

# Module 6

## Chapter 1

### Barrier Free Transportation

Every individual including PwDs have an equal right to travel and use public transportation with dignity and independence. It should be regarded as a fundamental right of all citizens, since travel is usually a daily necessity for education, employment, medical attention, entertainment etc. Transport is important in facilitating human communication and face-to-face meetings. It plays a significant role in economic development of the nation.

People with diverse disabilities (sensory or physical) and reduced mobility (people with health problems for example respiratory, cardio-vascular, joint problems or temporary ailments; senior citizens; pregnant women; families with young children and people with heavy luggage, etc., constitute sizeable number of the population. Since majority of this segment belong to lower and middle-income group, it is beyond their economic capacity to use private taxis/three-wheeled auto rickshaws or purchase their own vehicle and are, therefore, dependent on public transport.

Existing transportation system, i.e., vehicles, terminals, and operations are either full of obstacles or impossible to use. It induces fatigue, restricts educational and employment opportunities, causing frustration. It hinders right to freedom of movement, equal participation and access to health and other social services.

#### Move Towards Accessible Transportation

The Persons With Disability (Equal Opportunities, Protection of Rights and Full Participation) Act 1995, states non-discrimination in built environment and transportation. Delhi has set the lead in accessible transportation. The best example is Delhi Metro Rail Corporation (DMRC), a joint venture of Government of India and Government of National Capital Territory of Delhi.

#### *Case Study of Delhi Metro Rail Corporation*

DMRC in its policy and planning stage, included access needs of people with diverse disabilities. Samarthyia approached DMRC with the objective to ensure that the design of the station is in consonance with the PWD Act 1995, standard requirements and guidelines. An access audit of the sample Welcome metro station (during the partially constructed stage) was conducted, along with DMRC engineers & architect, in April 2002. The access audit team comprising people with diverse disabilities and a checklist; observed: drop off lanes and parking to the station entrance, ticket & automatic fare collection (AFC) counters; proposed placement of guiding & warning blocks; lifts & stairs; approach to the platform and toilets proposed to be built outside the station. It submitted its suggestions supplemented with photographs.

DMRC welcomed the user group perspective and invited Samarthyia for access audits and inputs on other metro stations/services from time to time. DMRC has set an example of universal and inclusive design. The built stations provide–designated parking for PwDs; ramps along with hand

rails; guiding and warning blocks for vision impaired persons; bright colour contrast for low vision persons; large lettering and information displays and signage's; lifts with lowered control panel with Braille & raised control buttons & auditory signals; resting area for the senior citizens and disabled persons. Inside the coach, there is designated space for wheelchair users, audio announcement with dynamic display and sensory door closing mechanism.



Placement of guiding path and warning strip at the Metro Station.

### Road Transport

Public buses are common man's transport but it is not fully used by people with reduced mobility and PwDs. Inherent design structure of existing buses: chassis level-900 mm (basically truck chassis), narrow door width-790 mm and approach to bus shelters compounded by ill maintained, uneven, high walkways and speed bumps are major reasons for its under utilization. Boarding and alighting in the buses becomes difficult, unsafe and impossible without assistance.



Existing design of DTC bus-high chassis, narrow door and three uneven steps makes it impossible for PwDs to board a bus.



Inconsistent design standards in the construction of walkways and bus shelters high pavements, bollards and hawkers in front of bus shelter.

## Access Provisions for Public Transport

Transport facilities and means of transport include land, water and air transport systems.

### (a) *Road transport*

- i. Regulations should specify that new vehicles bought by public and private transport companies be accessible for people with disabilities. Studies indicate that buying a bus with lifts adds only 5 per cent to its cost.
- ii. Access regulations should specify modifications required for public buses, which are already in use.
- iii. A minimum of four seats in all buses should be designated for persons with disabilities. Those seats should be near entrance/exit doors.
- iv. Adequate space for one wheelchair should be provided in all buses.
- v. Parallel transport services for persons with disabilities who cannot use mainline systems are recommended.
- vi. Access regulations should be adapted to meet the needs of rural communities.

