Including Persons with Disabilities in Water Sector Operations

A Guidance Note

WORLD BANK GROUP

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Abbreviations

AusAID	Australian Agency for International Development
CBR	Community-Based Rehabilitation
CDC	Centers for Disease Control and Prevention
CLTS	Community-Led Total Sanitation
CPFs	Country Partnership Frameworks
CRPD	Convention on the Rights of Persons with Disabilities
DPOs	Disabled Persons' Organizations
ESF	Environmental and Social Framework
GPS	Global Positioning System
M&E	Monitoring and Evaluation
MDS	Model Disability Survey
MSJE	Ministry of Social Justice and Empowerment
PAMSIMAS	Penyediaan Air Minum dan Sanitasi Berbasis Masyarakat or Community-Based Water Supply and Sanitation Project
SCDs	Systematic Country Diagnostics
SDGs	Sustainable Development Goals
SMS	Short Message Service
TDD	Telecommunications Device for the Deaf
TTY	Teletypewriter
UN	United Nations
UNICEF	United Nations Children's Fund
USB	Universal Serial Bus
WASH	Water, Sanitation, and Hygiene
WEDC	Water, Engineering and Development Centre
WHO	World Health Organization
WRM	Water Resources Management

Chapter 1
Introduction

1.1 Purpose

Globally, more than a billion people—approximately 15 percent of the world's population, or one in seven persons—have disabilities. Of those, 80 percent live in developing countries.[1] This number is expected to increase as the prevalence of disability is impacted by disease, war and conflict, natural disasters, and road traffic injuries, among other factors. In addition, persons over the age of 60 comprise 12 percent of the world's population; that proportion is set to rise over 20 percent by 2050.[2] There is a strong correlation between aging and the onset of disability.

Persons with disabilities make up a sizable portion of the 2.4 billion people who still lack access to sanitation, and the 663 million who lack access to safe drinking water.[3] Although there are inadequate data to assess the exact number of persons with disabilities who face water scarcity and lack of access, there is evidence that points to the relative marginalization and invisibility of this population in water sector development programs. A 2011-12 survey of 16 Area Development Programs run by World Vision in Ethiopia showed that 96.6 percent of people with disabilities and the elderly faced difficulties in accessing basic water facilities.[4]

Disability-inclusive development programming is directly responsive to the World Bank's twin goals of ending extreme poverty and promoting shared prosperity. Ensuring that persons with disabilities are systematically and effectively included in World Bank water sector operations is important for fully achieving these goals.

This guidance note offers an overview of the key issues and challenges that persons with disabilities face in accessing water resources. These include activities such as water for drinking and household needs, sanitation and hygiene, water-dependent occupations,

and disaster resilience (photo 1.1). The note provides recommendations to support systematic and sustainable interventions for disability-inclusive operations in the World Bank's water portfolio. The guidance note is primarily intended for staff and consultants in the Water Global Practice, but will also benefit staff working in related sectors.

The note collates recommended strategies and practices in disability-inclusive development programming. It identifies entry points for disability-inclusive water operations in World Bank Group-supported programs, projects and advisory services, and analytics. Case studies, including World Bank Group and external examples, are provided to highlight the use of recommended practices. In addition, the annexes list several technical assistance resources to support task teams and clients in ensuring that infrastructure and services are inclusive of persons with disabilities.

1.2 Need for Disability Inclusion in Water Sector Operations

Disability is a complex and multidimensional concept. The Convention on the Rights of Persons with Disabilities[5] identifies persons with disabilities as those "who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others." This conceptualization emphasizes the impediments and disabling barriers that individuals experience in their physical and social environments. Persons with disabilities face attitudinal, infrastructural, and environmental barriers in accessing water resources and sanitation facilities. These barriers further limit their social, economic, and civic participation. Individuals also experience the onset of disabilities as they age.

The 2011 *World Report on Disability* highlighted the bidirectional link between poverty and disability.[6]

Photo credit: WaterAid/Ahmed Jallanzo.

Persons with disabilities face significant challenges in pathways to financial independence and economic self-sufficiency, including accessing education, transitioning into the labor market, and accessing financial commodities. At the same time, their households face greater out-of-pocket expenses, and often reduced household income for other members due to caregiving demands. Persons with disabilities also face higher rates of multidimensional poverty compared with their peers without disabilities. In addition, poverty raises the level of health, occupational, disaster, and other risks that can result in long-term impairments.

Disability is a cross-cutting issue that can impact a person at any point across their lifespan. Its intersectionality with gender, race, ethnicity, indigenous group identity, migrant worker status, and other characteristics can lead to unique and multiple forms of exclusion and discrimination. The ripple effects of the lack of access to water resources can have serious socioeconomic consequences for persons with disabilities and their families, as described in the following.

1.2.1 Social Impacts of Dependency for Water Access

Dependency on others for accessing water resources—including drinking, sanitation, hygiene, and irrigation—can result in adverse and unsafe personal consequences for persons with disabilities. The biggest concern is that dependency on others for basic

sanitation and water needs highly increases the risks of sexual and financial exploitation, as well as deteriorating health and hygiene. Women with disabilities, in general, face high risks of prolonged domestic and sexual violence. The uncertainty of being able to access water resources and facilities curtails the ability and willingness to venture to public spaces and engage in community activities or social interactions. Limitations in contributing to household needs for water collection and storage, due to environmental barriers, tend to reflect on family and community perceptions of an individual's worth, perpetuating negative stereotypes of disability.

Being able to control and manage one's basic sanitation and water needs is also strongly linked to human dignity and self-esteem. These issues are compounded for women with disabilities, as they face additional privacy and access challenges in dealing with menstrual hygiene, childbirth, and related side effects such as fistula and incontinence.

1.2.2 Economic Impacts on Households

Households with members who have disabilities pay for additional out-of-pocket expenses for structural modifications and adapted equipment to enhance access to water resources for all types of needs, such as water, sanitation, and hygiene (WASH); irrigation; and natural disaster management. Families who cannot afford to implement these modifications usually make difficult choices between accessible water facilities and other basic needs. Many families depend on communal facilities and do not have the means to make personal modifications. Households also face higher expenses due to the direct and indirect costs of care when the inaccessibility of water resources increases the dependency and lack of autonomy of persons with disabilities.

1.2.3 Economic and Educational Participation

Safe and reliable access to WASH facilities is a predominant factor in educational, economic, and social participation for persons with disabilities. Children and

adults with disabilities limit how much they eat or drink during the day when they do not have access to sanitation facilities. This increases the risk of dropping out of school or employment, and raises concerns of secondary medical conditions. Inaccessible WASH facilities are a significant barrier to employment and education. The exclusion of persons with disabilities from the labor market is estimated to cost middle-income countries from US$338.55 billion up to US$480.21 billion, and low-income countries between US$135.36 billion and US$192.00 billion.[7]

The ability to access and use water sources is essential to water-based and water-dependent occupations, agriculture being the most dominant. Engagement in agricultural activities is crucial in agrarian and rural communities where the primary occupations are heavily dependent on water sources. Inaccessibility of irrigation resources and lack of accommodating aids and devices can completely exclude persons with disabilities from participating in agricultural and other water-dependent occupations. This situation can lead to significant household hardship, especially if the head of household is a person with a disability.

The United Nations Children's Fund (UNICEF) lists inaccessible toilets and water facilities as a major factor for girls and boys with disabilities dropping out of school.[8] Overall, children with disabilities attend and complete primary and secondary education at lower rates than children without disabilities. The gaps are as high as 40–60 percent in low- and middle-income countries such as Cambodia, Bolivia, and Indonesia.[9] Inclusive education efforts are further undercut when children prefer not to go to school due to inaccessible toilets. For example, a study showed that adolescent girls with disabilities in Uganda were dropping out because the latrine design prevented them from entering and closing the door. In addition, caregivers—most often mothers and siblings—miss work and school to assist children at schools with inaccessible WASH facilities.

1.2.4 Risk of Secondary Health Conditions and Disabilities

Early life exposure to poor WASH can increase the risk of developing a disability later in life, including malnourishment-induced blindness and physical and cognitive impacts of stunting. Children with existing disabilities are at increased risk for developing multiple disabilities because of the negative health implications of lack of WASH access (photo 1.2). In addition, poor WASH access can lead to serious, and at times fatal, secondary health conditions for persons with disabilities, such as dehydration, pressure sores, urinary tract infections, constipation, and other bowel and bladder health problems.

Finally, persons with disabilities are not the only group that may experience functional difficulties that impede or restrict access to water resources across life domains. Community members at large can benefit from barrier-free designed infrastructure and services. Accessible and universal design is good design, especially for older persons, pregnant women, children, women carrying children, and persons with temporary injuries.

PHOTO 1.2. Young Boy Reaches for the Tap: Facilities Can Be Designed to Be More Accessible for Users with Diverse Needs
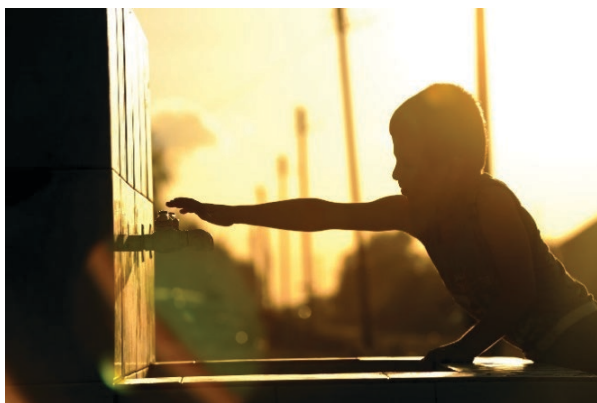
Photo credit: A. Kwesell/World Bank.

1.3 Emerging Global Policy Framework for Disability Inclusion in Development

There is a strengthening global mandate for countries to ensure that persons with disabilities have equal opportunity to participate fully in society and are part of economic development.

The 2006 *Convention on the Rights of Persons with Disabilities* (CRPD),[10] which came into force in 2007, has been ratified by 173 countries as of April 20, 2017.[11] CRPD enshrines the principles of respect for inherent dignity and individual autonomy, nondiscrimination, full and effective participation, accessibility, and equality of opportunity, among others, for persons with disabilities. *Article 28 (Adequate standard of living and social protection)* requires States Parties to ensure access to clean water services, as well as appropriate and affordable services. *Article 19 (Living independently and being included in the community)* addresses equity in needs-responsive community services and facilities, and *Article 9 (Accessibility)* requires access to the physical environment and public spaces and services in rural and urban areas. In addition to CRPD, United Nations Member States have affirmed the right of every individual to water and sanitation through other treaties, resolutions, and declarations.[12]

The *2030 Agenda for Sustainable Development* clearly states that disability cannot be a reason or criteria for lack of access to development programming. The collection of disability-disaggregated data is necessary for the implementation and monitoring of the Sustainable Development Goals (SDGs). SDG 6 (Ensure availability and sustainable management of water and sanitation for all) requires governments to pay special attention to the needs of people in vulnerable situations, to achieve adequate and equitable sanitation and hygiene for all. SDG 6 underlines the need for community participation in improving resources. In addition, SDG 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities

for all) requires the design of education facilities to be responsive to the needs of students with disabilities. SDG 10 (Reduce inequality within and among countries) requires the social, economic, and political inclusion of all, including persons with disabilities.

The *New Urban Agenda* commits to equal access for persons with disabilities to spaces, facilities, and services open to the public in rural and urban areas. The Agenda encourages the "elimination of legal, institutional, socioeconomic and physical barriers," to promote equitable and affordable access to safe drinking water and sanitation for persons with disabilities.

