Report

What the Global Report on Disability means for the WASH sector

WaterAid/Layton Thompson

Written by Jane Wilbur

August 2011

This document should be cited as
WaterAid (2011) *What the Global Disability Report means for the WASH sector*

Introduction

This report gives an overview of the information relevant to the water, sanitation and hygiene (WASH) sector in the world's first report on disability[1]. It also highlights how WaterAid is addressing the recommendations in the report, as well as where we could develop our approaches further.

Disabled people[2] represent the largest socially excluded group globally and most live without access to basic sanitary services, which can exacerbate impairments and poverty[3]. However, so far disabled people have typically been excluded from development intervention and research[4].

In 2011, the World Health Organisation (WHO) published the world's first report on disability, which covers all forms of disability, from blindness to mental health issues[5]. It updates global disability estimates for the first time in 40 years and finds that over a billion people (15% of the world's population) are disabled.

The number of people aged 60 and over has tripled between 1950 and 2000; it is projected to triple again by 2050[6]. Increased age increases the risk of acquiring a health condition (eg loss of sight, hearing, mental health disorders). The global disability estimate is set to rise due to increases in chronic diseases and improvements in methodologies used to measure disability.

The report states that disability is less about health conditions and more about social and economic barriers to inclusion. Health conditions that increase the risk of disability include environmental factors such as low birth weight and a lack of essential dietary nutrients. The situation is worsened by exposure to poor sanitation, unsafe water, a lack of access to healthcare and malnutrition. A person's environment has a major effect on the prevalence and extent of disability. For this reason, **the WHO report puts safe water and sanitation at the centre of helping to prevent disability and poverty**.

Box 1: Key facts and figures

- 15% of the world's population is disabled[7].
- Female prevalence is nearly 60% higher than that for males[8].
- Trachoma affects 84 million people in resource-poor countries[9].
- High population density and poor sanitation increases the transmission of poliovirus and severely compromises the effectiveness of the polio vaccine[10].
- Water and sanitation providers have a key role in reducing barriers for disabled people in the built environment.

Disability as a human rights issue

The Convention on the Rights of Persons with Disabilities (CRPD) details the civil, cultural, political, social and economic rights of disabled people. It seeks to 'promote, protect, and ensure the full and equal enjoyment of all human rights and fundamental freedoms by people with disabilities and to promote respect for their inherent dignity'[11].

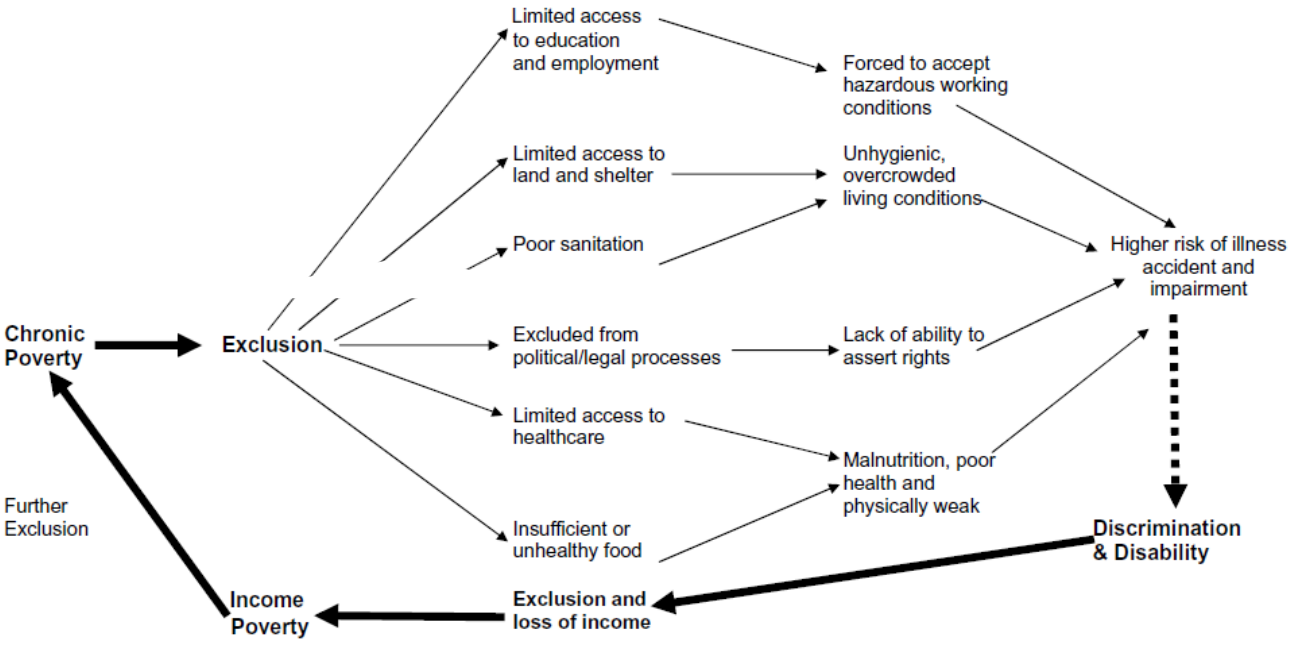
The CRPD does not view support and assistance as an end in themselves. Instead they are a means to maintaining people's dignity, enabling independence and social inclusion. It states that equal rights and participation can partly be achieved through the provision of support services for disabled people and their families.

