

The design accommodates a wide range of individual preferences and abilities.

Ex. Designing scissors that work for right-or left-handed users.

Simple & intuitive use

Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

Ex. Specifying a moving sidewalk in a public space.

Perceptible inform

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

Ex. Tactile, visual, and audible instructions on a thermostat.

Tolerance for error

The design minimizes hazards and the adverse consequences of accidental or unintended actions.

Ex. Ctrl +Z to undo a mistake on a computer.

Low physical effort

The design can be used efficiently and comfortably and with a minimum of fatigue.

Ex. Lever or loop handles on doors and faucets

Size & space for approach & use

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Ex. Front-facing controls on appliances with clear floor space for access

Conclusion

I think this idea is one step towards holistic living. Inclusive architecture design is for betterment of social standards by mutually benefitting each other also playing a major role on economic standards of the nation and mankind in general.