The guiding principles of the *Sendai Framework for Disaster Risk Reduction 2015-2030* state that disability should be included in all disaster risk reduction policies and practices. The Commitments to Action made at the World Humanitarian Summit held in Istanbul in 2016 include commitments to meet the needs of persons with disabilities in crisis response operations and service delivery. More than 140 United Nations Member States and agencies, humanitarian organizations, and civil society organizations have endorsed the Charter on Inclusion of Persons with Disabilities in Humanitarian Action.

These international instruments provide the moral imperatives to break barriers to water access writ large, as well as a framework for implementation in development programming. The World Bank can play an important role in supporting client governments as they work to fulfill their obligations toward CRPD and the SDGs, through financing, policy development assistance, and technical assistance.

1.4 The World Bank's Policy Framework for Disability Inclusion

In addition to these international mandates, the World Bank's policy framework makes a strong case for disability-inclusive development in its operations. As mentioned in section 1.1, the World Bank's twin goals of ending extreme poverty and promoting shared prosperity raise the need to ensure that all persons can benefit from development operations and policy reforms. The new Environmental and Social Framework (ESF), set to be operational in 2018, makes several direct references to safeguarding the interests of persons with disabilities (details in section 4.2.1.3). In conjunction with the Directive on Addressing Risks and Impacts on Disadvantaged or Vulnerable Individuals or Groups, ESF requires an assessment of project risks and impacts, and identification of differentiated mitigation measures for disadvantaged or vulnerable individuals, including persons with disabilities. A specific good practice note on ESF and persons with disabilities will be available shortly.

Finally, task teams must mitigate the risks and causes for grievance actions due to adverse impacts of their operations on persons with disabilities. Disabled Persons' Organizations (DPOs) are increasingly engaged and attentive to the design, delivery, and inclusion of World Bank projects and programs. Complaints about exclusion from major development projects and services financed by the World Bank Group can trigger significant revisions to implementation plans midway, expensive corrective action and retrofitting, and complaints to the Inspection Panel.

Notes

1. World Health Organization and World Bank, 2011, *World Report on Disability*, accessed May 31, 2017, http://www.who.int/disabilities/world_report/2011/report.pdf.

2. United Nations Department of Social and Economic Affairs, 2013, "World Population Ageing 2013," accessed March 9, 2015, http://www.un.org/en/development/desa/population/publications/pdf/ageing/WorldPopulationAgeing2013.pdf.

3. World Bank, 2017, "Water Overview," accessed June 1, 2017, http://www.worldbank.org/en/topic/water/overview.

4. R. Singh, H. Honda, B. Frost, and K. Urich, 2014, "Casting the Net Further: Disability Inclusive WASH," World Vision International, accessed June 1, 2017, http://www.wvi.org/clean-water-sanitation-and-hygiene-wash/publication/disability-inclusive-wash-report.

5. Convention on the Rights of Persons with Disabilities, G.A. Res 61/106, UN Doc A/RES/61/106, 2006, New York: United Nations.

6. World Health Organization and World Bank, 2011, *World Report on Disability*, accessed May 31, 2017, http://www.who.int/disabilities /world_report/2011/report.pdf.

7. J. Noga and G. Wolbring, 2012, "The Economic and Social Benefits and the Barriers of Providing People with Disabilities Accessible Clean Water and Sanitation," *Sustainability* 4 (11): 3023-41.

8. United Nations Children's Fund, 2012, "Disabilities: Water, Sanitation, and Hygiene," accessed May 31, 2017, https://www.unicef.org /disabilities/index_65839.html.

9. World Health Organization and World Bank, 2011, *World Report on Disability*, accessed May 31, 2017, http://www.who.int/disabilities /world_report/2011/report.pdf.

10. Convention on the Rights of Persons with Disabilities, G.A. Res 61/106, UN Doc A/RES/61/106, 2006, New York: United Nations.

11. The up-to-date list of countries that have signed and ratified CRPD and its Optional Protocol is available at http://www.un.org /disabilities/countries.asp?navid=12&pid=166.

12. See further: C. De Albuquerque, 2014, "Human Rights to Water and Sanitation," United Nations Special Rapporteur, accessed June 1, 2017, http://www.righttowater.info/handbook/.

Chapter 2
Key Issues in Water Access for Persons with Disabilities

2.1 Overview

Disability inclusion in water sector operations includes but goes beyond the last mile of access and service delivery (photo 2.1). It intersects with every aspect and every phase of the broader approach to water resources management (WRM). Persons with disabilities face physical, infrastructural, and cultural barriers to equity in water access (table 2.1). Some of these barriers require local and situational modifications, while others need institutional changes, all of which should be premised on a paradigm shift in thinking about persons with disabilities as direct beneficiaries of water sector development projects.

Often, the gaps faced by persons with disabilities are not identified or addressed in overarching plans and processes to manage water resources. This results in disability needs being entirely overlooked in policy, infrastructure development, and service delivery. Specific technical needs must be addressed, depending on the thematic nature of the operation, such as water and sanitation resources, construction of dams, irrigation projects, or flood resilience and management.

This section lays out the barriers that result in inequity in access to water resources arising from social and institutional barriers, and then focuses on specific issues that require attention in thematic subsectors.

2.2 Lack of Attention to Disability in Water Resources Management

2.2.1 Impact of Social Exclusion and Invisibility in the Community

Social attitudes about disability influence the extent to which the needs of persons with disabilities are considered in water resources management. Persons with disabilities often face significant power differentials in their communities, lack access to strong social networks, and may experience limited agency and independence to influence WRM processes. In many societies, disability is seen as a personal problem rather than through the lens of community diversity. High dependency on others due to inaccessibility of water resources (as described in sections 1.2.1, 1.2.2, and 1.2.3) reinforces stereotypes about "being a burden to families and communities," or "lacking the capacity to participate." Negative perceptions about the lack of capacity and productivity of persons with disabilities also lead to assumptions that they will not go to school or hold a job, further amplifying the belief that disability is a problem for the household and not the community.

Persons with disabilities may remain "invisible" in some communities, due to the lack of accessible public infrastructure and communal spaces. Subsequently, their needs and concerns remain invisible in stakeholder participation and consultations. Persons with disabilities may not be invited to attend community consultations on WRM or receive any information about such processes (see sections 3.7 and 3.8 for recommendations to ensure inclusive outreach and consultations). Family members are often considered de facto proxies or representatives in public consultations; however, in many cases, family members may hesitate to raise concerns, due to societal stigma about disability.

2.2.2 Institutional Challenges

Institutional processes and capacities impact the level and quality of access to water resources for persons with disabilities. Policies and regulatory frameworks

PHOTO 2.1. "Water for All" Community Water Tap, in Arua, Not Accessible to Persons Using Wheelchairs

Photo credit: R. Burton/Bank Information Center.

TABLE 2.1. Examples of Challenges, Based on Type of Disability

Physical (mobility, dexterity, and physical strength)	• Walking on uneven, unstable, narrow, or slippery surfaces
	• Traveling long distances
	• Reaching and operating controls; manipulating switches, parts, fasteners, and handles
	• Opening, closing, and latching doors
	• Having difficulty squatting over pit latrines, balancing, and needing to sit
	• Holding, lifting, and carrying containers, hoses, and other equipment
	• Carrying heavy weights
	• Assistive aids or devices, such as wheelchairs and crutches, do not fit in water and sanitation facilities or have to be supported against dirty surfaces

table continues next page

TABLE 2.1. continued

	• Needing incontinence aids, such as bed pans
	• Being unable to afford the costs of using water resources, for example, fees to use facilities such as bore holes, public water taps, and community sanitation facilities; home modifications; and buying adaptive devices
Visual	• Having difficulty finding holes in pit latrines; danger of slipping with larger holes or damaged latrines
	• Assistive aids such as white canes do not fit in water and sanitation facilities or have to be supported against dirty surfaces
	• Having difficulty in accessing information relayed through print media, text-only information on TV programs, or signing print-based documents and forms
	• Navigating new surroundings when all signage is in text
	• Entering, navigating, and using new physical spaces
	• Being unable to distinguish between colors (for example, to differentiate between the wall and door of a latrine cubicle) due to low vision
Hearing	• Having difficulty in accessing information relayed through vocal media, such as radio programs, TV programs without captions, and community loudspeakers
	• Hearing sirens and other sounds (for example, in a flooding situation)
	• Facing barriers in communicating and interacting with relevant stakeholders, including in community meetings and consultations
	• Relying on others to express their views and needs in community planning meetings and consultations
Speech	• Facing barriers in communicating and interacting with relevant stakeholders, including in community meetings and consultations
	• Relying on others to express their views and needs in community planning meetings and consultations
	• Expressing personal needs, such as menstrual pain
Cognitive (includes a range of conditions that may impact a person's memory, thinking and problem-solving, reading and language comprehension, and ability to pay attention or follow instructions)	• Assistive aids or devices such as wheelchairs and crutches do not fit in water and sanitation facilities or have to be supported against dirty surfaces
	• Having difficulty in communicating needs for water resources as well as personal hygiene needs
	• Needing information in visual formats
	• Needing incontinence aids, such as bed pans
	• Needing navigation and memory aids in finding, accessing, and using water resources
	• Relying on others to express their views and needs in community planning meetings and consultations
Psychosocial	• Experiencing social isolation and exclusion, which impedes receiving information on water resource management and participation in planning meetings and consultations
	• Having difficulty in communicating needs for water resources as well as personal hygiene needs
	• Needing navigation and memory aids in finding, accessing, and using water resources
	• Relying on others to express their views and needs in community planning meetings and consultations

overseeing the allocation, development, and maintenance of water resources may not consider or include accessibility and access for persons with disabilities. This leads to low to no allocation of financial and physical resources to ensuring that persons with disabilities are equal beneficiaries of water sector services and programs. In some cases, persons with disabilities are unable to afford fees for using communal facilities such as irrigation facilities, boreholes, public water taps, and public latrines. It is hence important to identify financial barriers to the access and use of water resources for persons with disabilities. Financial assistance or relief can be provided through innovative fee structures, such as sliding-scale fees and loans or grants to individuals or communities to make accessibility modifications for the use of water resources.

A frequently cited barrier is the lack of practitioner knowledge and capacity on understanding and addressing barriers for persons with disabilities. This is reflected in the lack of policies and action plans mainstreaming disability; lack of accessibility standards, guidelines, and specifications; and limited awareness of existing guidance documents and manuals. There are gaps in coordination and partnership between government bodies that oversee water resources and delivery, and those that focus on the implementation of laws, policies, and regulations related to disability inclusion.

Institutional barriers are also evident when persons with disabilities cannot engage in water resources management themselves. This includes lack of participation in stakeholder consultations and outreach activities, but more importantly the lack of persons with disabilities in leadership and management roles at the community, local, and national levels.

2.3 Water, Sanitation, and Hygiene

Persons with disabilities can face several barriers to physically using WASH facilities in their households, schools, work sites, health facilities, markets, and other public spaces. Most public WASH infrastructure is designed without consideration of the access needs of persons with different types of functional limitations. These barriers differ based on the type of disability, use of in-house versus communal WASH facilities, household economic capacity, and urban versus rural environments.

Common barriers include the following:

1. *Distance to water points.* Long distances to water points are a challenge for persons with mobility limitations in rural and urban areas. These barriers are amplified by difficult terrain and poor road conditions that impede mobility for persons using assistive devices such as wheelchairs or prosthetic limbs, limited accessible transport options, and navigation barriers for persons with visual disabilities.

2. *Design of water points and sanitation facilities.* The most common design barriers include lack of ramp access, uneven and high steps, small entryways, lack of handrails or supports, and difficult pump handles. Latrine spaces can be difficult to maneuver while using a wheelchair or other mobility aids, and individuals may be unable to use the latrine itself.