Disability and development

Disability can increase the risk of poverty, as disabled people and their families are more prone to economic and social disadvantage than those who are not disabled.

Conversely, poverty can also increase the risk of disability. A lack of safe water and sanitation can lead to an increased risk of illness, impairment and greater poverty[12,13,14,15]. With a greater emphasis on issues such as improving nutrition and providing safe water and sanitation, incidences of health conditions that can lead to disability can be reduced[16]. The Department for International Development (DFID) states that 50% of disabilities are preventable and directly linked to poverty[17].

Figure 1 Poverty and disability cycle – how poverty and exclusion can result in the denial of access to basic services[18]



Defining and measuring disability

The WHO report adopts the social model of disability, which recognises that people are disabled by society rather than their impairment. It also recognises the importance of rehabilitation or corrective devices where necessary.

Disability refers to challenges faced due to a person's impairment, activities (ie walking or eating) and through discrimination faced in life (ie stigma and facing discrimination in access to information, employment or infrastructure). These are 'disabling barriers'.

The disability experience results from the interaction of health conditions, environment and personal factors. These vary greatly; not all disabled people are equally disadvantaged. Differing personal factors include gender, wealth, ethnicity, religion, age, culture and available resources. People who have mental health conditions are more disadvantaged in some contexts than people who have a physical or sensory impairment. This makes measuring disability difficult, but the WHO report is an evolutionary step forward in disability measurement methodology[19].

Disabling barriers

Disabling barriers can be categorised as follows:

- **Lack of accessibility**
  Inadequate services force some physically disabled people to crawl on the floor to use a toilet or defecate in the open[20]. This has implications for health and safety and negatively affects their self esteem. A lack of accessible information on options and services available for disabled people is common. This leads to disempowerment and an inability or unwillingness to express their needs. Due to a lack of information and vulnerability in community and care settings, evidence suggests that disabled people are more likely to be abused[21].

  "The toilet at the school is not clean. I get out of my wheelchair and then go on my hands. When I see some dirt in the toilet I don't use it. If I was not disabled I could go to the toilet anywhere. It is very painful not to go to the toilet."
  Disabled woman, Butajira Town, Ethiopia

- **Inadequate policies and standards**
  Policies and standards are often either not enforced, or do not include the needs of disabled people.

- **Negative attitudes**
  Stigma and discrimination are rife due to a lack of information about the cause of disability. For example, in Ethiopia it is widely believed that a disabled person has been attacked by a 'devil spirit'[22]. Such beliefs can lead to disabled children being infantilised or families excluding them from community life, education and employment. The difference in disabled children and non-disabled children attending primary school ranges from 10% in India to 60% in Indonesia[23]. Such exclusion leads to boredom and a lack of confidence for young disabled people, which could undermine their ability to make friends, express their sexuality or live the family life that their non-disabled counterparts enjoy[24].

"There was big discrimination by the society and I stayed at home. My family sent my sisters and brothers to school but they kept me at home because they were ashamed of me. I was hiding myself too."
Disabled woman, Butajira Town, Ethiopia

- **Lack of consultation and involvement** Disabled people are often excluded from decision-making processes that can directly affect their lives. Existing information on inclusive WASH options is rarely accessible for disabled people, so they are invariably unaware of the options available[25].

Impact on caregivers

Caring for disabled family members usually falls to women and girls as it is considered domestic work. Due to the barriers disabled people face in collecting water for uses such as washing themselves and independently accessing toilets, these duties pass to caregivers.

Boys are often forced into the workforce rather than being able to stay in school, to compensate for the loss of income. Girls are likely to be kept out of school to care for a disabled family member[26].

Beyond the additional workload, disruptions to sleep and potential impacts on health, caregivers often report isolation and loneliness[27]. They also refrain from seeking employment or find it impossible due to the time spent on providing informal care[28]; this results in the loss of two incomes in the household – that of the disabled person and caregiver. Disabled people in resource-poor countries are 50% more likely to face immense health expenditure than non-disabled people[29].

Due to limited formal support services for disabled people in developing countries, they are invariably dependent on family members for their care. This becomes more difficult as increased geographical mobility from rural to urban areas means shared living arrangements with families is less common[31].

Box 2 Experiences of a caregiver

A woman in Ethiopia explained how she provides 24 hour nursing care for her physically-disabled brother[32]. Here are some of their disadvantages as a result of the barriers they face.

