



Making sustainable sanitation inclusive for persons with disabilities

The challenge

In developing countries there is a massive shortfall of sanitation facilities in general, and in particular of facilities which are accessible to all – including persons with disabilities. This is despite the fact that 15% of the world's population lives with some kind of disability. The majority of these persons with disabilities live in developing countries (80%). They are among the poorest, most vulnerable and marginalised groups.

The scale and relevance

- 1 billion people with disabilities worldwide
- Rates of disability are increasing due to population ageing, increases in chronic health conditions and other factors.

Source: World Report on Disability by WHO and World Bank (2011)

The impact of disability is felt by persons with disabilities themselves and by their family members as it often creates a high work load and dependency leading to vulnerability, loss of income, compromised health and risk of poverty. It is often the children – usually girls – who perform these support tasks and might consequently be removed from school to do so.

The lack of accessible sanitation facilities can create humiliating situations as it deprives persons with disabilities of their most basic and private needs. It often leads to lower hygiene levels causing additional burdens of disease.

Besides violating basic human rights, the exclusion from society also results in huge economic losses. The International Labour Organization estimates the annual global loss of GDP due to people with disabilities being excluded from income generating activities at 3-5%[1].

Background

The UN defines persons with disabilities as persons with long-term impairments who face various barriers that hinder their full participation in society. The impairments can be from birth or acquired, temporary or permanent. They can be physical, sensory (i.e. visual, hearing), mental or intellectual impairments.

People can become impaired through accidents, wars, natural disasters, diseases and old age. Some of these diseases are caused by malnutrition or the lack of hygiene, sanitation and safe water. Therefore accessibility should always be considered even if no person with disabilities is currently known to live in the community.

Who benefits from accessible sanitation facilities?

- Persons with injuries and temporary impairments
- Elderly or weak people (e.g. those affected by HIV/AIDS)
- Pregnant women
- Children and mothers helping young children
- Persons with a range of disabilities

Poverty can be a cause as well as a consequence of disability. Poor people are more likely to be disabled due to difficulties in accessing food, water, sanitation, health services, rehabilitation, education and information. They

[1] Source ILO (2009): The price of exclusion: the economic consequences of excluding people with disabilities from the world of work, http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_119305.pdf

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are also more vulnerable to accidents, natural disasters and conflict situations, which can cause impairments.

On the other hand, disabled people are more likely to be poor. Isolation and discrimination, and the lack of access to health services, education or employment are factors which reduce opportunities to perform income-generating activities.

While the **Millennium Development Goals (MDGs)** do not explicitly mention disability or equity, each goal has links to disability and poverty. The MDGs cannot be fully achieved without considering these issues. To emphasise this, the 64th UN General Assembly adopted a resolution in 2009 on realising the MDGs for persons with disabilities[2].

The UN Convention on the Rights of Persons with Disabilities (2006) is the first human rights instrument to deal explicitly and systematically with the human rights of persons with disabilities[3]. It has already been ratified by over 100 countries. The convention not only stipulates that persons with disabilities are to be enabled to live independently and participate fully in all aspects of life but defines accessibility to public facilities, services and information as a human right (Article 9). In addition, Article 28 highlights the right to clean water services as part of an adequate standard of living.

Furthermore, the convention addresses global cooperation to 'ensure that international cooperation, including international development programmes, is inclusive of and accessible to persons with disabilities' (Article 32).

Access to water and sanitation is a human right: the Human Rights Council adopted a resolution in late 2010 affirming that access to safe drinking water and sanitation is a human right for all people, including those with disabilities[4].

What stops people with disabilities from accessing sanitation facilities?

Barriers to accessing sanitation facilities extend far beyond physical infrastructure and include also institutional or organisational factors, human behaviour and social attitudes. Social attitudes vary according to the cultural context and a person's type of impairment. Some examples of barriers are given below.

Physical infrastructure barriers:

- Family has no toilet, nearest toilet is far away, open defecation is widespread.
- Stairs or steps to access sanitation facilities; for example some toilet structures are raised to prevent flooding or to provide better access to faeces vaults.
- Narrow toilet cubicles or narrow entrances.
- Toilet cubicles are dark with no natural light, missing lights or inaccessible light switches.
- Doors are too heavy or cannot be closed by a wheelchair user.
- Handles and handrails inside are either non-existent, too high or too low.
- Floors are uneven or slippery.
- Inaccessible water sources for toilet flushing in the case of pour-flush toilets, and for showering, bathing and hand washing.