### (b) *Rail transport (including local trains, under and over ground trains and inter-city trains)*

- i. Access regulations should stipulate that new rail transport facilities must be accessible for persons with disabilities.
- ii. All mainline train stations must be modified to become accessible.
- iii. One car per existing train should be modified to incorporate access features.
- iv. A minimum of two seats per car should be designated for persons with disabilities. Those seats should be near entrance/exit doors.
- v. A minimum of one accessible toilet should be available near the above-mentioned seats.

### (c) *Sea and river transport (including ferries, as well as domestic and international passenger ships)*

- i. Access regulations should stipulate that new sea/river transportation must be barrier-free.
- ii. A minimum of one deck in ferries and domestic and international passenger ships should be modified to incorporate access features.
- iii. Ramps, passageways, gangways, safety equipment and at least two berths or cabins must be modified to incorporate access features.

### (d) *Air transport (including domestic and international passenger aircrafts)*

- i. Access regulations should stipulate that new air transport facilities must be barrier-free.
- ii. A minimum of two seats near the entrance/exit doors in all domestic passenger aircraft should be available for persons with disabilities.
- iii. A minimum of one accessible toilet should be near the above-mentioned seats.

## Chapter 2

### **Barrier Free Tourism**

Tourism is a means of broadening horizons and developing friendship for a social group, which is less willing to remain, segregated from mainstream society. People with Disabilities (PwDs) have an equal right to travel with dignity and independence; access to all tourism infrastructures; products & services including employment opportunities and benefits that the tourism industry provides. PwDs, senior citizens and families with young children, are not considered potential customers by the Government and the service providers and are still an untapped market. Their travel experiences are characterised by transportation constraints, inaccessible accommodation to tourism sites and inadequate customer services.

#### **Tourism in India–Some Facts**

India is a country of continental dimensions with a fascinating kaleidoscope of diverse races, languages, religions, customs and traditions. The tourist attractions of India include historical monuments, places of religious importance, mountain and beach resorts, wild life, and interesting eco-systems, etc.

Tourism in India has grown substantially over the last three decades. However, Indian tourism was adversely affected after the 11th September 2001 events showing a decline of 4.2 per cent in the year 2001, as against a growth of 6.7 per cent achieved in 2000. India's share in world tourist market during 2001 was 0.37 per cent. Foreign tourist arrival during 2001 were 25,37,282 and foreign exchange earnings from tourism were estimated at Rs. 14,344 crores.

Domestic tourism plays a vital role in achieving the national objectives of promoting social and cultural cohesion and national integration. Its contribution to generation of employment is very high. An investment of Rs. 1 crore creates 470 direct jobs, which surpasses the employment potential from Agriculture and Industrial sector. With the increase in income level and emergence of a powerful middle class, the potential for domestic tourism has gone up considerably in the last few years. During the year 2001, about 234 million domestic tourist visits were made.

The National Tourism Policy 2002 attempts to position India as a global brand to take advantage of the increasing global travel and trade and vast untapped potential of India as a destination. Seven key areas identified are:

- Swagat (welcome)
- Soochna (information)
- Suvidha (facilitation)
- Suraksha (safety)
- Sahyog (co-operation)
- Samrachana (infrastructure development)
- Safai (cleanliness)