Lower educational achievements

At 14 years old, their mother died. Orphaned, she became her brother's sole caregiver. Now in her early twenties she is attending night school, which runs from 5pm to 8pm; she and her brother work on her homework together.

Less economically active

She takes great pride in caring for her brother and says, **"I know what he wants. If I am outside, I come on time to give him his breakfast, lunch and dinner. I don't want him to be hungry. I know what time he eats. I don't want him to be discomfort.**

"I don't want to work a full time job because I would leave early in the morning and get back in the evening. In that time he will want to go to the toilet and eat and nobody will help him; no one can treat him like me. I wash other people's clothes and cook their food so that I can look after him at home.

"I help him go to the toilet; I take out his sleeping materials; I wash his clothes, his body – everything – whatever he wants.

"If there was a toilet in our home that would be easier. I would pick him up and take him to the toilet if it had a seat. If we had a shower, I would pick up him and take him into the shower. I would not have to carry pots of water into the house for him to wash. That would be good."

Unable to fully participate in community activities
She and her brother explained that it is unlikely that she will marry because all three people would have to live together. They feel that a husband would not understand the situation and become jealous.

"I lose my chances and pray to God to give him mercy because I miss so many things. These days, I forget myself. I am thinking – what is my future?"

Enabling environments

Addressing barriers in the built environment

The CRDP emphasises the importance of improving access for disabled people within the environment, including buildings, transport, information and communication.

WASH infrastructure, promotional materials and communication fall under this umbrella. Accessible toilets enable disabled people to become less dependent on others[33]. Benefits of accessible designs are also felt by non-disabled people: older people, sick people, children and pregnant women are more able to use toilets with rails for support in the cubicle and a toilet seat as an option. Similarly, information in plain language helps people who are less literate, or people who are communicating in a second language.

Common standards on accessible designs can help create an enabling environment[34,35,36], though awareness of options is low. Basic features of access include:

- Ramps.
- Accessible entrances.
- Accessible paths to all spaces.
- Access to public amenities, such as toilets.
- Space for a wheelchair user and caregiver to turn freely inside the toilet.

The majority of standards concentrate on the needs of people with mobility impairments. To ensure access for people with sensory impairments, contrasting signs, Braille signs and tactile paving can be applied. Accessibility rarely tailors solutions for people with cognitive impairments or mental health conditions.

Studies on accessibility in resource-poor countries focus on low cost options to make toilets accessible, water carrying devices, water stands and hygiene[37,38] (see 'Examples of accessible WASH' below). Drawing on evidence from unplanned settlements in South Africa and India, specific standards are needed in rural and urban contexts. For instance, in urban or densely populated areas overcoming open drains is an important issue for wheelchair and walking-aid users, as well as increasing security and privacy when using a toilet or defecating in the open[39].

The Sphere Handbook, which sets out minimum standards in disaster response, was updated in 2010. It now incorporates the needs of disabled people as a cross cutting issue across water supply, sanitation, health services, food aid, nutrition and shelter[40]. WaterAid, Handicap International and the Water, Engineering and Development Centre (WEDC) developed a key list of resources on WASH for the disability website 'Ask Source'[41]. This contains a list of key resources, documents and tools to support development practitioners, service providers and disabled people.

Developing effective policies

Pockets of voluntary accessibility will not remove barriers; mandatory minimum standards are needed. In the UK, the Disability Discrimination Act was passed in 1995. This included legal terms such as 'reasonable accommodations', 'technically infeasible' and 'without undue hardship'. This meant that the constraints in existing structures could be accommodated.

In resource-poor countries, where governments have limited resources and are working to realise numerous human rights, developing a strategic plan with priorities that can be staged is more realistic. This is referred to as 'progressive realisation' in the CRPD.

In developing countries, policies and standards could take a different approach in low-income housing and rural settings to public buildings in the urban context. In the latter, buildings could be adapted to have toilets on the ground floor, with a ramp to complement steps. Time could be set aside for experimenting and assessing options in consultation with disabled people's organisations, before more extensive standards are introduced based on viable and tested options.

Related costs

The WHO report states that it costs only 1% more to make new constructions fully accessible[42]. However, this is an assessment of housing in America so cannot automatically be transferred to constructing accessible WASH in resource-poor countries.

Recent research carried out by WEDC in Ethiopia presents evidence that it costs less than 3% of the overall cost of a latrine to make a school latrine accessible[44]. The budget is broken down in Table 1.