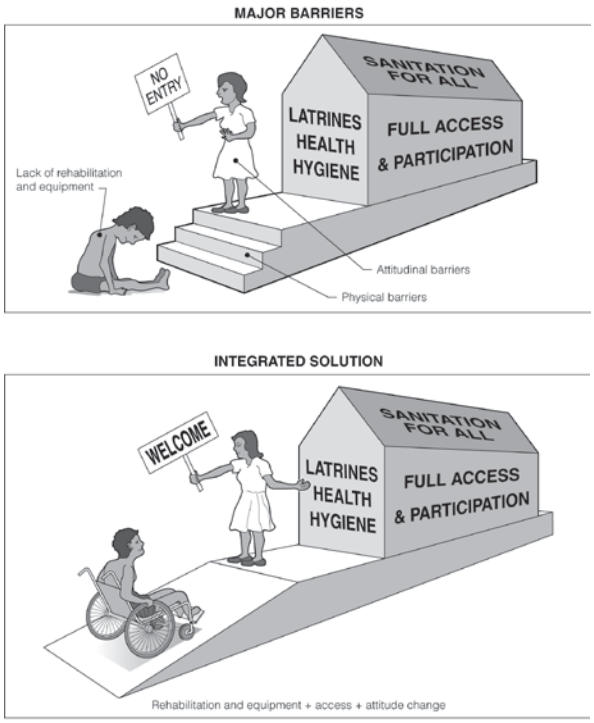

Figure 1: Holistic approach to including persons with disabilities in order to overcome physical and attitudinal barriers (source: Jones and Reed, 2005).

Social and attitudinal barriers:

- Lack of knowledge and understanding as well as negative attitudes of family members, teachers, maintenance staff, engineers and architects.
- People with disabilities are often hidden from view and are usually not accustomed to expressing their needs.
- Children with disabilities often do not attend school because of prejudice, discrimination or overprotection.
- Non-respect of privacy since people with disabilities depend on assistance if sanitation facilities are not easily accessible.
- Remote sanitation facilities or the paths to such facilities can be areas where girls and women with disabilities are put at risk of molestation and sexual violence.

[2] http://www.un.org/disabilities/default.asp?id=36

[3] http://www.un.org/disabilities/default.asp?id=259

[4] http://ap.ohchr.org/documents/dpage_e.aspx?si=A/HRC/15/L.14

Approach to sanitation system planning

Water and sanitation professionals have in the past not responded sufficiently to the different needs of community members as part of project planning and design. Persons with disabilities are often excluded from consultation processes due to lack of awareness and knowledge about their needs and impacts on society.

Regardless of the type of project undertaken, it is important to raise awareness of disability issues and to practise an inclusive approach that considers aspects of disability from the start. It is also equally important to implement projects specifically for persons with disabilities.

Recommendations for actors in the sanitation sector

- Create awareness about real facts of disability and the impact on society.
- Identify the needs and concerns of people with disabilities alongside those of other poor and marginalised groups (participatory approach).
- Disseminate information about accessibility options to the entire community.
- Identify, include and promote universal design (also called 'inclusive' design) options for sanitation facilities in all programme planning.

The following principles of programme planning and implementation are recommended:

- **Involve persons with disabilities** from the outset of projects to understand their needs. Encourage persons with disabilities to express their views and needs.
- **Involve Disabled People's Organisations** (DPOs) and other disability organisations in stakeholder consultations and in task groups for planning and implementation.
- **Provide inclusive or individual design options.** Most disabled people do not need special, individual facilities. Their needs can be met by ordinary services with only minor adjustments. If needed, individual accessible facilities should be provided. Utilise innovative ideas and technologies and share your solutions widely.
- **Disseminate information** on disability issues to create awareness and capacities among people with and without disabilities.
- **Also make the surroundings as accessible as possible** since providing a fully accessible toilet is only the first step. Users with physical impairments should be able *to get to* the toilet as easily as possible.
- **Ensure that the number of toilets, dimensions and design features are adequate** as per national standards or as per the universal design concept (meaning usable by *all* people). For schools, provide ideally *two* separate accessible toilets for female and male pupils with disabilities, or at the very least *one* accessible toilet.

