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SUSTAINABLE DEVELOPMENT OF WATER RESOURCES, WATER SUPPLY AND ENVIRONMENTAL SANITATION

A Project to Develop Inclusive Models of Sanitation for Persons with Disabilities

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One of the major issues affecting persons with disabilities is the issue of marginalization. Due to inaccessibility of places and sanitary facilities in major public locations, the PWDs are forced to stay indoors further leading to their marginalization. Arushi, a voluntary organization working with PWDs, in collaboration with UNICEF initiated a project on developing 'Inclusive Models of Sanitation for Persons with Disabilities'. This paper outlines the various components of the project, and its outcomes, including a study to detail the special needs of PWDs which further lead to the development of a manual on inclusive models of sanitation.

Introduction

A BARRIER-FREE environment is seen as a major step towards addressing the issue of marginalization of persons with disabilities (PWDs). With 5-7% of any given population in third world countries comprising PWDs, as per WHO estimates, accessibility of places like educational institutions, public utility places etc can play a pivotal role in the mainstreaming of PWDs.

The state of Madhya Pradesh has a total disabled population of about 1.4 million as per the census 2001. Of these about 75 % reside in rural areas. Certain areas in the state, especially the western region, have a high disabled population because of fluorosis, caused by high fluoride content in water, which leads to deformed bones and teeth.

Knowingly or unknowingly PWDs remain marginalized, and are often deprived of opportunities simply because schools, colleges, offices and other public places do not have accessible toilets for them. They do not move out of their houses on account of this. Particularly girls with disabilities feel embarrassed and it acts as a deterrent.

Though the Government of India passed legislation "Persons with Disabilities, Equal Opportunities Full Participation Act 1995" [Government of India, 1995], which calls for creation of a barrier-free environment, not much has been achieved at implementation level. Barrier-free status, if present in buildings, is limited to ramps. The basic obstacle to creating a barrier-free environment is lack of awareness, sensitivity and lack of positive attitudes of the community in general, and of policy framers and implementing agencies in particular. Further, PWDs are a low priority when any development activity is being planned. To overcome this difficulty, there is a dire need to create awareness and sensitivity amongst all policy framers, implementing agencies and people in general, regarding specific needs of PWDs.

Arushi, a voluntary organization, based in Bhopal, is committed to working for the cause of PWDs. UNICEF, on the other hand, is committed to promoting sanitation facilities as part of their Child Environment Program. Together with the Government of Madhya Pradesh, the issue of sanitation is being addressed through the Total Sanitation Campaign (TSC). This project promotes sanitation and hygiene, especially in rural areas, through education and awareness at community level and construction of toilets at household level and in schools.

The project

Arushi, in collaboration with UNICEF, initiated a project titled "Construction of Disabled Friendly Toilets" with the objective of make sanitation facilities accessible to PWDs.

Initial Study

As a first step, a study was undertaken to define the special needs of PWDs with respect to sanitation facilities. This was felt essential given the diverse needs of each type of impairment, which can be broadly classified into 4 kinds: locomotor, visual, mental, and speech and hearing impairment.

Keeping the diverse needs in mind, the objectives of the study were twofold:

- To understand the various problems faced by PWDs in accessing sanitation facilities at home and in public places,
- To work out designs and features that can make these toilets disabled friendly.

Methodology

The study was undertaken in three stages. In the first stage, a desk review of secondary literature was done.

Secondly, a sample survey of 100 PWDs was undertaken

to understand the problems they face accessing sanitation facilities in public and private places. The survey captured qualitative data through open ended questionnaires. Based on the answers, simulation exercises were undertaken with participants, to gain a clearer understanding of the problems. The participants also suggested remedies to tackle these problems. The survey was done in both urban and rural area in and around Bhopal city. A random sampling of the target group was done covering all disability types, with representatives from both urban and rural areas. Due weightage was given to women participants. The survey also attempted to broadly cover different age groups.

Data Analysis

The general response from PWDs was that they required assistance to access the public sanitation facilities. Girls and women avoided using these facilities, as they found it to be too cumbersome and preferred returning to their homes.