Table 1 Costs of inclusive school latrines in Ethiopia[45]

Latrine description	Description of access features	Total cost of latrine	Cost of access features*	% cost of accessibility
School A Single block ventilated improved pit (VIP) latrine of 8 cubicles (urban) Completed 2009	• Access ramps x2 • Raised toilet seats x2 • Support rails for 2 cubicles • Widened doors x2	£5,663	£169	2.98%
School B Single block dry pit latrine of 8 cubicles (rural) Completed 2010	• Access ramps x2 • Support rails for 2 cubicles • Widened cubicles x2 • Widened doors x2	£7,122	£179	2.51%
School C Two blocks VIP latrines of 8 cubicles (urban) Completed 2009	• Access ramps x2 • Raised toilet seats x2 • Support rails for 2 cubicles • Widened cubicles x2 • Widened doors x2	£7,231	£161	2.23%

*Costs have been rounded up to the nearest GBP.

Examples of accessible WASH

There is growing evidence of low cost options for WASH facilities in resource-poor countries. WaterAid has contributed valuable experience on the issue which is facilitating progress. The following examples are drawn from WaterAid's publications; they were not included in the WHO Global Disability Report.

Box 3 WaterAid in Madagascar

In Madagascar, Handicap International trained WaterAid and its implementing partner organisation staff on issues faced by disabled people. This led WaterAid and its partners to construct accessible water and sanitation facilities. An accessibility audit with disabled people from the community was conducted after construction, which highlighted a number of necessary design improvements[46]. These have since been modified to improve access[47].

Figure 2 Access to the water source

In the accessibility audit, Andry found reaching the water point was a challenge as the ramp was too steep and the gates opened outwards (left photo). The water facility was rehabilitated so that the gates open inwards, the ramp was widened and the gradient made less steep. Wheel guidance was introduced on the ramp and the edges were raised to assist wheelchair users and visually impaired people (right photo).

Figure 3 A modified school toilet

This school toilet was modified to include a toilet seat and hand rails to enable greater access (left photo). However, the cubicle was too narrow to allow a wheelchair user to turn; this meant Andry had to turn herself around using the rails for support. The support rails were also too high. The re-modelled version is 1.5 metres wide which allows Andry to turn in her wheelchair inside the cubicle. The lower rails allow a person to transfer themselves using one rail (right photo).

Photos: WaterAid/WaterAid in Madagascar

Box 4 NEWAH's work in Nepal[48]

Following research into the environmental barriers that disabled people face in relation to sanitation, WaterAid's partner organisation in Nepal – Nepal Water for Health (NEWAH) – implemented the 'Sanitation Access for Disabled People's Project' in eight village development committees in Baglung district. This was conducted in collaboration with Gaja Youth Club which is experienced in addressing disability issues in the district. The project aimed to:

- Train local mobilisers and increase knowledge and awareness of disability issues.
- Support families to construct accessible toilets (see Figure 4).
- Encourage sustainable hygiene practices among disabled people and their families.
- Evaluate changes in sanitary practices as a result of the project.

District level workshops that involved disabled people, their families and other key stakeholders were held to discuss the issues. As a result, a District Disabled Support Committee was formed under the leadership of the District Development Committee to provide institutional support for programmes targeting disabled people. The media was also involved which has helped raise awareness of disability within development in Nepal.

Figure 4 An accessible toilet design

WaterAid/Anita Pradham

Hari Bahadur Sapkota, 52, is disabled. He explained that he has been married three times but his wives left him because they felt he was unclean as he had to crawl to the toilet. With this accessible toilet he does not need to touch the toilet and can sit more comfortably. People no longer think he is dirty and his family entrusts him to cook family meals; as a result, the family has more time to earn an income.

Box 5 WaterAid in Mali

In Mali, an accessibility audit was conducted on WaterAid's water and sanitation facilities in 2008. The purpose was to understand if disabled people can access and use the facilities independently, and to make recommendations for improvements in design[49].

Figure 5 shows a well with raised walls which provides protection from falling into the well and support while collecting water. The wall includes a lower section for children and wheelchair users to access the water for a lower position. The well apron provides visually impaired users with guidance and orientation.

Figure 5 An accessible well in Mali

In terms of adaptation for toilets, portable wooden seats were produced for people with weak limbs (see Figure 6). These toilet seats are placed over existing traditional pit latrines and the PVC tubes direct waste into the toilet. Raised bricks or concrete next to the toilet hole allow visually impaired people to accurately guide the wooden seat over the hole. The wood is lightweight and durable, and varnished for ease of cleaning.

Figure 6 Portable toilet seats

Photos: WaterAid / Thomas Russell

Recommendations

The WHO Global Disability Report makes nine recommendations and suggests activities for separate groups to take forward. These stakeholders include UN agencies and development organisations, disabled people's organisations, service providers, academic institutions, the private sector, communities and disabled people and their families.

This section focuses on the recommendations and activities for development and service delivery organisations, what WaterAid and partner organisations are already doing in the recommended areas, and what we could do more of in the future.