3. *Design of handwashing facilities.* In addition to these physical barriers, persons with disabilities may face difficulties in manipulating and turning different types of taps (for example, taps with rings); the hand washing basin might be too high; or the tap might be too far from the front of the basin. Persons with limited upper limb mobility or strength may find it difficult to draw water from a container for handwashing.

4. *Carrying and transporting water.* Many persons with disabilities may have trouble carrying water with traditional buckets and containers. Difficulties in holding, carrying, and balancing water containers are serious impediments to water access and use. In some resource-limited environments, people may have to carry their own water into public spaces such as health facilities. Difficulty in carrying and transporting water can be a serious impediment to

accessing other necessary services in such situations.

5. *Accessing water for household needs.* Even when stored or piped water is available, persons with disabilities may face challenges in using it for their own hygiene needs, such as bathing and handwashing, or for household purposes, such as cooking. Simple issues can become major barriers, such as inability to use water in a seated position, or needing help with filling and tilting containers.

6. *Safety concerns.* Lack of attention to the physical construction and location of WASH facilities and poor maintenance also give rise to safety risks for persons with disabilities. Examples include broken steps, slippery floor surfaces, steep surfaces, and lack of navigation aids or fencing around deep boreholes and wells. It is also essential to address safety precautions during the construction of any water infrastructure. For example, roads that are dug up to lay water pipes should have physical barriers that would alert a person who is blind from walking into the pit.

Photos 2.2 and 2.3 offer a glimpse of common WASH access barriers for persons with disabilities.

PHOTO 2.2. Barriers to Water Access
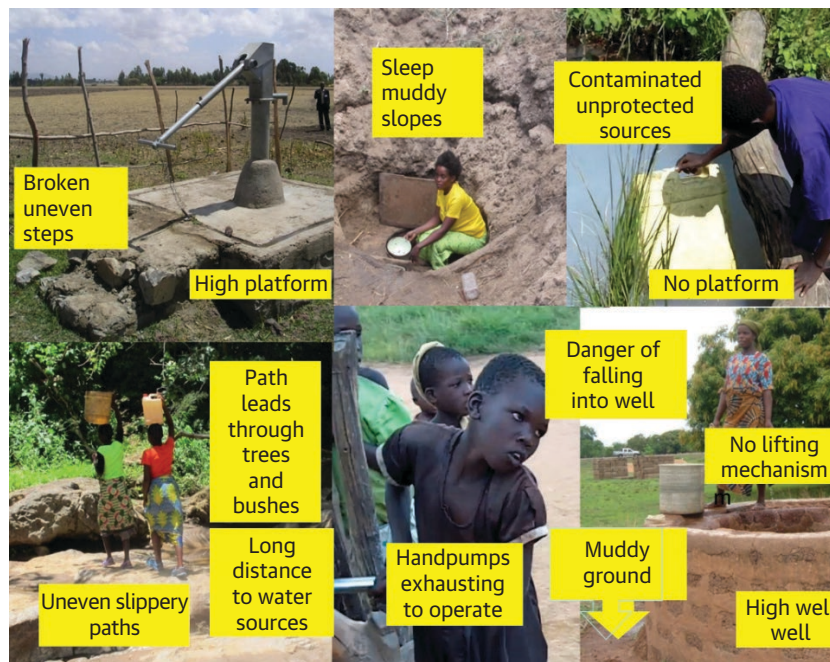
Photo credit: WaterAid.[1]

PHOTO 2.3. Barriers to Sanitation

Photo credit: WaterAid.[2]

A recent study by WaterAid, WEDC, Leonard Cheshire Disability, and Share showed that although disability-inclusive WASH projects have increased in volume and impact over the years, they remain a very small proportion of WASH development activities and financing.[3] Most of the projects reviewed by the study were in the early stages, that is, situational analyses and pilot studies and activities. Most of the projects only address the access needs of persons with physical disabilities. A limited number of projects were at later stages of the realization continuum, such as inclusion in organizational practices at large.

2.4 Water in Agriculture

Disability-inclusive water management is widely beneficial to other members in the community, including the elderly and pregnant women. The design and construction of irrigation systems and other water management resources can impose barriers to the participation of persons with disabilities. For example, ill-designed bridges or steps for crossing irrigation canals can impede mobility for persons with disabilities.

Persons with disabilities must be mainstreamed in rural development projects that focus on economic growth through productive agriculture and related operations such as livestock rearing. Mainstreaming includes supporting measures to increase land ownership and access to water resources (for example, wells) (box 2.1). In many instances, persons with disabilities may be barred from owning such resources or denied loans to start their own businesses. This can result from societal perceptions and stigma as well as policy and business norms that de facto exclude persons with disabilities. Persons with disabilities should be able to join and benefit from local farmer and water associations, as well as self-help groups.

Simple accommodations and adaptations, at the user or resource level, can make rainfed and irrigation-based agriculture accessible to persons with disabilities (box 2.2; photos 2.4 and 2.5). Assistive devices and adapted tools and services increase, maintain, or

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BOX 2.1. Promoting Ownership of Water Sources: CBM

CBM, a civil society organization working toward the empowerment of persons with disabilities, has worked with counterparts in Niger to develop "survival yards" for persons with disabilities. The organizations worked with persons with disabilities and their families to develop gardens of 25 square meters along with digging wells and water canals for irrigation. These sources supplied water to gardens, boosting food production and livestock rearing. In addition, the wells and water canals became a source of water for neighbors and others in the village, showcasing the economic contribution and productivity of individuals with disabilities.

CBM and its local partners further supported the design and provision of simple adaptations to ensure that persons with disabilities could use the water supply and work in their gardens. For example, for persons who are blind, the project team developed a bucket that, when filled with water, would automatically tip over into a basin, which would further pour into a canal for irrigation.

Source: Inclusion and Survival in the Backyards of Niger, 2013, *New Agriculturist*, accessed April 11, 2017, http://www.new-ag.info/en /focus/focusItem.php?a=3095.

BOX 2.2. **Supporting Agricultural Workers with Disabilities: The AgrAbility Projects by the U.S. Department of Agriculture**

Since 1990, the U.S. Department of Agriculture has initiated and funded AgrAbility, a program to support the gainful employment and occupational participation of agricultural workers with disabilities, through the AgrAbility project. The U.S. Department of Agriculture funds a national Agrability project as well as state- and regional-level AgrAbility projects. AgrAbility projects provide information, direct support, and technical assistance to agricultural workers with disabilities and their families. Examples of activities funded by AgrAbility projects include the following:

- Assessing an individual's needs and carrying out accessibility audits at agricultural worksites and for specific work tasks

- Recommending assistive devices, adaptive equipment, and farm and home modifications

- provision of assistive technology, making customized devices and modifications

- Referring persons with disabilities to local service providers

- Offering financial advice, loans, and grants to farmers and ranchers with disabilities, to support agricultural activity (for example, building a drip irrigation system)

- Sharing information and best practices for agricultural workers with disabilities, and developing and disseminating knowledge materials, including fact sheets, handbooks, and webinars

- Sharing knowledge and building capacity for relevant stakeholders.

Read further at http://www.agrability.org/.

PHOTO 2.4. A Simple Adaptive Tool: Quick Bucket Opener by GEMPLER'S

Photo Credit: GEMPLER'S.

PHOTO 2.5. An Adaptive Device: Outside Faucet Turners by Aids for Arthritis
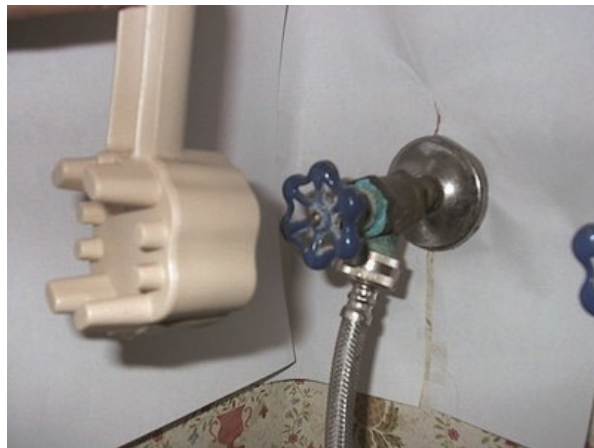
Photo Credit: Aids for Arthritis.

improve the functional capabilities of persons with disabilities. These accommodations and adaptations can include the following:

- Less labor-intensive sprinklers or drip-irrigation systems to reduce physical labor

- Adaptations to water pumps, gears, and water-lifting devices

- Locally made and sourced customized contraptions, such as prosthetic hooks and handles to improve clutching, holding, and lifting functions

- Modified tools

- Basic mechanization of occupational tasks.

Organizations working with persons with disabilities have also encouraged the use of horticulture and home-based gardens and cultivation for economic activity.

2.5 Water-Related Risks and Persons with Disabilities

Persons with disabilities and their households are particularly vulnerable in water-related disasters such as flooding. Existing inequities, as described in the sections above, are amplified during hazard events, leading to disproportionately negative impacts for persons with disabilities. Vulnerabilities can include lack of preparation at the household level in terms of flood proofing, inaccessible warning systems, inability to evacuate, having to reside in shelters and temporary housing without accessible WASH facilities, and increased out-of-pocket and household expenditure for reconstruction. The resulting impacts of a natural disaster on financial self-sufficiency, workforce reintegration, and socioeconomic participation can trigger a vicious cycle of continuing marginalization.

At the same time, disability may not be a targeted consideration in disaster risk reduction activities. The needs of persons with disabilities may not be included in community vulnerability assessments,

community resilience-building activities, or capacity-building interventions. Disability-inclusive resilience planning and interventions, including financial assistance and social protection systems, can limit the negative effects of social, physical, housing, health, economic network, and resource disruptions. Including disability in disaster risk mitigation can address needs for accessibility at each stage of disaster recovery and rebuilding.

2.6 Displacement and Resettlement

Infrastructure-heavy projects such as hydropower and dam construction have significant effects on local communities. Displacement and resettlement activities may increase the risks of exclusion and marginalization for persons with disabilities. Forced displacement and resettlement leads to inevitable, and often long-term, disruptions in services. Households with members with disabilities may have a harder time finding appropriate replacements for the resources, networks, and services they lose due to forced displacement and resettlement. First and foremost, they may face physical accessibility barriers in the temporary housing provided, including in WASH facilities. As discussed in section 1.2.1, persons with disabilities are at risk of physical, sexual, and economic abuse in instances of reduced privacy and increased dependency for basic needs.

Disruption in access to education is one of the issues commonly highlighted as a negative impact for persons with disabilities. Families of children and youth with disabilities may have invested substantial resources for access to schools and related support services, such as assistive devices or therapists. Resettlement to other areas can have a significant effect on school participation if there are limited options for accessible schooling in resettled areas.[4] Inclusive and accessible schooling options may be too far away or not accessible through available transportation options. Similarly, disruptions to employment and economic activity create even more hurdles for persons with disabilities than persons without disabilities, due to social hurdles and discrimination in employment.

It is also important to ensure that persons with disabilities who have given up land for construction of new WASH infrastructure, or have construction on their property, also have access to the new water access facilities. This access should take into consideration the distance and terrain to be traveled by persons with disabilities to access these facilities.

By rooting equity for persons with disabilities in overarching water resources management, disability inclusion can become a part of policy making, regulatory frameworks, governance, infrastructure development, and community mobilization to support water security.

Notes

1. H. Jones, L. Gosling, S. Jansz, and E. Flynn, Equity and Inclusion in WASH Provision: Using the Social Model of Exclusion, Water, Engineering and Development Centre and WaterAid.