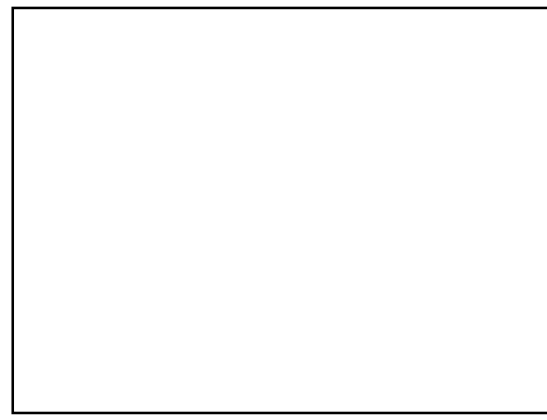
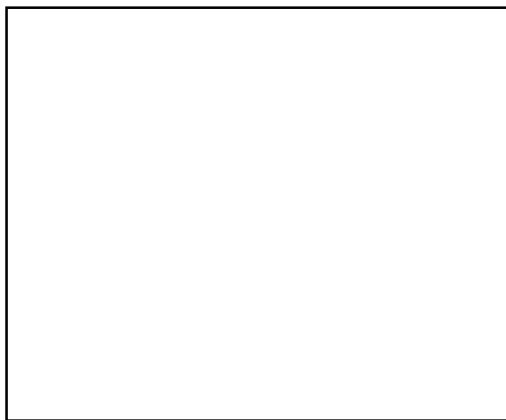
However, none of the above key areas take into considerations requirements of disabled traveller. Also there are no statistics/data available on tourists' with disability (both domestic and foreign) visiting places of tourist interest. There is no database maintained by Government agencies of the accessible tourist spots in the country. The efforts made by individuals/organizations are also scattered. There is a growing demand, for the tourism industry to improve its services to PwDs: accessible transportation, accessibility within hotel facilities and travel operators to provide tailoring packages to PwDs.

### *Case Study of Dilli Haat*

Samarthya selected Dilli Haat, a joint venture of Delhi Tourism, Union Tourism Ministry, DC Handlooms & Handicrafts and the Ministry of Textiles as its pilot project. It is spread out over six acres, set amidst idyllic environs that attempt to mimic the rural ambience of a traditional Indian little "Haat" or a weekly village market. It was conceived to be a multi-purpose, cultural complex where artisans from all over the country could come to display and sell unique and ethnic products.

It has high visibility value and ample scope of expansion, replicability and sustainability. On the basis of ticket sales for three months it was found that 180,000 domestic as well as foreign tourists visit Dilli Haat every month. Making Dilli Haat accessible to all would mean spreading the message to other parts of the country.

An access audit in "coordination" with the architect of Dilli Haat was conducted in January 2001. The audit team examined the existing architectural plan of the complex, identified the problem areas and suggested possible solutions. The proposed changes included designated parking, uneven flooring in the front plaza, ticket counter height, access to office and handloom & handicrafts stalls, drinking water facility, toilets and other amenities.



Samarthya extended its "cooperation" to Mr. Pradeep Sachdeva, Architect, Delhi Tourism by providing standards, guidelines and accessible design layouts. The partnership between Delhi Tourism and Samarthya culminated in the inauguration of "Barrier Free Dilli Haat" (first phase), on 28 March 2003. The changes include leveling of front plaza flooring, demarcated pathway, lowering of ticket counter, merging of level differences, around 17 small and big ramps with handrails are constructed which now provide access to Dilli Haat office, exhibition halls, stalls, STD/ISD booth,

drinking water facility, approach to toilets, eatable stalls, etc. The second phase would include designated parking, guiding and warning blocks and toilets.

Media highlighted the constructive work being done by Delhi Tourism and Samarthya in making Dilli Haat, the first ever disability friendly tourist spot in the nation. The news items generated public awareness and discussion of accessibility issues in the tourism sector. The tourism department has committed to make all upcoming projects barrier free. “Garden of Five Senses” spread over 20 acres, reflects the same.

### **Archeological Survey of India**

ASI had issued an order in 2001, that all historical monuments be made accessible to PwDs. There should be a partnership, a shared responsibility, with individuals and NGOs, ensuring that the Government and relevant agencies are made aware of their specific needs and requirements. All these efforts have received a great deal of positive media coverage with regular articles in all of India’s daily national papers. The result is an overall increased awareness of the issue of accessibility within the community, the commercial sector and the Government.



Braille Plates being Mounted at Safdarjung Tomb, New Delhi

### **Access Provisions for Barrier Free Tourism**

1. Advocacy and negotiation with the Tourism industry and service providers.
2. Accessibility as criteria in ranking of hotels.
3. To make mandatory for petrol pumps on highways to have an accessible toilet.
4. Dissemination and sharing of information on Barrier Free Tourism.
5. Information material to be accessible to all.
6. Compiling database on accessible Tourists places (including accommodation).
7. Information and networking with disabled people and NGOs.
8. Highlighting the issue through electronic and print media.
9. Conduct Access Surveys.
10. Initiate one pilot project.