Table 2 WHO recommendations in relation to WaterAid and our partner organisations' work

Recommendations[50]	Activities	What WaterAid and partners are doing	What we could do more of
Enable access to all mainstream policies, systems and services.	Exchange information and coordinate actions to agree on priorities for initiatives to learn lessons and reduce duplication of effort.	Numerous workshops and learning exchanges have been conducted with external organisations in WaterAid's country programmes. Partnerships have been developed with specialist organisations, such as Handicap International, Leonard Cheshire Disability, Action on Disability and Development, World Vision and Sightsavers, to develop more accessible programmes of work[51]. At the organisational level we have a partnership with WEDC; we have presented learning on disability-focused work in WASH at the WEDC conference, SACOSAN and AFRICSAN, and have developed collaborative research proposals with specialist organisations (eg Leonard Cheshire Disability and Inclusive Development Centre). In the WASH sector we have collaborated with WSSCC and UNICEF to promote monitoring criteria that specifically highlights the importance of inclusive	Continue to critically analyse, document and disseminate our experiences (good and bad), apply learning in our work and influence others to also apply that learning.

		WASH programme design.	
	Provide technical assistance to countries to build capacity and strengthen existing policies, systems and services – share good and promising practices.	WaterAid's Equity and inclusion framework[52] guides the implementation of our equity and inclusion policy, and establishes a common set of standards and indicators as a basis for further work. The framework and approaches have been shared widely with bodies such as Bond. WaterAid country programmes that have completed the WEDC training on inclusive WASH are systematically working with government partners to share good practice and influence standard design of WASH facilities[53].	Support national governments to incorporate inclusive toilets into their standardisation of designs. Develop partnerships or alliances with disability advocacy groups; jointly identify key gaps in policy and legislation, and provide tools and funding for advocacy to address these gaps.
	Carry out access audits, in partnership with local disability groups, to identify physical and information barriers that may exclude disabled people.	Numerous access audits have been conducted on WaterAid's work, which include disabled people and specialist organisations[54]. Findings have been incorporated into new interventions.	
	Ensure that disabled people are informed of their rights and mechanisms for complaints.	Collaboration with disabled people's organisations and networks has raised awareness of the right to water and sanitation[55].	Incorporate the CRDP into our work on the right to water and sanitation.
Invest in specific programmes and services for disabled people.	Include disability in development programmes, using a twin track approach (mainstreaming and targeted).	15 country programmes have a specific focus on disability within their country strategies[56]. The aim is to mainstream the approaches learned by specifically targeting the WASH needs of disabled people, to work towards ensuring that programmes are accessible for everyone, regardless of physical ability. This integrates software and hardware components.	Track the impact of our inclusive programmes on the lives of disabled people, their families and the stigma surrounding disability.
	Develop individual plans	There are several examples of improving inclusive WASH	Information should be made more accessible

	in consultation with disabled people, and their families where necessary.	through consultation with disabled people and their families. Accessible designs are promoted through social marketing, and shared as options for design in Community-led Total Sanitation programmes.	(consider different mediums for promotion, such as radio, Braille and sign language) so that disabled people are more aware of the options available. Promote a wider range of design options at the household level to enable greater choice.
Adopt a national disability strategy and plan of action.	Provide technical assistance to countries to build capacity and strengthen existing policies, systems and services – for example, by sharing good and promising practice.	Supporting the government to incorporate inclusive toilets into their standardisation of designs[57]. Collaboration with national disability organisations and networks to mainstream inclusive WASH within their programmes[58].	Institutionalise disability within the WASH sector structure. For example, work to ensure that it is included in sector performance monitoring frameworks so that the government has to report on this issue. This will create pressure and help to improve accountability.
Involve disabled people.	Carry out access audits, in partnership with local disability groups, to identify physical and information barriers that may exclude disabled people.	Examples of attempts to involve disabled people in the design, monitoring and evaluation of the programmes funded by WaterAid[59].	Conduct strategic participation across the horizontal and vertical power relations of target groups (no group is homogenous). Ensuring effective dialogue with disabled people takes place – communication issues should be factored into timelines. Conduct project evaluations with a cross section of the community, including disabled people so they can influence future interventions. Continue to evaluate if our work has facilitated effective participation and make improvements where necessary. Conduct meetings in accessible buildings

			and adapt communication styles (eg use sign language) to ensure it is accessible for all.
Improve human resource capacity.	Ensure that staff are adequately trained about disability, implementing training as required and including service users in developing and delivering training.	Awareness-raising training on equity and inclusion, highlighting disability, has been provided for all staff in the UK and in country programmes. Through a partnership with WEDC, we are rolling out technical training in equity and inclusion to WaterAid staff via webinars and workshops. The training modules are designed so that they can be shared more widely with staff and partners. Training has been provided by disabled people in WaterAid country programmes to raise staff awareness of the issues[60].	All staff to take part in the WEDC online training as part of their induction programme.
Provide adequate funding and improve affordability.		This is included as a minimum standard in WaterAid's equity and inclusion framework. It has been factored into budgets by some country programmes[61].	Incorporate accessibility into our messages on financing the WASH sector. Ensure implementation programmes factor in costs to make our work inclusive during the planning stages. Work with service providers (eg water utilities) to ensure that services such as tariff information and complaints procedures are accessible; assess whether tariffs are applied equitably. This could be achieved by building on our Citizen Report Cards work to incorporate disability issues.
Increase public awareness and understanding of disability.	Implement communication campaigns to increase public	Integrating disability within information, education and communication materials[62].	Support local groups to use the media to raise public awareness of disability issues and