The challenging features of public and private sanitation facilities, as described by the respondents, can be classified as follows:

- **Approach:** Most respondents, especially those with locomotor disability, mentioned that the approach to sanitation facilities, in both rural and urban areas was very poor. Steps were a problem for most, and they suggested ramps as an alternative (See Figure 1).
- **Entrance/Door:** Wheelchair users mentioned that at times they could not access the facility because the toilet door was narrower than their wheelchair.
- **Direction:** Persons with visual impairment often faced problems in finding directions to and inside the sanitation facility.
- **Water Closet (WC) Cubicle:** Wheelchair users cited examples where the wheelchair would not fit into a WC cubicle. Where the door opened inwards, it was impossible to close the door with the wheelchair inside (see Figure 2 for an example of space requirements). In absence of support, they found it very cumbersome to open and close a door while sitting in a wheelchair. Indian style (squat) toilets were absolutely inaccessible.

- **Support features:** A general need was felt for handrail support near the WC, washbasin and in general inside.
- **Others:**
 - Wheelchair users found washbasins too high.
 - In some cases there was no clear floor space in front of the basin for a wheelchair user.
 - Some parents felt the need for an alarm bell inside the toilet for use in case of an emergency.
 - Slippery floors were a problem in most public toilets.
 - Inaccessibility of mirrors for wheelchair users.
 - In a couple of cases, the persons showed inability to open regular taps. (See Figure 3 for an example of an easy to use lever operated tap).

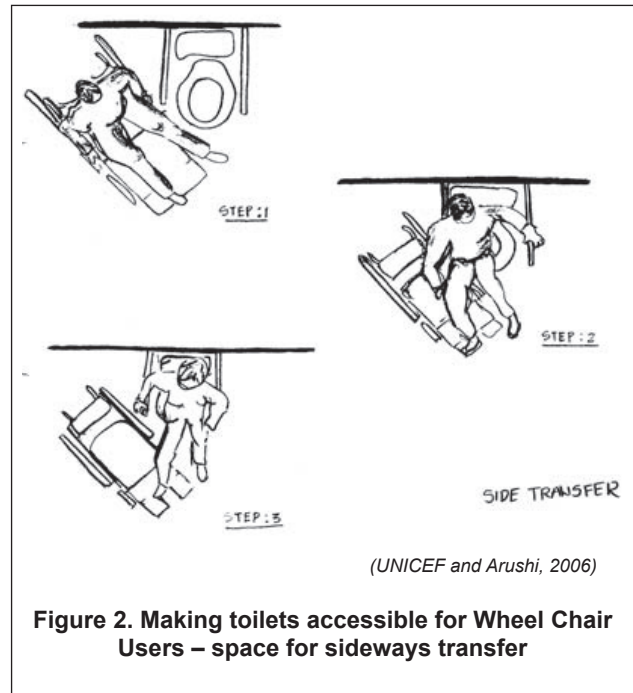


Figure 2. Making toilets accessible for Wheel Chair Users – space for sideways transfer