## Chapter 3

### Accessibility in Rural Areas

#### Introduction

The majority of people (78 per cent) in India live in rural areas. In the coming decade, notwithstanding rapid urbanization, there will be a higher increase in absolute numbers of the rural population. Higher rates of mortality and morbidity, a lower rate of literacy and a higher incidence of poverty and deprivation characterize rural communities, placing them in a less advantageous position than their urban counterparts.

National Sample Survey Organization (NSSO), 2002, estimates the number of disabled persons in India as 18.49 million, which forms about 1.8% of the total estimated population. The survey reveals that for every 1,00,000 people in India, there were 1,755 who were either mentally or physically disabled. Among the rural residents (74.2 million), the prevalence of disability (No. of disabled per 1,00,000 population) was 1.85 % and that among the urban population (28.5 million) was 1.50%. This indicates that the disabled population in rural India is 3.2 times higher than the urban India. Apart from the above figure of disability there are many elderly citizens, which are increasing day by day due to improved medical facilities in countries.

**Table 1: Estimated\* Number (in '00) of Disabled Persons by Type of Disability and Sex for Rural and Urban India (NSSO Survey, 2002)**

<i>Type of Disability</i>	<i>Rural</i>			<i>Urban</i>		
	<i>Male</i>	<i>Female</i>	<i>Persons</i>	<i>Male</i>	<i>Female</i>	<i>Persons</i>
Any disability	83102	57748	140850	25811	18249	44060
Mental Retardation	4434	2561	6995	1824	1128	2591
Mental Illness	5022	3377	8399	1623	988	2611
Blindness	7494	8536	16030	1793	2311	4104
Low Vision	2982	3563	6545	711	877	1588
Hearing Disability	12516	11171	23687	3617	3313	6930
Speech Disability	9495	6532	16027	3417	3313	6930
Locomotor Disability	49987	29839	79826	16352	10162	26514
<i>Estimated Total Persons</i>	<i>3923611</i>	<i>3711319</i>	<i>7634930</i>	<i>1545555</i>	<i>1391996</i>	<i>2937551</i>

\* Estimates are obtained by using survey proportions on the projected population

\*\* At least one of mental, visual, hearing, speech and locomotor disability

Planning for a barrier free environment in rural areas has its own set of difficulties and challenges. Though the norms and the standards for it remain broadly same for cities and villages, however considerations have to be made in terms of life style, available infrastructure, financial constraints, availability of local material and general reluctance to spend except for most essential items, etc.

Furthermore, while several basic amenities such as piped water supply, sanitation, toilets and access to the mass media, e.g., radio and television are available to urban residents at the urban built environment includes modern public facilities for education, training, employment and self-employment, as well as entertainment. In contrast, the rural built environment includes standpipes and wells, village dispensaries, primary schools, community toilets and water tanks, village markets, agricultural extension centers and village or district administrative institutions. These facilities have an impact on the daily lives of people in the rural areas. The extent to which the facilities are accessible and usable by persons with disabilities and elderly people determines their integration into rural community life.

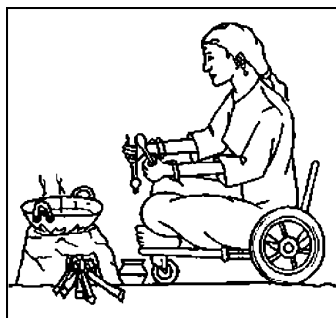
Poor access is one of the characteristics of poverty. However, it is not the only factor, but is a key parameter. Some of the issues faced by rural disabled persons and elderly people are: non-accessible paths, roads without pavements and non-accessible houses, toilets or latrines and kitchen.

PwDs in rural areas, like their urban counterparts, have a wide range of **housing** needs. Persons with physical disabilities need accessibility features to facilitate independent living. Persons with mental illness or persons requiring regular treatment/therapy for their condition need suitable access to a treatment facility. Frail elderly persons may require modifications to their existing homes. Others may prefer group housing or assisted living situations.