	knowledge and understanding of disability.		the effects of social discrimination. Integrate disability issues within information, education and communication materials used at schools, clinics, hospitals and religious events to raise the understanding of the cause of impairments. Use the media to promote issues within WASH. Conduct research to understand the impact of providing accessible WASH facilities in schools on the enrolment of disabled children, attendance and learning outcomes. Generate more evidence on how a lack of WASH affects the health of disabled people and the extent to which it worsens impairments. Conduct meetings in accessible buildings and adapt communication styles (eg use sign language) to ensure it is accessible for all.
Improve disability data collection.	Regularly include relevant disability data in publications.	Baseline data on disability is collected by WaterAid (as per our Strategic Performance Indicators[63]). Disability is a key theme within our wider equity and inclusion work so our publications incorporate disability data where possible.	Undertake in-depth quantitative and qualitative research with disabled people, their families and communities in two countries. This comparative approach would help determine if some challenges can be considered universal. The quantitative element would generate facts and figures relating to the type and extent of
Strengthen and support research on disability.	Contribute to the development of internationally comparable research	Several countries have carried out small scale research into disability and WASH[65]. Some have developed survey	

	methodologies for analysing data relating to disabled people.	instruments for baseline and evaluation use that specifically look at disability[66].	the challenges[64]. Findings should be used to influence policy- and decision-makers to mainstream accessible designs and approaches in their WASH programmes. Advocate for more and better data on disability as part of the decision making process for targeting resources equitably.

Endnotes

[1] World Health Organisation and the World Bank (2011) *World Report on Disability*, WHO Library Cataloguing-in-Publication Data
whqlibdoc.who.int/publications/2011/9789240685215_eng.pdf (accessed 10 July 2011)
[2] This report applies the preferred UK term 'disabled people' rather than 'people with disabilities' or 'differently-abled people'.
[3] Fisher J (2005) WELL *briefing note 12: Why should the water and sanitation sector consider disabled people?*, WEDC on behalf of WELL
www.lboro.ac.uk/well/resources/Publications/Briefing%20Notes/BN12%20Disabled.htm (accessed 8 August 2011)
[4] Yeo R and Moore K (2003) *Including disabled people in poverty reduction work: 'Nothing about us, without us'*, World Development, pp 571-590, Vol 31, No 3, Pergamon
[5] World Health Organisation and the World Bank (2011) *World Report on Disability*, WHO Library Cataloguing-in-Publication Data
whqlibdoc.who.int/publications/2011/9789240685215_eng.pdf (accessed 10 July 2011)
[6] United Nations Department of Economic and Social Affairs (2002) *World population ageing, 1950–2050*, New York
www.un.org/esa/population/publications/worldageing19502050/index.htm (accessed 20 November 2008)
[7] World Health Organisation and the World Bank (2011) *World Report on Disability*, WHO Library Cataloguing-in-Publication Data
whqlibdoc.who.int/publications/2011/9789240685215_eng.pdf (accessed 10 July 2011)
[8] World Health Organisation and the World Bank (2011) *World Report on Disability*, WHO Library Cataloguing-in-Publication Data
whqlibdoc.who.int/publications/2011/9789240685215_eng.pdf (accessed 10 July 2011)
[9] World Health Organisation and the World Bank (2011) *World Report on Disability*, WHO Library Cataloguing-in-Publication Data
whqlibdoc.who.int/publications/2011/9789240685215_eng.pdf (accessed 10 July 2011)
[10] Grassly N C et al (2006) *New strategies for the elimination of polio from India,* Science, p3, Vol 314, No 1150
[11] United Nations (2006) *Convention on the Rights of Persons with Disabilities*, Geneva
www2.ohchr.org/english/law/disabilities-convention.htm (accessed 16 May 2009)
[12] World Health Organisation (2008) *Closing the gap in a generation: Health equity through action on the social determinants of health*, Commission on Social Determinants of Health, Geneva
[13] Emerson E et al (2006) *Socio-economic position, household composition, health status and indicators of the well-being of mothers of children with and without intellectual disabilities*, Journal of Intellectual Disability Research: JIDR, pp 862-873, Vol 50, doi:10.1111/j.1365-2788.2006.00900.x, PMID:17100947
[14] Emerson E and Hatton C (2007) *The socio-economic circumstances of children at risk of disability in Britain*, Disability & Society, pp 563-580, Vol 22, doi:10.1080/09687590701560154
[15] Rauh V A, Landrigan P J and Claudio L (2008) *Housing and health: intersection of poverty and environmental exposures*, Annals of the New York Academy of Sciences, pp 276-288, Vol 1136, doi:10.1196/annals.1425.032 PMID:18579887
[16] Caulfield L E et al (2006) *Stunting, wasting and micronutrient deficiency disorders,* in Jamison D T et al (eds) (2006) *Disease control priorities in developing countries,* Washington, Oxford University Press and World Bank, pp 551–567.
[17] Department for International Development (DFID) (2000) *Disability, poverty and development*, London/East Kilbride: DFID
www.dfid.gov.uk/documents/disabilitypovertydevelopment.pdf (accessed July 2011)
[18] Yeo R and Moore K (2003) *Including disabled people in poverty reduction work: 'Nothing about us, without us'*, World Development, pp 571-590, Vol 31, No 3, Pergamon.
[19] For more information on disability measurement methodology, see chapter two of the WHO report.
[20] Wilbur J (2010) *Principles and practices for the inclusion of disabled people in safe sanitation*, WaterAid, UK
www.wateraid.org/documents/plugin_documents/full_report_principles_and_practices_for_inclusive_sanitation_1.pdf (accessed 1 August 2011)
[21] Sobsey D (1994) *Violence and abuse in the lives of people with disabilities: The end of silent acceptance?*, Brookes Publishing, Baltimore
[22] Tesfu M and Magrath P (2006) *Equal access for all: Water and sanitation access for people with motor disabilities,* WaterAid in Ethiopia
www.wateraid.org (accessed 1 May 2010)
[23] World Health Organisation and the World Bank (2011) *World Report on Disability*, WHO Library Cataloguing-in-Publication Data
whqlibdoc.who.int/publications/2011/9789240685215_eng.pdf (accessed 10 July 2011)
[24] Shakespeare T, Gillespie-Sells K, Davies D (1996) *The sexual politics of disability: untold desires*, Cassell, London
[25] Collender G, Gosling L and Wilbur J (2011) *Including disabled people in sanitation and hygiene services*, SHARE,