2. H. Jones, L. Gosling, S. Jansz, and E. Flynn, Equity and Inclusion in WASH Provision: Using the Social Model of Exclusion, Water, Engineering and Development Centre and WaterAid.

3. WaterAid; Water, Engineering and Development Centre; Leonard Cheshire Disability; and Share, 2012, "Mainstreaming Disability and Ageing in Water, Sanitation and Hygiene Programmes," accessed June 1, 2017, http://www.wateraid.org/news/news/mainstreaming -disability-and-ageing-in-water-and-sanitation-programmes.

4. Bank Information Center, 2013, December 3, BIC Disability Campaign takes trip to Uganda, accessed June 14, 2017, http://www .bankinformationcenter.org/bic-disability-campaign-takes -trip-to-uganda/.

Chapter 3
Approaches to Disability-Inclusive Water Sector Operations

3.1 Twin-Track Approach to Disability Inclusion

The twin-track approach involves (i) *mainstreaming* disability across water sector operations by breaking barriers to access in consultations, needs assessments, infrastructure development, and service delivery, and (ii) undertaking *targeted* projects to respond to gaps in programming and specific areas of need for persons with disabilities. Using the twin-track approach to disability inclusion in water sector operations will expand the benefits of all projects to persons with disabilities, while also targeting the main barriers to inclusion. Inclusion of disability in water operations requires changes in the "hardware" and "software" aspects of water operations. Table 3.1 provides some examples of activities under the two tracks. Activities should be based on situational analyses.

3.2 Application of the Social Model of Disability and Inclusion to Operations

The social model of disability presents a paradigm shift from thinking of disability only through the medical lens of health conditions and functioning. The social model asserts that lack of opportunities, independence, and participation arises from social, community, and environmental obstacles rather than the underlying health condition itself. This is an empowering lens to apply to any project and identify the barriers that impede the full participation of persons with disabilities in society.

WaterAid has developed a simple template that can be used to identify barriers for persons with disabilities across different types of water operations (table 3.2). Barriers can be caused by naturally occurring challenges, infrastructure design, policy and institutional systems, and the prevailing social stereotypes and attitudes about disability. Table 3.2 shows how the template can be applied.

3.3 Policy Development and Implementation

Policies are critical for guiding and enforcing the development, implementation, and monitoring of disability-inclusive development efforts (table 3.3). Policies can draw from legislation and offer concrete steps and guidance to government officials, WASH practitioners, and vendors on accessibility in water sector operations. Explicit mention of disability in policy and regulatory frameworks guiding the water sector can cultivate institutional inclusion of disability and mainstreaming of accessible design.

Disability inclusion in water sector policies and national action plans leads to the development of budget allocation; accessibility guidelines, standards, and codes; capacity-building programs; and technical resources. Policies can mandate accessibility requirements in public procurement processes and decision making. Importantly, policies can promote the inclusion of disability in reporting requirements, longitudinal assessments, and impact evaluations.

Many countries have passed or are developing legislation that promotes the rights of persons with disabilities, especially upon ratification of CRPD. Disability rights and anti-discrimination legislation is usually characterized by the following:[1]

- Seeks to uphold and reinforce the basic and fundamental rights—political, civil, economic, social, and cultural—of persons with disabilities as citizens

- Lays out mandates to eliminate discrimination against persons with disabilities across life domains (such as water and sanitation, public access, housing, education, and health care) and promote equality of opportunity

- Creates measures and systems to support the realization of rights and nondiscrimination.

TABLE 3.1. Examples of the Twin-Track Approach

Twin-track approach to disability inclusion in water sector operations	
Mainstreaming	**Disability-specific**
• Incorporating accessibility into design standards and guidelines • Holding disability-inclusive consultations • Teaching accessibility in regular design curricula • Including disability indicators in monitoring and evaluations	• Carrying out audits and assessments of barriers for persons with disabilities • Modifying, constructing, and adapting services and facilities for persons with disabilities • Building the capacity of water sector practitioners on disability needs

TABLE 3.2. Examples of Types of Access Barriers Using WaterAid Template

Category	Barrier
Physical, natural	• Slippery paths, natural obstructions, steep river banks, muddy springs, and rugged terrain • Long distances to water resources
Physical, infrastructural	(See table 2.1 for examples of disability-specific access barriers.) • Raised steps, narrow entrances, no handrails, and raised height of aprons or pumps • Heavy water pump handles, and difficulty in carrying and transporting water • Lack of signage and information in alternative formats
Policy, institutional	• Lack of explicit policy mandates on accessible water services • Lack of practitioner knowledge and capacity • Budget and resource allocation does not account for accessibility • Poor implementation of disability laws and policies • Lack of or low implementation of accessibility standards for designs and building codes
Social, cultural, and attitudinal	• Reinforced stereotypes of being a burden • Persons with disabilities not expected to go to school or hold a job • Girls and women with disabilities deal with general taboos on menstruation as well as misconceptions about their reproductive health and hygiene needs because of their disability • Assumptions that family members can take care of all needs • Sexual and financial exploitation in exchange for helping with water and sanitation needs • Not invited to consultations, lack of agency, and few social networks

TABLE 3.3. Examples of Policy Actions to Promote Access to Water, Sanitation, and Hygiene Resources

Water sector policy actions	Disability policy actions
• Promote equity and inclusion of persons with disabilities • Allocate resources with accessibility requirements in public procurement • Develop processes for universal access • Mandate minimum standards • Develop timelines and milestones for universal water coverage	• Focus on nondiscrimination and full participation • Include requirements for barrier-free environments, accommodations, and access to assistive technology • Mandate minimum standards • Create legal channels for recourse and grievance mechanisms for persons with disabilities

Policies on inclusive water services can also clarify the roles and responsibilities of various ministries and departments, and create pathways for successful collaboration and coordination between the relevant government authorities. Otherwise, the policies would tend to be a cause for confusion, as disability affairs tend to come under the ministries of social welfare or health at the national and state levels. There needs to be strong collaboration and coordination between the disability focal departments and the ministry and departments responsible for water and sanitation, agricultural resources, and disaster management.

Many countries have progressive policies on disability inclusion, but there is a gap between what is on paper and what occurs in practice. Hence, implementation plans must translate inclusion goals into concrete targets that are monitored and assessed in evaluations.

3.4 Data Gathering and Statistical Analysis of Need and Impact

The lack of data on persons with disabilities is a significant challenge for policy makers, development practitioners, and inclusion advocates. When groups are invisible in the data, their needs are often invisible in the policies and programs. Similarly, there is a lack of disability aggregators in monitoring and evaluation plans and processes.

Disability-inclusive data gathering is essential to develop evidence-based action plans and schemes and plan resource allocation appropriately. One of the most cost-effective ways to document the needs of persons with disabilities, and the impact of water operations, is to include disability aggregators in ongoing household surveys and data-gathering processes (box 3.1, box 3.2).

BOX 3.1. Disability Data Collection in Poverty Diagnostic of the Water Supply, Sanitation, and Hygiene Sector in Tajikistan

The Household WASH Survey, conducted as part of the Poverty Diagnostic of the Water Supply, Sanitation, and Hygiene Sector in Tajikistan, used the short set of questions from the Washington Group on Disability Statistics to identify households with members with disabilities, and included questions to assess their access to water, sanitation, and hygiene (WASH) resources.

The resulting data point to the prevalence of functional difficulties in the population. Of the 3,019 households interviewed for the WASH survey, about 55 percent, or 1,673 households, reported having at least one household member with one or more functional disability, at various severity levels. This includes persons with mild levels of disability, but reflects how common functional difficulties (including walking, climbing, and self-care) are in the population, and bolsters the argument about the numbers of persons who benefit when WASH resources are designed to be easier to use.

Of the sampled households, 9 percent indicated that they have at least one household member who has one or more of the six functional disabilities at the highest severity level. The most common type of disability is being unable to perform self-care (6.6 percent), followed by being unable to walk or climb (4.5 percent).

The survey results offer further insights into the challenges or constraints for household members with disabilities in accessing water resources:

- About 24 percent of the households reported that persons with disabilities in their household can-not access the main water source without assistance from others; a higher number of rural households (29 percent) reported this issue as compared with urban households (12 percent).

- Fourteen percent reported that persons with disabilities in their household have some or a lot of difficulty in accessing the main water source.

- The most commonly cited barriers were distance to the water source (17 percent), carrying or transport-ing water (11 percent), lack of accessibility features such as ramps (12 percent), and difficulty of terrain (9 percent).

This analysis is a step toward filling the data gap on WASH access for persons with disabilities. The findings can inform future water investments in Tajikistan.

Source: World Bank team, Poverty Diagnostic of the Water Supply, Sanitation and Hygiene Sector, Tajikistan.

BOX 3.2. Obtaining Disability Disaggregated Data

- Ensure that household surveys can be disability disaggregated

- Include disability disaggregation in baseline and evaluation surveys

- Use indicators on persons with disabilities

- Include questions on physical and environmental barriers in WASH or other relevant surveys

- Conduct detailed, disability-specific population surveys

- Include qualitative data collection for in-depth understanding of needs and experiences

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There are several issues to consider when developing census-type surveys to assess disability prevalence:

i. Disability should not be conceptualized only on the basis of the underlying medical condition. Rather, the focus needs to be on the limitations and barriers a person encounters in accessing water and sanita-tion resources, managing personal hygiene activi-ties, undertaking the activities of daily life, and accessing water resources for agriculture and other water-dependent occupations.

ii. A single categorical question on disability, which asks, "Do you have a disability?" with a yes/no answer choice or multiple options, such as blind-ness, deafness, and so forth, offers limited evidence and information. It is difficult to capture every cate-gory of disability in such a list. In addition, a person

with one category of disability can face multiple functional limitations. For example, a person with cerebral palsy may have difficulty with mobility, communication, and cognitive processing.

iii. Disability can vary greatly in severity from person to person. For example, a question that asks, "Are you blind?" may leave out persons with low vision. It captures only people with the highest severity of disability, leaving out others who also experience functional limitations and difficulties in conducting the activities of daily living, skewing the results.

iv. Data should be collected in a manner that is most helpful to government programming, budget allocation, and policy. It is most helpful to assess the number of individuals who are at "greater risk than the general population of experiencing restrictions in performing tasks (such as the activities of daily living) or participating in roles (such as education)."[2] By focusing on how many persons experience difficulties in conducting the activities of daily life, governments can assess the need for supporting programs that promote accessibility for the wider benefit of the community.

The Washington Group on Disability Statistics has developed a short set of six questions and an extended set to assess functioning in adults.[3] The short set is well-suited for census-type population and household surveys, and widely used for disability disaggregation. The Washington Group's short set focuses on levels of difficulty due to health problems across six domains, and assesses the level of difficulty in each domain.[4] For each question, the answer choices are the following: no, no difficulty; yes, some difficulty; yes, a lot of difficulty; and cannot do at all. The short set is as follows:

1. *Do you have difficulty seeing, even if wearing glasses?*

2. *Do you have difficulty hearing, even if using a hearing aid?*

3. *Do you have difficulty walking or climbing steps?*

4. *Do you have difficulty remembering or concentrating?*

5. *Do you have difficulty (with self-care such as) washing all over or dressing?*

6. *Using your usual (customary) language, do you have difficulty communicating, for example understanding or being understood?*

One of the advantages of using these six questions is that they tap into adults who may have some level of functional difficulties but do not self-identify as being disabled. This is particularly relevant for the elderly and persons with mild levels of disability, especially in cultures that stigmatize disability. The findings thus provide a clearer understanding of the range of individuals who will benefit from inclusive design and adaptations in access to water resources.