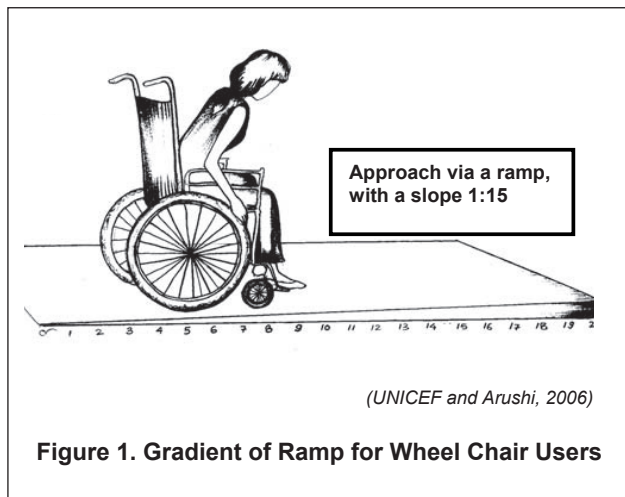


Figure 1. Gradient of Ramp for Wheel Chair Users

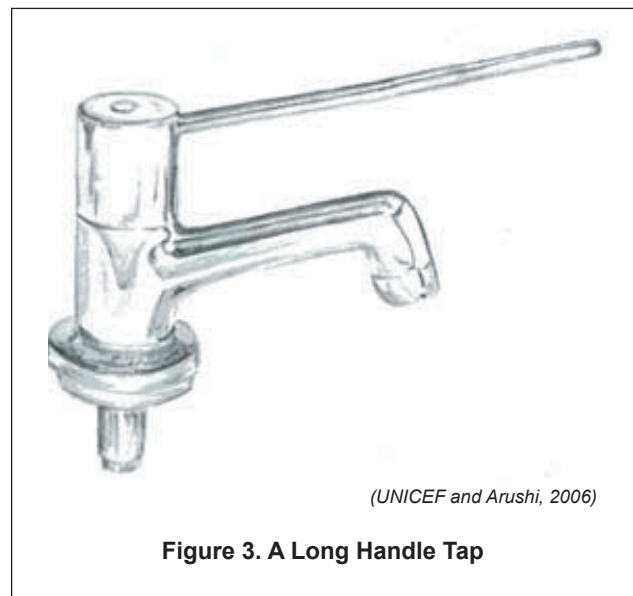


Figure 3. A Long Handle Tap

Awareness-raising

As part of the project, awareness and sensitization programs for socially inclusive models of sanitation were organized with various stakeholders at state level, and subsequently at district level. The aim of these programs was to sensitize stakeholders towards the need for accessibility features in buildings, with a focus on sanitary facilities. These programs were designed to make participants experience the problems faced by PWDs. For this, simulation exercises were done with the participants with their eyes blindfolded and making them move around on a wheelchair (see Photo 1).

During these programs, the details of disabled friendly toilets were discussed in detail. Senior officials of different engineering departments pointed out that such designs should be developed and archived so that accessibility issues for all types of disabilities are taken care of and government departments can adopt these models in future construction activities. It was also suggested that these designs be developed for urban as well as rural areas and should cater for households and public places. Low cost technology options for rural toilets were also discussed.

Manual development

Arushi brought together a team of specialists including architects, experts on disability, water and sanitation experts. Using the literature review and information gathered from the user study, a manual of designs for disabled friendly toilets was developed.

The manual covers designs for rural and urban areas and for households and public places. Low cost alternatives are also covered: construction material found locally and more cheaply than the standard material (e.g. bamboo) can reduce the cost of construction by more than 40%.

The manual covers the following aspects of the toilet:

- a. Entrance and door
- b. Water Closet (WC) Cubicle
- c. Warning tiles
- d. Water closet



Photograph 1. Training session under way

- e. Taps near WC
- f. Handrail near WC
- g. Alarm bell
- h. Hand wash and wash basin tap
- i. Mirror
- j. Switches
- k. Signage
- l. Kick Plate.

Construction phase

Arushi next organized a training for masons in construction of disabled friendly toilets. Organized at the Technology Park, the training focused on sensitizing the masons to the needs of PWDs, and on comparing inclusive models of sanitation with general models of sanitation at the park.

Outcome

The project has been successful in attracting the attention of various stakeholders at local, state and national level towards the issue of accessibility. As a result, several government departments/ agencies have realized the need for inclusive sanitation facilities and have approached Arushi and UNICEF to share their expertise. The demand for such facilities is expected to grow as policy level changes have been brought. To consolidate these changes UNICEF and Arushi have produced a learning video and guidance manual which will be disseminated over the next 12 months to all 48 districts of Madhya Pradesh. Additionally, the Government of India has now expressed interest in including the designs in the Total Sanitation Campaign.

This intervention is one of its kind in the country and with the present status of outcomes, it is expected to bear greater impact in the future.

References

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Photograph 2. A low cost DFT being constructed

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