WaterAid and the Leonard Cheshire Disability and Inclusive Development Centre
www.wateraid.org/international/what_we_do/how_we_work/equity_and_inclusion/8352.asp (accessed July 2011)
[26] Becker S and Becker F (2008) *Service needs and delivery following the onset of caring amongst children and young adults: evidence-based review*, Young Caregivers International Research and Evaluation, Commission for Rural Communities, Nottingham
www.ruralcommunities.gov.uk/files/CRC%20web36%20YCIRE.pdf (accessed 17 July 2009)
[27] Hartley S et al (2005) *How do carers of disabled children cope? The Ugandan perspective*, Child: Care, Health and Development, pp 167-180, Vol 31, doi:10.1111/j.1365-2214.2004.00464.x PMID:15715696
[28] Esplen E (2009) *Gender and care overview report*, BRIDGE, Institute of Development Studies, University of Sussex, Brighton
www.bridge.ids.ac.uk/reports_gend_CEP.html#Care (accessed 16 June 2009)
[29] World Health Organisation (2002-2004) *World Health Survey*, Geneva
www.who.int/health-info/survey/en/ (accessed 9 December 2009)
[31] Knodel J and Chayovan N (2009) *Intergenerational relationships and family care and support for Thai elderly*, Ageing International, pp 15-27, Vol 33, doi:10.1007/s12126-009-9026-7
[32] Wilbur J (2010) *Principles and practices for the inclusion of disabled people in safe sanitation*, WaterAid, UK
www.wateraid.org/documents/plugin_documents/full_report_principles_and_practices_for_inclusive_sanitation_1.pdf (accessed 1 August 2011)
[33] Meyers A R et al (2002) *Barriers, facilitators, and access for wheelchair users: substantive and methodologic lessons from a pilot study of environmental effects*, Social Science & Medicine, pp 1435-1446, Vol 55, doi:10.1016/S0277-9536(01)00269-6 PMID:12231020
[34] International Disability Rights Monitor (2004) *Regional report of the Americas 2004*, Chicago
www.idrmnet.org/content.cfm?id=5E5A75andm=3 (accessed 9 February 2010)
[35]International Disability Rights Monitor (2005) *Regional report of Asia 2005,* Chicago
www.idrmnet.org/content.cfm?id=5E5A75andm=3 (accessed 9 February 2010)
[36] International Disability Rights Monitor (2007) *Regional report of Europe 2007*, Chicago
www.idrmnet.org/content.cfm?id=5E5A75andm=3 (accessed 9 February 2010)
[37] Jones H and Reed R (2005) *Water and sanitation for disabled people and other vulnerable groups: designing services to improve accessibility,* Loughborough University, Water and Development Centre, Loughborough
wedc.lboro.ac.uk/knowledge/details.php?book=978-1-84380-090-3 (accessed 10 February 2010)
[38] Jones H and Reed R (2003) *Supply and sanitation access and use by physically disabled people: reports of fieldwork in Cambodia, Bangladesh, Uganda,* Department for International Development, London
[39] Tipple G et al (2009) *Enabling environments: reducing barriers for low-income disabled people,* Global Urban Research Unit, Newcastle University, Newcastle
www.ncl.ac.uk/guru/research/project/2965 (accessed 10 February 2010)
[40] The Sphere Project (2004) *Humanitarian charter and minimum standards in disaster response,* Geneva
www.sphereproject.org/handbook/pages/navbook.htm?param1=0 (accessed 3 February 2010)
[41] asksource.ids.ac.uk/cf/keylists/keylist2.cfm?topic=dis&search=QL_WASH10
[42] Steven Winter Associates (1993) *Cost of accessible housing*, United States Department of Housing and Urban Development, Washington
[44] Jones H (2011) *Inclusive design of school latrines – how much does it cost and who benefits, briefing note 1*, WEDC
wedc.lboro.ac.uk/knowledge/know.html
[45] Jones H (2011) *Inclusive design of school latrines – how much does it cost and who benefits, briefing note 1*, WEDC
wedc.lboro.ac.uk/knowledge/know.html
[46] Randrianarisoa C (2010) *Accessibility diagnostic – reviewing the accessibility of WASH facilities,* WaterAid
www.wateraid.org/documents/plugin_documents/accessilibity_diagnostics1.pdf (accessed 2 August 2010)
[47] WaterAid (2010) *Accessibilite des infrastructures communautaires d'adduction d'eau potable, d'assainissement ed d'hygiene, WaterAid, Madagascar*
[48] WaterAid (2008) *Creating user-friendly water and sanitation services for the disabled: the experience of WaterAid Nepal and its partners*
www.wateraid.org/documents/plugin_documents/wa_nep_diability_paper_mar08.pdf (accessed 1 August 2011)
[49] Russell T (2008) *Field Visit Report – WaterAid in Mali, Kolokani*, WaterAid, Mali
www.wateraid.org (accessed 7 July 2010).
[50] For more detail on the recommendations, see chapter 9 of the WHO report.
[51] For example, WaterAid in Madagascar, Mali, Ethiopia, Uganda, Tanzania and India.
[52] Gosling L (2009) *Equity and Inclusion Framework*, WaterAid
www.wateraid.org (accessed 5 June 2010)
[53] For example, WaterAid in Mali, Ethiopia and Tanzania.