UNICEF and the Washington Group on Disability Statistics developed a module on child functioning and disability for use in censuses, sample-based national surveys, or other statistical formats.[5] The module is designed for children ages 2 to 17 years.

The Model Disability Survey (MDS), developed by the World Health Organization and the World Bank, is another questionnaire aimed at developing a standardized instrument for disability measurement.[6] MDS is a general population survey to assess the functioning and barriers faced by persons, and a detailed assessment of environmental factors, functioning, capacity and health conditions, and assistance aids and devices. MDS is based on the International Classification of Functioning, Disability, and Health.

3.5 Building the Capacity of Decision Makers and Stakeholders

Capacity-building activities for government officials (across all relevant ministries), community leaders including faith leaders, development practitioners, engineers, and architects should combine awareness

raising with the development of technical skills to respond to the needs of persons with disabilities. All relevant stakeholders should be identified and involved in capacity-building activities. For example, it is important to raise the knowledge and capacity of educators to ensure that school WASH facilities are accessible, and involve health practitioners in ensuring access to water resources within health care facilities. Similarly, capacity building should engage government officials across all relevant ministries, such as those responsible for water and sanitation resources, agriculture, health, education, social protection, and labor. The desired outcomes of capacity-building activities are the following:

- Changes in policy (including procurement policies) and action plans to ensure accessibility in water operations, including the development of disability-inclusive national sanitation policies

- Development and/or adoption of accessibility standards

- Resource allocation for disability-inclusive water operations

- Mainstreamed disability inclusion in active or pipeline water development programs at the national, state, or local level

- Inclusion of disability in pilot and demonstration projects

- Future trainings and workshops on accessibility and inclusion for WASH practitioners, architects, and engineers

- Disability-disaggregated data collection, and inclusion in monitoring and reporting.

Figure 3.1 shows the general structure of most disability-inclusive capacity-building workshops.

The twin-track approach is valuable in conducting capacity building. Sessions or modules on equity and inclusion should be incorporated into the mainstream capacity building of stakeholders and communities. Disability-focused capacity-building activities can facilitate a deep-dive exploration of barriers and solutions based on the disability type, geographic and demographic nature of the location, community resources, and level of existing knowledge and skills. Engaging persons with disabilities as facilitators is an essential part of good practice.

Disability community leaders, DPOs, and disability service providers can be trained in working with development practitioners, engaging in water projects, and understanding the technical details of water operations.

Capacity building should become an iterative process that is integrated into the larger learning ecosystem. One-point-in-time trainings may lead to awareness raising and sensitization, but may not be sufficient to

FIGURE 3.1. Structure of Capacity-Building Workshop on Accessible Water Services

Raise awareness
Equity and inclusion
Social model
Policy/legal imperatives

Problem solving
Discuss needs and barriers in Water operations

Skills and solutions
Effective practices, case studies, share resouces

Continue to engage
M&E, follow-up workshops, continuing education
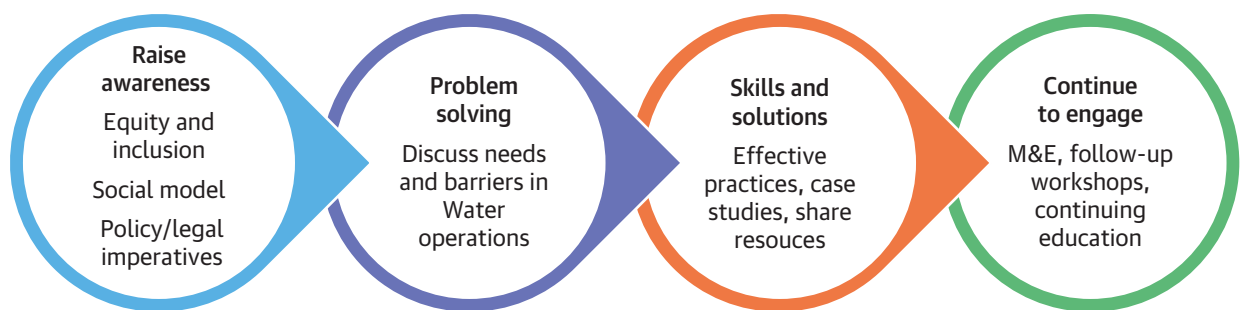
Note: M&E = monitoring and evaluation.

translate into long-term action. Complementary and supplementary workshops and on-site trainings should be provided, with technical resources and guidance in the form of handbooks, manuals, and toolkits. Universal and accessible design principles and case studies can be integrated into architecture and engineering curriculums.

3.6 Designing Accessible Physical Infrastructure

3.6.1 Overview

Water resource infrastructure and facilities should be designed for barrier-free use by all individuals. Barrier-free design aims to support independent use of water resources to the maximum extent possible. Physical spaces and construction, such as WASH facilities, should meet accessible design specifications and guidelines.

3.6.2 Conducting Infrastructure Accessibility and Safety Audits

An audit of the accessibility and safety of any physical environment (including WASH, farming and irrigation, resources for flood management, and other physical facilities relevant to water use) for persons with disabilities helps to identify obstacles and barriers to independent access. The audit also flags safety concerns. Access audits are conducted by a team comprised of end users, including testers with disabilities and experts on accessible design standards and specifications. It is essential to include local experts and end users in access audits to ensure that the audits are grounded in user needs and cultural sensitivity. In addition, the audit should not focus only on specific types of disabilities but use a cross-disability approach.

Audits can help identify access barriers for all members in a community, such as older persons, and not only persons with disabilities. Access audits help to identify safety concerns that are especially relevant for women. Women with disabilities may face heightened safety risks in accessing water and

sanitation resources. It is important that accessibility and safety audits identify and address the needs of girls and women with disabilities, such as facilities for menstrual hygiene management (privacy, disposal bins with lids, accessible spaces to wash and dry sanitary products, and incinerators).

Access audits are an excellent tool to identify challenges at a specific site or facility, for example, water and sanitation facilities in a school, public water kiosks and hand pumps, and community irrigation facilities. The results of an audit are very helpful in guiding reconstruction or retrofitting, and can help to break down barriers into high-priority accessibility issues that need rebuilding, issues that can be addressed through the procurement of assistive aids and technologies, and those that require behavioral modifications (photo 3.1).

PHOTO 3.1. Two Wooden Posts Are Landmarks Guiding a Woman Who Is Blind to the Toilet and Water Source

Photo credit: Hazel Jones/WEDC.

Examples:

- *Modification of construction.* This example addresses the need to construct a ramp or gradient entryway, widen entrances, lower door handles, and change the type of water tap knobs.

- *Adding aids or assistive devices.* This example includes installing bright lights in dimly lit corridors, installing braille signage plates, providing modified toilet seats, designing customized low-cost contraptions to carry or pour water, and using mechanized irrigation equipment such as drip irrigation (photo 3.2).

- *Behavioral modifications.* This example guides people to stop piling trash or parking vehicles blocking public latrine entrances.

An audit should be followed up by developing solutions to address the identified barriers in consultation with users. Accessibility assessments should include qualitative data collection with target users. Access barriers may arise due to community behaviors or community attitudes toward disability. Open-ended questions can be used to assess whether there are individuals who would like to use the facilities but are unable to do so, and explore the reasons why

PHOTO 3.2. To Use Family Latrine, a Ugandan Carpenter, Olupot, Designed His Own Portable Toilet Seat and a Tippy Tap for Handwashing

Photo credit: WaterAid/James Kiyimba.

Including Persons with Disabilities in Water Sector Operations

they are unable to do so. Such assessments should include questions on safety, especially instances or fear of harassment, violence, and sexual abuse. In countries that have accessibility specifications within building codes or accessibility mandated by law, these audits help in developing compliance plans.

Audits during or after new construction help to ensure that the design and layout of the constructed facility is indeed accessible by persons with disabilities (box 3.3, photo 3.3). Disability practitioners often cite examples of how modifications are poorly planned and executed. For example, installed ramps may be too steep, or handrails around the toilet may inadvertently block the entry to or use of other facilities, such as hand wash basins.

Sample questions on an audit checklist include the following:[7]

- Is the path to [facility] well lit?

- Is the surface of the path slippery when dry or wet?

- Are there obstacles that make it difficult to get past or easy to trip up, especially for visually impaired people? (natural or material)

- If there is a slope or ramp, how steep is it? (compare with recommended gradients)

- Is there a handrail for support?

- How easy is it to unlock and open the door or gate? (for example, by someone with a weak grip)

- If there is an entrance, is it wide enough for a wheelchair user to enter? (recommended minimum width 80 centimeters)

- Is there something for the user to lean on while drawing water?

- Is there a place to stand the water container? Can the user easily lift the filled water container and carry it?

- Does the layout of [audited space such as a toilet] allow space for a wheelchair or crutch user or a user and helper?

- What is the floor made of? Is it even or uneven, firm or unstable, slippery or nonslip?

- If squatting: is there something to hold onto when squatting? Rails, rope, or so forth; materials, finish, position, height, and so forth.

The annex provides a list of WaterAid toolkits to conduct accessibility and safety audits for latrines and water points.

3.6.3 Applying the Principles of Universal Design

The Principles of Universal Design offer a good framework for developing inclusive structures in water operations. Universal design means designing products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.[8] The principles are as follows:

- *Equitable use.* The design is useful and marketable to people with diverse abilities.

- *Flexibility in use.* The design accommodates a wide range of individual preferences and abilities.

- *Simple and intuitive use.* Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

Accessible and barrier-free construction is always most cost-effective when accessibility requirements are built into the initial design. Retrofitting is costlier. Studies show that the additional cost of access features, when considered right from the start, is within 1 to 3 percent of the total cost of construction.

The Water, Engineering, and Development Centre's (WEDC's) costing data from the construction of accessible school latrines in Ethiopia in 2009–10 showed that costs for access features were between 2 and 3 percent of the total construction cost. A single block ventilated improved pit latrine of eight cubicles in an urban school cost US$7,242.92, which included US$216.15 for access features (ramps, widened doors, support rails, and raised toilet seats). A single block dry pit latrine of eight cubicles in a rural school cost US$9,108.97, which included US$228.94 for access features (ramps, widened doors and cubicles, and support rails).

The costs of making individual household latrines accessible through SBM India range from US$132.38 to US$173.05 (including features such as handrails, grab bars, ramps, painting, and advance road).

When access features are included from the start, the entire design could be developed to minimize additional costs of material or labor.

Many adaptations and assistive aids to facilitate access are low cost and include do-it-yourself solutions. The *Compendium of Accessible WASH Technologies*, by WEDC, WaterAid, and Share, offers a cost range for each recommended design feature. (The annex in this Guidance Note provides a list of toolkits.)

Source: H. Jones, 2011, "Inclusive Design of School Latrines: How Much Does It Cost and Who Benefits?" *Briefing Note 1*. Water, Engineering and Development Centre, Leicestershire, United Kingdom.

PHOTO 3.3. **Examples of Grip Bars for Support**

Photo credit: WaterAid.

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

- *Tolerance for error.* The design minimizes hazards and the adverse consequences of accidental or unintended actions.

- *Low physical effort.* The design can be used efficiently and comfortably with minimum fatigue.

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

Universal design aims to be responsive to diverse needs in communities and human experiences, including pregnancy, carrying small children, temporary functional limitations due to injuries and accidents, and needs due to aging.