Some examples of **transport** problems for typical rural people are (i) water and fuel wood collection; (ii) crop production and marketing; (iii) non-agricultural income generation; (iv) access to economic, educational, health and similar other services. The exact nature of specific transport tasks will of course be dictated by the location and circumstances of specific rural areas. Transport problem of water and fuel wood collection can be viewed as the one related to exchange relation with the nature. The opportunity costs of collecting water and fuel wood in terms of time and physical labour can of course be reduced through improved provision of transportation. This will in turn free the rural poor to use their endowment of time and physical energy for future productive and remunerative works.

Planning and design for the rural areas should take into consideration the options presented by local solutions; using locally available materials. For example, locally available cement checkered tiles may be used as guiding and warning blocks. Applied research and experimentation in the use of appropriate technology for the development of barrier-free design for the rural built environment are urgently needed. Governments, local authorities like Jila and Gram Panchayats, CBR workers and others, have a responsibility to improve the understanding of issues concerning barrier-free environments in rural communities. This is particularly so in the case of remote rural areas where there is a lack of non-governmental organization development assistance and the communities have limited access to the mass media.

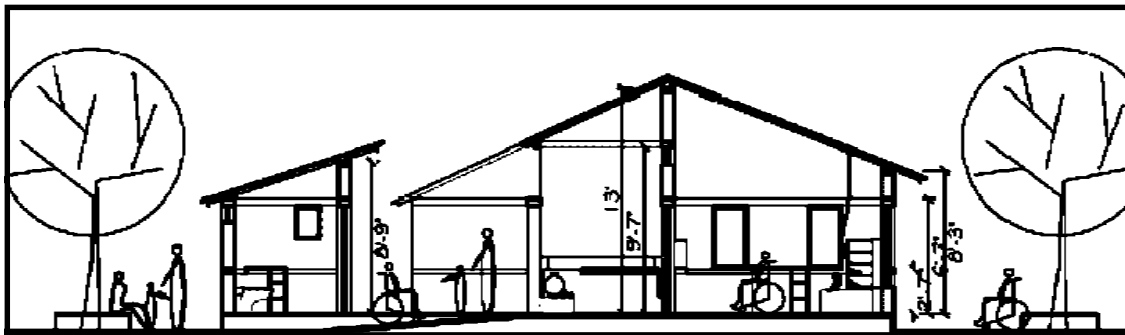
### **Access and Access Related Possible Interventions**



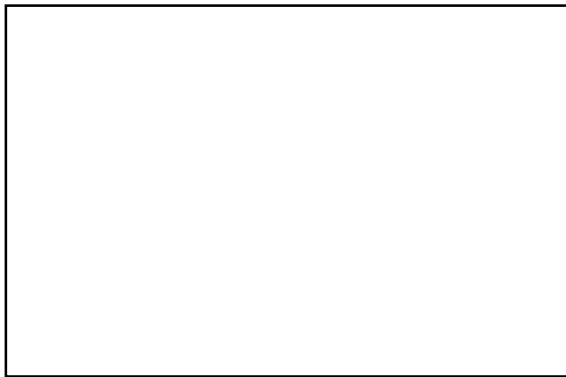
Household work at ground level using a ground mobility device



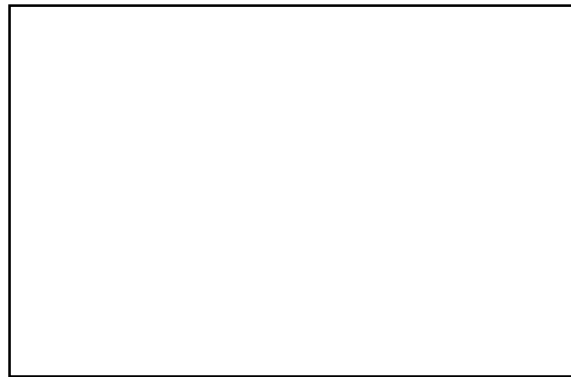




Paraplegia shelter project- Anjar, Gujarat. Drawing courtesy: Mr. Hitesh Changela, Baroda



Front Entrance with ramp front view



Side view



Toilet



Kithchen

Paraplegia shelter project- Anjar, Gujarat. Photograph courtesy: Mr. Hitesh Changela, Baroda