[54] For example, WaterAid in Mali, Zambia and Madagascar.
[55] For example, WaterAid, Ghana www.wateraid.org/documents/plugin_documents/mainstreaming_disability_issues_in_wash_ghana.pdf
[56] WaterAid in Ethiopia, Uganda, Pakistan, Bangladesh, Burkina Faso, Nigeria, Tanzania, Rwanda, Zambia, Ghana, India, Madagascar, Malawi, Mali and Nepal
[57] For example, WaterAid in Nigeria, Madagascar and Ethiopia.
[58] For example, WaterAid, Ghana www.wateraid.org/documents/plugin_documents/mainstreaming_disability_issues_in_wash_ghana.pdf
[59] For example, WaterAid in Madagascar, Ethiopia, Nepal, Mali, Burkina Faso.
[60] For Example, WaterAid in Ethiopia.
[61] For example, WaterAid in Ethiopia.
[62] WaterAid in Burkina Faso, Madagascar, Uganda, Nigeria and Ethiopia.
[63] WaterAid (2011) *Strategic performance indicators – country programme guidance for monitoring, reporting and establishing baselines for the new strategic period*
[64] Collender G, Gosling L, Wilbur J (2011) *Including disabled people in sanitation and hygiene services*, SHARE, WaterAid and the Leonard Cheshire Disability and Inclusive Development Centre www.wateraid.org/international/what_we_do/how_we_work/equity_and_inclusion/8352.asp (accessed July 2011)
[65] For example, WaterAid in Madagascar, Ethiopia, Nepal, Mali and Bangladesh.
[66] For example, WaterAid in Madagascar, Ethiopia and Nepal.

WaterAid transforms lives by improving access to safe water, hygiene and sanitation in the world's poorest communities. We work with partners and influence decision-makers to maximise our impact.

WaterAid
47-49 Durham Street
London, SE11 5JD
Tel: +44 (0)20 7793 4500
www.wateraid.org

Contact for this paper:
Jane Wilbur

Tel: +44 (0)20 7793 4567
Email: janewilbur@wateraid.org

Registered charity numbers 288701 (England and Wales) and SC039479 (Scotland)