3.6.4 Developing Manuals, Guidelines, and Toolkits on Accessible Design

Comprehensive manuals and handbooks that include detailed technical specifications and measurements on designing accessible water points, sanitation facilities, and community facilities are very useful in promoting implementation (box 3.4). These resources can be customized to local contexts and produced in local languages. Some manuals also provide details on estimating the costs for materials and design. Technical specifications can ensure that the placement, design, space, and operation of water points and sanitation facilities allow for access and use by persons with different disabilities (photo 3.4). Accessibility specifications generally cover the minimum requirements for

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BOX 3.4. Case Study: The Government of India's Initiatives to Improve Accessible Water and Sanitation Resources

In October 2014, the Prime Minister of India launched the Swacch Bharat Mission to accelerate efforts for universal sanitation. With 8.3 percent of the households in India having members with disabilities, accessibility is one of the focus areas under the Swacch Bharat Mission. The rural sub-mission Swacch Bharat (Gramin) commissioned WaterAid India to develop the *Handbook on Accessible Household Sanitation Facilities for Persons with Disabilities (PwD).*[a] The handbook is a practical guide for a range of water, sanitation, and hygiene (WASH) stakeholders—government officials, engineers, representatives of Panchayati Raj institutions, WASH sector professionals, disabled persons' organizations, and other civil society members—in designing and implementing needs-responsive solutions at the household level. The handbook offers guidance for actions at the state, district, village, and panchayat levels, along with technical specifications for sanitation facilities. It includes model and replicable solutions implemented in Jharkhand.

In parallel, the Accessible India Campaign (Sugamya Bharat Abhiyan), launched by the Department of Empowerment of Persons with Disabilities, Ministry of Social Justice and Empowerment (MSJE), is promoting universal accessibility for persons with disabilities. As part of the campaign, MSJE has released *Practitioners Manual: Making Water, Sanitation and Hygiene Accessible and Safe through improved Planning and Design.*[b] The manual, developed by the Samarthyam National Centre for Accessible Environments, is a comprehensive document that covers the social and legislative context for accessible WASH.

box continues next page

The manual provides detailed technical specifications on WASH planning, design, and implementation. The manual covers design standards, including appropriate materials, signage, and low-cost assistive aids. It further includes a section on child-friendly facilities in schools and community sanitation. The manual provides a checklist that can be used in WASH access audits.

a. Source: Swachh Bharat Mission (Gramin), Ministry of Drinking Water and Sanitation, 2015, Handbook on Accessible Household Sanitation Facilities for Persons with Disabilities, Government of India, accessed April 14, 2017, http://www.mdws.gov.in/sites/default/files/Water%20Aid%20Handbook%20final.pdf.

b. Department of Empowerment of Persons with Disabilities, Ministry of Social Justice and Empowerment, Practitioners Manual: Making Water, Sanitation and Hygiene Accessible and Safe through improved Planning and Design, Government of India, accessed June 14, 2017, http://disabilityaffairs.gov.in/upload/uploadfiles/files/WASH%20Practitioners%20Manual-Samarthy.pdf.

PHOTO 3.4. An Accessible Toilet in Beltola Slum, Dhaka, Bangladesh

Photo Credit: WaterAid/Guilhem Alandry.

entryway dimensions, physical space in stalls, ramp gradients, surface materials, tactile requirements, height of different access points, handrails and supports, and signage.

3.7 Involving Persons with Disabilities across the Project Life Cycle

3.7.1 Disability-Inclusive Public Consultations

One of the main reasons why disability issues are rarely considered in the project planning and design phases is that persons with disabilities remain invisible and excluded from public consultations. Deliberate and concerted efforts are required to ensure that persons with disabilities and their families, DPOs, and other organizations providing disability services are invited to and included in all phases of water operations. A recent UNICEF report on accessible WASH projects highlights insights from WASH practitioners on how families may not allow persons with disabilities to attend consultations, and may be hesitant to raise the issues in community discussions without prompts.[9] Similarly, a rural WASH sustainability study in Papua New Guinea, commissioned by the World Bank's Water and Sanitation Program, observed that although communities acknowledge the presence of persons with disabilities, they assume that family

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Engaging persons with disabilities can be a challenge for several reasons:

- Persons with disabilities may remain hidden or be invisible in their communities, due to stigma, community perceptions, and lack of accessibility.

- In many communities, persons with disabilities are deprived of agency, and family members may be used to representing them.

- Community workers may feel that asking about disability is taboo or inappropriate.

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members will assist them in addressing their water access needs.[10]

DPOs and other disability organizations are natural partners to ensure the inclusion of disability issues from the start. Local DPOs can help project teams in identification and outreach to persons with disabilities in the targeted communities.

When persons with disabilities are invited to consultations, the following accessibility guidelines should be kept in mind:

- The physical sites for consultations and meetings should be accessible to persons with disabilities (for example, there should be alternatives to stairs, accessible sanitation facilities, sufficient space to maneuver in wheelchairs, and no obstructions in areas reserved for meal breaks).

- Some individuals may need informational materials in alternative formats, such as Braille or large print, or sign language interpreters at the consultations. (DPOs can assist in identifying vendors and providers for these services.)

- Compensation provided for transport to the consultations should reflect any additional expenses of accessible transport options that may occur.

- Some persons with disabilities may attend with personal caregivers.

Family members and caregivers should also be included in these consultations. Project teams should take special care to ensure that women with disabilities are well represented. Often, the specific needs of women with disabilities tend to be marginalized in disability and women's advocacy. If separate focus groups are held to obtain insights from women on sensitive issues such as privacy, violence, and abuse, women with disabilities should also be invited.

The increasingly used Community-Led Total Sanitation (CLTS) approach is a good mechanism to include persons with disabilities and their representatives, from

project initiation. Community triggering processes lead to a collective action plan and community mobilization to build safe and enclosed sanitation facilities and change community WASH behaviors. When persons with disabilities are not represented in triggering processes, their needs tend to go unmet in CLTS programs.[11] This is detrimental to the CLTS goal of ending open defecation.

Consultations should not be limited to identifying barriers to water access; they should also focus on finding solutions. Persons and with disabilities and their families are often accustomed to figuring out adaptations and may have rich insights into individual, household, and communitywide solutions for accessible water services. Community and citizen engagement advisory boards are another good entry point to include persons with disabilities and their representatives.

Persons with disabilities should also be able to learn about and access information on construction plans.

This includes the type of construction, period, and expected interruptions to daily life activities, so that they can make contingency plans for travel and access to public spaces.

3.7.2 Collaborative Partnerships with the Disability Community

An important recommendation for disability-inclusive development is to include persons with disabilities and their representatives as integral members of the project implementation teams (box 3.5). They should be included at all phases of the processes, from planning to implementation to evaluation. Recommendations for developing trusting and collaborative partnerships with the disability community include the following:

- Meaningfully involve persons with disabilities and disability organizations in all community participatory processes, so that they can be a part of the decision-making process on design, installation, and use.

BOX 3.5. **Role for Community-Based Rehabilitation in Accessible Water Operations**

Community-Based Rehabilitation (CBR) organizations can play a key role in promoting access to water resources. The World Health Organization initiated CBR in the 1970s as a strategy to address rehabilitation needs in developing countries, particularly in remote and rural areas that lacked human and material resources in medical rehabilitation. The fundamental principle in CBR is building the capacity of local communities and families to address the needs of persons with disabilities. CBR has now transformed from a medical model approach to a rights-based process for empowerment, social inclusion, and service delivery. CBR practitioners can conduct needs assessments at the household and community levels, developing customized solutions, using and making low-cost adaptations, and coordinating ongoing assessments and maintenance.

For example, Mobility India, a nonprofit organization in Bengaluru, India, partnered successfully with government officials to use CBR approaches for inclusive water, sanitation, and hygiene (WASH). Mobility India leveraged existing community networks and self-help groups to reach out to persons with disabilities. Mobility India used street plays and wall paintings to share awareness about good WASH practices. Mobility India was also able to raise external funding that supplemented government grants secured by families to build accessible WASH facilities.

Source: World Health Organization, 2010, "Community-Based Rehabilitation: CBR Guidelines," accessed June 2, 2017, https://www.ncbi .nlm.nih.gov/books/NBK310943/.

Including Persons with Disabilities in Water Sector Operations

- Engage DPOs and disability service providers as partners and consultants, especially during community assessments, design audits, decision-making meetings, and monitoring and evaluation (M&E) activities.

- Support and promote the hiring of persons with disabilities in water management and leadership roles.

- Implement inclusive employment and leadership to help break stereotypes about persons with disabilities within their communities.

Water practitioners and disability experts can complement each other's strength and fill the other's gaps in knowledge.[12] Working with disability experts also helps to build trust within the disability community in the target area.

3.8 Ensuring Access to Information and Communications

Access barriers are not exclusively limited to the physical infrastructure domain. It is equally important to ensure that persons with disabilities can access information and communications to facilitate their engagement and participation in operations, while also promoting their use of services and facilities.

Common forms of information dissemination include printed material such as flyers, banners, and billboards. These will be inaccessible to persons with print disabilities,[13] unless alternative means of communication are also provided. Similarly, audio-based communications can be inaccessible to persons with hearing impairments. To include persons with disabilities in program activities, consultations, and community participation, and raise their awareness and capacity to use water resources, it is essential that they can access the information and communication resulting from the programs. Table 3.4 provides examples of alternative and accessible means of information and communication with persons with disabilities.

TABLE 3.4. Solutions for Information and Communication Accessibility

Disability category	Examples of accessible solutions
Visual disability	• Information (including alerts) in audio format (including sirens, recorded messages, beeps on phones, and so forth)
	• Materials in Braille and large font
	• Documents in accessible electronic formats on USB drives, websites, and through e-mail
	• Screen readers, braille displays, magnification software and devices, voice recognition software, and audio descriptions
Hearing disability	• Sign language interpreters
	• SMS text messaging
	• Captions on videos and other multimedia
	• Voice and video relay services, teletypewriters (TTY) or telecommunication devices for the Deaf (TDD), closed captioning, subtitles, voice amplifiers
	• Use of vibrations/text alerts instead of audio alerts
Speech impairments	• SMS text messaging
	• Synthesized voice output and text-to-speech functionality
	• Use of virtual picture boards and communication solutions

table continues next page

TABLE 3.4. continued

Disability category	Examples of accessible solutions
Physical disability	• Voice recognition systems • Adapted and virtual keyboards • Joysticks and adapted mouse
Cognitive disability	• Text-to-speech rendition and speech/voice output • Physical and electronic picture boards for communication • Multimedia to aid comprehension, for example, videos, graphics, and touchscreen devices • Mobile apps and online resources that mimic augmentative and alternative communication devices • Organization and memory aid tools, such as online calendars, note taking, and alerts • GPS-facilitated navigation

Note: GPS = Global Positioning System; SMS = Short Message Service; TDD = telecommunications device for the deaf; TTY = teletypewriter; USB = Universal Serial Bus.