Technical adjustments for accessible toilets

The following list provides design recommendations for making sanitation facilities easily accessible for persons with physical or visual impairments (more details are provided in the publications on the last page):

- *Proximity:* A short distance to the toilet is important. Indoor installations and those attached to houses or school buildings are easier and safer to reach, and are generally preferred if the toilet type permits this option.
- *Approach path:* The ideal path is 120-180 cm wide. Elevations are crossed via ramps, which should have handrails at 70-90 cm height and curbs on both sides. Ramps should have a maximum slope of 5% to ensure that persons with disabilities can reach their destination without assistance. A level platform or 'landing' with a minimal length of 120 cm is needed in front of the toilet.
- *Path surface:* A firm, even, non-slip surface such as concrete benefits everyone, and in particular blind persons, wheelchair or crutch users. It prevents the surface from becoming muddy and slippery during the rainy season.
- *Doors:* The minimum door width should be 90 cm. The door should fully open and have grab bars outside and inside instead of knobs to allow easy opening and closing from a wheelchair or by people with reduced strength.
- *Floors* should have smooth and easy to clean surfaces, especially for those people with impairments who have to crawl due to lack of assistive devices.
- *Room size:* Allow for a wheelchair-turning circle of 150 cm, and a space of at least 80 cm beside or in front of the toilet to allow positioning.
- *Toilet seat:* Provide a sitting toilet (pedestal) or bench rather than a squatting pan. The toilet seat should be easily cleanable. It should be well attached, or moveable in case other family members prefer a squatting position.
- *Interior:* Provide adequate handrails or grab bars attached to the walls or to the floor at 70-90 cm height to assist people moving from a wheelchair or people with reduced strength to reach the seat.
- Highlight the edge of a step or entrance, and provide rails or guiding systems leading to the entrance.

Additional costs

It is a common misconception that providing accessible facilities are 'nice to have' but too expensive in practice. In fact, there are no additional measures, expenses or constructions necessary if a universal design is considered during the planning phase. On the other hand, the *retrofitting* of features to accommodate specific needs is usually more expensive but still worthwhile.

The estimated additional costs for providing appropriate access for persons with disabilities are only approximately 1-2% of the total building costs (e.g. for a new school), if considered during the planning and construction phase

(CBM, 2008). Often it is sufficient if a certain percentage – and at least *one* toilet – is fully accessible.

Suggestion for innovative, accessible toilet design: bench UDDT

One dry toilet technology, which might have interesting benefits for people with disabilities compared to conventional pit latrines, is the urine diversion dehydration toilet (UDDT) in the 'bench style'. 400 double vault bench UDDTs have been built in and around Lima, Peru for approximately 2,000 users as part of a public-private partnership between GIZ Peru and Rotaria del Peru. This toilet type has a wide, spacious bench or box, covering both faeces chambers, into which two urine diversion toilet seats are integrated.

Figure 2: Double vault bench UDDT in Lima, Peru with a waterless urinal and wide bench UDDT on the right. It could be easily adapted for users with disabilities e.g. by adding handrails and allowing more space (source: H. Hoffmann, 2010).

Bench UDDTs have particular accessibility advantages (for further details on this technology, see www.susana.org/library?search=UDDT):

- Due to urine separation, no flush water and the toilet's ventilation system, the faeces dry out quickly, leaving no odour. The toilet can therefore be located indoors and even on any level of the house, reducing long walking distances.
- The bench is sturdier than a chair or commode over a pit latrine. The wide bench provides space for an assistant if needed, and handrails can easily be fixed next to the toilet.
- It is easier to empty the above ground faeces vaults of these toilets than the pits of pit latrines. There is also no need to relocate toilets when pits are full and cannot be emptied. This results in less dependence on outside help.
- This type of UDDT is accessible directly from the ground level and does not require access steps or ramps unlike conventional raised UDDTs.

This and other innovative and accessible toilet options, which can be easily adapted to the needs of individuals, have to be explored further. Mobile sanitation systems are an interesting option, for example unisex waterless urinals for urination only (see photo on first page).

References and recommended reading

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