TABLE 3.5. Sample Indicators for Disability Inclusion in Water Operations

Sample indicators for evaluating outcomes for persons with disabilities
General indicators
• Number and frequency of women and men with disabilities consulted during project design and implementation
• Access of women and men with disabilities to support services (such as home modifications, adaptive devices, credit, and mechanized equipment) to access water (for domestic, agricultural, or other uses)
• Number of stakeholders trained in implementing disability-inclusive water resource management practices (specify as per project)
• Percentage of trained stakeholders self-reporting increased knowledge of making water resources accessible for persons with disabilities
• Number of legal/policy instruments proposed, drafted, or adopted to promote disability-inclusive water resource management at the national or subnational level as a result of project or program activities
WASH indicators
• Percentage of population using safely managed drinking water services, disaggregated for persons with and without disabilities
• Percentage of population using safely managed sanitation services, disaggregated for persons with and without disabilities
• Percentage of schools (primary and lower and upper secondary) with adapted infrastructure and materials for students with disabilities
• Percentage of schools (primary and lower and upper secondary) with adapted WASH facilities for students with disabilities
• Percentage of public buildings meeting relevant (for example, ISO 21542:2011)/ standards on accessibility and usability of the built environment
• Percentage of population using an adequate sanitation facility, disaggregated for persons with and without disabilities
• Percentage of population with disabilities using an adequate sanitation facility
• Percentage of households in which the sanitation facility is used by all members of the household (including men and women, boys and girls, elderly, and people with disabilities) whenever needed
• Percentage of drinking water points that are accessible to all users, including those with disabilities, throughout the school day
• Percentage of direct beneficiaries that rate their access to water for domestic use as having improved during the period covered by the program or project
• Percentage of health facilities with accessible WASH facilities

TABLE 3.5. continued

Sample indicators for evaluating outcomes for persons with disabilities
Agricultural water management indicators

- Access of women and men with disabilities to support services (such as adaptive devices, credit, and mechanized equipment) for agricultural purposes
- Percentage of direct beneficiaries with disabilities that rate their access to water for agricultural use as having improved during the period covered by the program or project
- Number of women and men with disabilities actively participating in water user groups
- Number of women and men with disabilities in positions of management or leadership in water user groups
- Number of landless women and men with disabilities with increased access to water from irrigation schemes during the period covered by the program or project

Note: The list of sample indicators was borrowed or adapted from proposed indicators for the Sustainable Development Goals and indicators for gender inclusion in water management.[14,15,16] WASH = water, sanitation, and hygiene.

3.9 Monitoring and Evaluation

Project outcomes for and impact on persons with disabilities, their families, and communities should be assessed during standard M&E processes. Often, even when project concept design and action plans mention disability, it is completely missing in the targets and indicators used to measure success and completion. Disability-inclusive M&E can strengthen the knowledge base, build evidence for the use of different approaches, and support the incremental realization of full access and participation.

Effective practices for disability-inclusive M&E are as follows:

- Develop disability-specific indicators (see table 3.5).

- Use mixed-method approaches for M&E. Qualitative data collection is valuable for understanding the direct and indirect impacts of interventions, allowing evaluators to explore the reasons why program components worked or did not work, and gauging continuing access gaps.

- Collect data that can be disaggregated by disability.

- Include partners from the disability community in the team of evaluators.

Satisfaction and participant feedback surveys should be provided in accessible and alternative formats, if needed (see section 3.8 for information and communication accessibility solutions).

Notes

1. United Nations, 2007, "From Exclusion to Equality. Realizing the rights of persons with disabilities. Handbook for Parliamentarians on the Convention on the Rights of Persons with Disabilities and its Optional Protocol," accessed June 14, 2017, from http://www.un.org/disabilities/documents/toolaction/ipuhb.pdf.

2. Centers for Disease Control and Prevention, 2010, Washington Group on Disability Statistics – Rationale for the Short Set, accessed June 14, 2017, https://www.cdc.gov/nchs/washington_group/wg_rationale.htm.

3. Washington Group on Disability Statistics, 2017, accessed June 14, 2017, https://www.cdc.gov/nchs/washington_group/wg_rationale.htm.

4. Washington Group on Disability Statistics, 2016, Short Set of Disability Questions, accessed June 14, 2017, http://www.washingtongroup-disability.com/washington-group-question-sets/short-set-of-disability-questions/.

5. Washington Group on Disability Statistics, 2016, Child Functioning, accessed June 14, 2017, http://www.washingtongroup-disability.com/washington-group-question-sets/child-disability/

6. World Health Organization and World Bank, 2017, Model Disability Survey, accessed June 14, 2017, http://www.who.int/disabilities/data/mds/en/.

7. S. House, S. Ferron, M.Sommer, and S. Cavill, 2014, Violence, Gender and WASH: A Practitioner's Toolkit - Making water, sanitation and hygiene safer through improved programming and services, WaterAid and SHARE.

8. Center for Universal Design, 1997, Universal Design Principles, accessed June 14, 2017, from https://www.ncsu.edu/ncsu/design/cud/about_ud/udprinciples.htm.

9. UNICEF (United Nations Children's Fund), 2015, "Good Practices in the Provision of Accessible and Inclusive Wash Services," UNICEF country offices, accessed June 2, 2017, https://www.unicef.org/disabilities /files/UNICEF_Accessible_Inclusive_WASH_Mapping_2_1.pdf.

10. Water and Sanitation Program, *Papua New Guinea Rural WaSH Sustainability Study*, World Bank Group, accessed June 2, 2017, http:// pubdocs.worldbank.org/en/371311479450088833/PNG-WaSH -Sustainability.pdf.

11. J. Wilbur and H. Jones, 2014, "Disability: Making CLTS Fully Inclusive," *Frontiers of CLTS: Innovations and Insights* Issue 3, Brighton: IDS.

12. R. Singh, H. Honda, B. Frost, and K. Urich, 2014, "Casting the Net Further: Disability Inclusive WASH," World Vision International.

13. Print disabilities include a range of disabilities that impact the effective reading of printed material. These can also include the ability to hold and manipulate printed materials. This category of disability can include persons with visual, physical, cognitive, and learning disabilities.

14. Joint Monitoring Programme, World Health Organization, and United Nations Children's Fund, "Post-2015 WASH Targets and Indicators." https://www.unicef.org/wash/files/4_WSSCC_JMP_Fact_Sheets_4_UK _LoRes.pdf.

15. "Module 6. Gender Mainstreaming in Agricultural Water Management," 2008, In *Gender in Agriculture Sourcebook*, Washington, DC: World Bank.

16. United Nations, International Disability and Development Consortium, and International Disability Alliance, "SDG Indicators: Disability Advocacy Toolkit." Accessed April 18, 2017, https://www.add.org.uk/sites/default/files/UN_SDG_Disability _Indicators.PDF.

Chapter 4
Entry Points in World Bank Processes

4.1 Country Strategy

4.1.1 Systematic Country Diagnostics

A recent review of the first 17 Systematic Country Diagnostics (SCDs) showed that only three SCDs (Albania, Mali, and Serbia) mentioned persons with disabilities.[1] SCDs are an important entry point to contextualize the exclusion of persons with disabilities in a country, especially in access to water operations. Although disability is a stigmatized issue in most countries, it is not usually a politically controversial issue. Persons with disabilities should be explicitly identified as a target group for analysis on key constraints to the inclusiveness of growth (photo 4.1). The SCD can lay out the domains in which persons with disabilities face barriers to participation (which will include the water sector), the nature of the barriers, and most importantly the reasons for their exclusion and marginalization from markets, services, and spaces. The following activities can help in developing a disability-inclusive SCD:

- Invite and ensure the participation of persons with disabilities and DPOs in public consultations (online consultations should follow accessibility guidelines) (see sections 3.7 and 3.8).

- SCD teams can partner with relevant government partners, DPOs, academics, and broader civil society to develop joint analytical work to feed into the SCD.

- Include staff with disability and social inclusion expertise in review processes.

- Where data gaps on persons with disabilities limit the analyses, SCD teams should attempt to use triangulation methods and flag the lack of disability-disaggregated data for future analytics.

4.1.2 Country Partnership Frameworks

SCDs inform the development of Country Partnership Frameworks (CPFs). The findings from the SCD help to articulate the main country development goals in the CPF. Hence, it is critical to ensure that disability is included in the SCD. Findings on the constraints and opportunities for inclusion of persons with disabilities in the country's broader water operations can help to justify and propose indicative disability-inclusion water sector interventions in the CPF.

4.2 Financing

4.2.1 Investment Project Financing

4.2.1.1 Twin-Track Approach to Project Design and Implementation

The twin-track approach described in section 3.1 will expand the benefits of all projects to persons with disabilities while also targeting the main barriers to inclusion.

Examples of projects that can be good mechanisms for disability inclusion in water operations include the following:

- *Financing new construction and rehabilitation of water management infrastructure, sanitation, and hygiene facilities.* Water supply and sanitation in schools is a good example of an area for disability mainstreaming. Children with disabilities should be identified as project beneficiaries in the Project Appraisal Document, and the results framework should have disability-disaggregated indicators. In addition to physical construction of accessible school latrines and water access points, the financing should support the software aspects of inclusion as well. This includes building the capacity of government officials, school administrators, communities, and families (box 4.1).

PHOTO 4.1. A Low-Cost Adapted Latrine in Bangladesh

Photo Credit: WaterAid/GMB Akash/Panos.

BOX 4.1. Mainstreaming Case Study: Disability-Inclusive Development in Indonesia

The *Penyediaan Air Minum dan Sanitasi Berbasis Masyarakat or Community-Based Water Supply and Sanitation Project* (PAMSIMAS AF) in Indonesia is working to increase access to improved water and sanitation facilities and improved hygiene behaviors among low-income rural and peri-urban populations. The project is co-financed by the Government of Indonesia, World Bank, and Australian Agency for International Development (AusAID).

Triggered by AusAID's requirement to ensure inclusion of persons with disabilities as beneficiaries of development financing, the World Bank task team is supporting the Government of Indonesia in exploring mechanisms to mainstream disability across project activities. PAMSIMAS has introduced a disability-inclusive approach into its operations since November 2016, and is focused on mainstreaming disability across project activities. Disability is specifically included as part of vulnerable groups as defined in the project environmental and social safeguard technical guidelines.

box continues next page

BOX 4.1. continued

Implementing the twin-track approach to disability inclusion. Disability-inclusive programming is now part of PAMSIMAS strategy and implementation. The main elements include the following:

- Institutionalizing disability inclusion in the project cycle and mainstreaming disability in project policies

- Addressing disability inclusion starting from the community planning process

- Including persons with disabilities in decision making and local institutions

- Encouraging disabled persons' organizations (DPOs) to facilitate the process when specific attention is needed

- Developing disability-inclusive development training material for communities, and improving technical specification standards for accessibility, especially for school sanitation, hand-washing facilities, and public facilities

- Updating community awareness and socialization materials

- Implementing a community action plan review checklist at the district level that includes disability inclusion requirements

- Encouraging local financing to support disability-inclusive development in community action plans.

Disability-inclusive development trainings. The project hired CBM Australia to conduct a training on disability inclusion in development activities broadly and water, sanitation, and hygiene (WASH), for government officials, World Bank staff, and WASH facilitators. Fifty-five participants across different stakeholder groups attended the training. CBM Australia compiled the complementary *Handbook on Inclusive WASH in Indonesia*, which provides guidance based on the WASH program approaches used by PAMSIMAS, such as Community-Led Total Sanitation, Participatory Hygiene and Sanitation Transformation, and Sanitation Marketing. In addition, the project is socializing and training project stakeholders at the national and provincial levels, a district consultant team, and community facilitators in the planning process.

Community implementation training. After the national training, PAMSIMAS included the topic of disability inclusion in community implementation training for facilitators, reaching about 4,200 individuals.

Pilot projects in 200 villages. PAMSIMAS has initiated pilot projects on disability-inclusive WASH. Following the disability-inclusive community implementation training, facilitators identified 200 villages where pilots will be conducted. As part of the process, the project team is conducting reviews of the proposed technical design for villages in the pilot program (figure B4.1.1) reviews of 35 villages have been completed so far. The results of the reviews will be shared with local DPOs in a workshop, to obtain their feedback, which will be provided to the community facilitators team.

Monitoring. Disability will be added as part of the process and outputs monitoring, including by uploading the information onto the web-based management information system (baseline population, existing access, participation in the community meetings, and beneficiaries).

BOX 4.1. continued

FIGURE B4.1.1. Example of Design Specifications for an Accessible School Toilet, Developed for the PAMSIMAS Project in Indonesia

Improvement in technical specifications:

- Minimum requirement for room size, door width, height of water closet
- Accessories: handrail, lighting and paints, non-slippery floor, signs
- Access: ramp, tactile paving
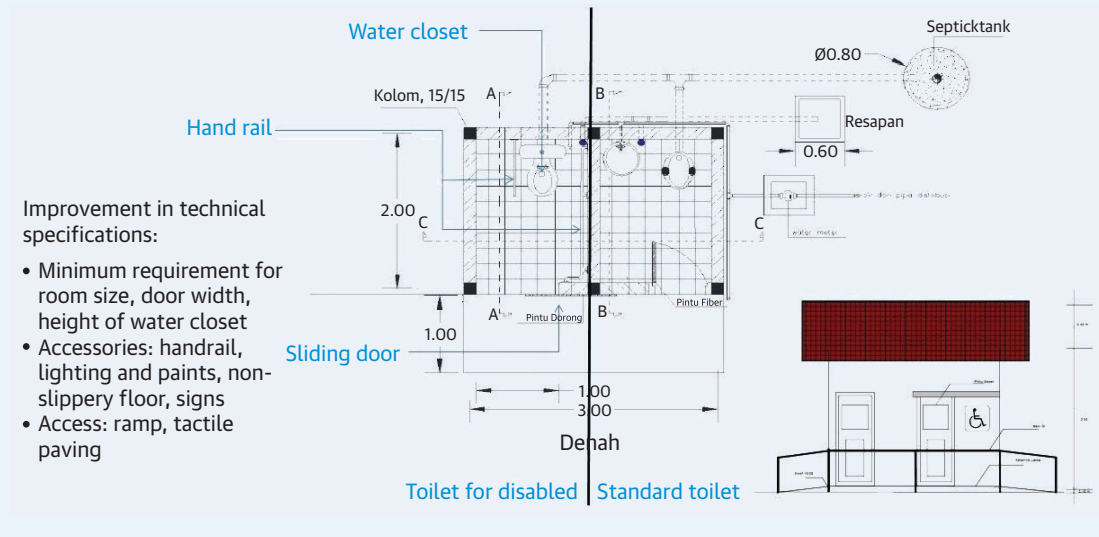
Source: PAMSIMAS.

Source: World Bank Project Team, Second Additional Financing to the Third Water Supply and Sanitation for Low Income Communities, Indonesia.

- *Projects (especially community-driven development) supporting community empowerment and institutional development at the national, local, and village levels.* An example would be projects supporting participatory decision making and community empowerment.

- *Projects working toward improving sanitation and hygiene behaviors.*

- *Development of rural irrigation facilities with a direct intent to increase rural employment.* This includes projects supporting on-farm water management and agricultural productivity activities.

- *Flood and watershed management projects* that address physical environments at the household level, structuring community and household environments for resilience, wastewater collection and reuse infrastructure, and land use.

Disability-specific activities include stand-alone disability projects and subproject-level interventions to address specific development gaps and barriers that persons with disabilities face in accessing larger project objectives. Where projects have not considered disability inclusion issues in the original design, trust funds can be useful resources to support targeted activities to benefit persons with disabilities.

4.2.1.2 Safeguard Policies

Safeguard processes can be used to assess risks for persons with disabilities and develop effective mitigation strategies. The key entry points for disability inclusion for borrowing governments in the World Bank's safeguards process include the following:

Social impact assessments. Social impact assessments can identify the key social risks and potential project

benefits for persons with disabilities. The assessments will include the socioeconomic status of persons with disabilities, and explore the potential impact of water projects on their access to resources, livelihoods, and resettlement needs. Recommendations can address risk mitigation measures and mechanisms to reduce any disparity in project benefits for persons with and without disabilities. Persons with disabilities should be a target group in desk reviews and included in surveys, consultations and focus group discussions, stakeholder meetings, and field observations.

OP 4.12 Involuntary Resettlement. It is important for borrowing governments to include explicitly persons with disabilities and their families as an affected group in developing resettlement policies, strategies, and specific plans. As discussed in section 2.6, the usual practices may fall short in appropriately compensating and supporting households with family members with disabilities, if their specific needs are not identified or considered. The impacts covered should include the loss of accessible housing and community services, long-term disruptions to schooling, additional out-of-pocket expenses as compared with households without persons with disabilities, and long-term ruptures in employment and social networks. Housing sites provided to displaced families should be accessible. When cash compensation is offered, calculations should account for the additional expenses borne by persons with disabilities.

OP 4.10 Indigenous Peoples. Indigenous persons with disabilities can face double discrimination and marginalization due to their disability and indigenousness. Activities conducted when OP 4.10 is triggered can include an examination of project impacts on indigenous persons with disabilities and address these in mitigation plans and measures.

Grievance mechanisms. Methods to record grievances must be accessible to persons with disabilities. This includes providing multiple and alternative means of communication. For example, persons who are deaf may not be able to use phone-based hotlines independently without access to an interpreter or teletyping services, which are rare in low- and middle-income countries. Hotlines should be offered in alternative formats, including providing a number for SMS, instant messaging communications, and e-mail. Information about grievance mechanisms must be disseminated in multiple and accessible formats as well.

4.2.1.3 Environmental and Social Framework

The new Environmental and Social Framework (ESF), starting in 2018, is an important milestone for promoting greater inclusion of persons with disabilities in financing projects. The ESF lays out more requirements than the current safeguard policies, to ensure that persons with disabilities are protected from negative impacts and included in mitigation plans and actions. Borrowing governments will need to include disability as part of the social assessment. ESF addresses the need for disability inclusion and accessibility in consultations and communications. Borrowers are expected to provide inclusive working conditions, including reasonable measures to adapt workplaces, for persons with disabilities. Project information must be provided in a manner that is accessible to persons with disabilities.

4.2.2 Development Policy Financing

Development Policy Financing is an important entry point for disability inclusion. As per OP 8.60, Development Policy Financing, "in carrying out dialogue with a Member Country, the Bank advises it to consult with and engage the participation of key stakeholders in the country in the process of formulating its development strategies." Task teams supporting borrowing countries can promote and help facilitate the inclusion of persons with disabilities, DPOs, and other relevant stakeholders in consultations, citizen engagement, and other participatory activities undertaken in the formulation of development strategies and policy and institutional actions. This can include developing disability-inclusive national development plans for

implementing the SDGs. Including persons with disabilities and their representatives in citizen engagement activities will inform and impact the design of reforms, implementation processes, and development of disability-inclusive M&E mechanisms.

4.2.3 Program-for-Results Financing

Disability inclusion in program-for-results financing can be done in two ways: (i) targeting and including persons with disabilities as beneficiaries in the program results, and (ii) ensuring that social and environmental assessments and technical assessments consider the needs, challenges, and impacts on persons with disabilities. Program-for-results financing can be used to support behavioral interventions and changes, governance reforms, improved service delivery, building accessible WASH facilities, and capacity building of government practitioners, engineers and practitioners, and other stakeholders.

4.3 Advisory Services and Analytics

Advisory services and analytics can be used widely to support disability inclusion in water operations. This includes technical assistance, reimbursable advisory services, and economic and sector work.

Examples of services for mainstreaming disability into water operations include the following:

- Analytical work, including desk reviews of policies and practices in inclusive water operations at the country, regional, and global levels; primary data collection to assess how many households are impacted and barriers and facilitators in access to water resources; socioeconomic impacts on lack of access for persons with disabilities; and political economy analysis.

- Capacity-building activities for all stakeholder groups, including government officials, development practitioners, WASH facilitators and engineers, persons with disabilities, DPOs, and other civil society members. See section 3.5.

- Connecting clients with international experts and knowledge products.

- Knowledge-sharing events, including peer-to-peer networks, conferences, and seminars.

- Conducting access audits and assessments of physical and social environments. See section 3.6.1.

- Advising countries on developing or adapting accessibility design standards. See section 3.6.

- Developing technical specifications for water access points and WASH facilities, guides, and manuals for developers and practitioners. See section 3.6.3.

- Developing indicators for assessing the results and impacts of water operations on persons with disabilities. See section 3.9.

Note

1. M. B. Das, 2016, "Social Inclusion in Macro-Level Diagnostics. Reflecting on the World Bank Group's Early Systematic Country Diagnostics," Policy Research Working Paper 7713, http://documents.worldbank.org/curated/en/361801467991929675/pdf/WPS7713.pdf.

Appendix A
Resources

Design Guides and Manuals

AusAid (Australian Agency for International Development). 2013. *Accessibility Design Guide: Universal Design Principles for Australia's Aid Program*. A companion volume to *Development for All: Towards a Disability-Inclusive Australian Aid Program 2009–2014*. AusAID, Canberra, Australia. http://dfat.gov.au/about-us/publications/Documents/accessibility-design-guide.pdf.

Guzmán, N., S. Huuhtanen, H. Katsui, N. Kilpelä, M. Koistinen, K. Pesola, and T. Tuure, "Inclusive WASH Activities in the Global South (a Guidebook)." https://www.vammaiskumppanuus.fi/wp-content/uploads/2016/05/Inclusive_WASH_Activities_in_the_Global_South.pdf.

Handicap International. "How to Build an Accessible Environment in Developing Countries." Manual #2: Access to Water and Sanitation Facilities. Handicap International, Silver Spring, MD. http://www.addc.org.au/content/resources/how-to-build-an-accessible-environment-in-developing-countries-manual-part-2/667/.

UNICEF (United Nations Children's Fund). 2012. "Disabilities: WASH: Listing of Resources on Making WASH Facilities Accessible." UNICEF, New York. https://www.unicef.org/disabilities/index_65839.html.

World Bank. 2008. *Design for All: Implications for World Bank Operations*. Report Number AGP125, volume 1. World Bank, Washington, DC. http://siteresources.worldbank.org/DISABILITY/Resources/Universal_Design.pdf.

WEDC (Water, Engineering and Development Centre). Equity and Inclusion in Water, Sanitation and Hygiene. Various resource materials. https://wedc-knowledge.lboro.ac.uk/collections/equity-inclusion/general.html.

Toolkits

Jones, H., and J. Wilbur. 2014. *Compendium of Accessible WASH Technologies*. Water, Engineering and Development Centre, WaterAid, and Share. http://www.wateraid.org/what-we-do/our-approach/research-and-publications/view-publication?id=aff6d098-00f2-42e5-b9a0-22ec2b264a5e.

National AgrAbility Project. *The Toolbox: Agricultural Tools, Equipment, Machinery & Buildings for Farmers and Ranchers with Physical Disabilities*. http://www.agrability.org/toolbox/.

WEDC (Water, Engineering and Development Centre). *Accessibility and Safety Audit Tools*. https://wedc-knowledge.lboro.ac.uk/collections/equity-inclusion/general.html.

Informational Videos

WaterAid. *Count Me In: Partnering with the Arts to Get the Message Out about Inclusive WASH*. Series of short animated videos to raise awareness of inclusive water sector operations. Made in Cambodia. http://www.wateraid.org/news/blogs/2016/july/count-me-in-partnering-with-the-arts-to-get-the-message-out-about-inclusive-wash.

- How to do an accessibility and safety audit: https://youtu.be/f5VEqukqZw8?list=PLc-oawSTlDS2ht3B_Es7MEr3acVo8geV3.

- How to do a barrier analysis: https://youtu.be/4mjRpx8AQRc?list=PLc-oawSTlDS2ht3B_Es7MEr3acVo8geV3.

- How to identify people with disabilities: https://youtu.be/f1Ulyhf7ghs?list=PLc-oawSTlDS2ht3B_Es7MEr3acVo8geV3.

- How to partner with a DPO: https://youtu.be/3Ur7RTO5HEc?list=PLc-oawSTlDS2ht3B_Es7MEr3acVo8geV3.