The Inclusion Imperative: Towards Disability-inclusive and Accessible Urban Development

Key Recommendations for an Inclusive Urban Agenda

Disability **Inclusive** and **Accessible** Urban Development **Network**

World Enabled

cbm
together we can do more

Disability **Inclusive**
and **Accessible** Urban
Development **Network**

About the Global Network on DIAUD

The Global Network on Disability Inclusive and Accessible Urban Development (DIAUD) is a multi-stakeholder network that works to ensure that the New Urban Agenda and the UN Habitat III process incorporate the perspectives of persons with disabilities. The DIAUD network aims to build and enhance networking among persons with disabilities and disability rights advocates; policymakers and government officials; urban development professionals; academia; foundations; the private sector; and development cooperation partners.

Established in partnership with the United Nations Department of Economic and Social Affairs / Division of Social Policy and Development / Secretariat for the Convention on the Rights of Persons with Disabilities, the DIAUD Network enables concerted disability-inclusive efforts to contribute to Habitat III through its multi-stakeholder partners working on both disability and urban development issues.

The DIAUD Network is supported by the Disability Inclusive Development (DID) Policy Collaboratory, an initiative of the Institute on Disability and Public Policy at American University and supported by The Nippon Foundation.

Foreword

Urbanization is one of the most important global trends of the 21st century. It has the potential to contribute to the "re-design" of our world supporting the creation of sustainable and inclusive cities for all. About 6.25 billion people, 15% of them with disabilities, are predicted to be living in urban centers by 2050. Urban environments, infrastructures, facilities, and services, depending on how they are planned and built, can impede or enable access, participation, and inclusion in society. As of today, persons with disabilities living in urban areas all around the world continue to face dramatic challenges to participate in their communities due to a widespread lack of accessibility to the built environment. Barriers to the physical environment and to accessible information and communication impede their enjoyment of basic urban services; from housing to roads and public spaces, from public buildings to basic urban services such as sanitation and water, health, education, transportation, emergency and disaster response and resilience. These barriers directly impact on the disproportionate rates of poverty, deprivation and exclusion faced by persons with disabilities, but also affect the development of their communities as a whole.

Catalina Devandas, UN Special Rapporteur on the rights of persons with disabilities

Since 2006, with the adoption of the UN Convention on the Rights of Persons with Disabilities (CRPD), the international community committed to promote the inclusion and active participation of persons with disabilities on an equal basis with others. Since then we have witnessed many relevant achievements, as the situation of our group has become more visible, but much more needs to be done. The adoption of the Sustainable Development Goals (SDGs) with a clear mandate of leaving no one behind, including those with disabilities, is an important reminder of the tasks ahead. We will fail to achieve the new international development agenda if we don't consider disability inclusion at the starting point. To advance towards development that is inclusive of all, the CRPD and the SDGs should be used as mutually reinforcing tools.

In that context the adoption of a new Urban Agenda in Habitat III, brings a great opportunity to address the structural challenges faced by persons with disabilities when it comes to access to housing and urban settings. Consideration should be given both to the human rights and development dimensions to make sure persons with disabilities are not, once again, left behind.

This publication is of critical importance as it contributes a clear overview of the main issues at stake. Namely, that governments, civil society organizations, and the private sector have a role to play in ensuring that accessibility is not an afterthought but a central component of their work. It also provides guidance on how to address the accessibility lack, in a simple way supporting policy makers in designing solutions for all from the start. It is important to stress once again that there are no excuses to leaving persons with disabilities behind; our recognition as equal members of society will bring prosperity to all and cities that are respectful and safe for all human kind.

Catalina Devandas
UN Special Rapporteur on the rights of persons with disabilities

Contents

Boxes

Abbreviations and acronyms

CBR Community Based Rehabilitation

CDD Centre for Disability in Development

CUET Chittagong University of Engineering and Technology

CRPD United Nations Convention on the Rights of Persons with Disabilities

DESA United Nations Department of Economic and Social Affairs

DFID Department for International Development (UK)

DPO Disabled people's organization

DRR Disaster risk reduction

HBRI Housing and Building Research Institute

ICT Information and communication technologies

ILO International Labour Organization

LHAC League of Historical and Accessible Cities

NFDN National Federation of the Disabled Nepal

RCRDN Resource Center for Rehabilitation and Development Nepal

SARPV Social Assistance and Rehabilitation for the Physically Vulnerable

SDGs Sustainable Development Goals

TOD Transit-oriented development

UN United Nations

UNISDR United Nations International Strategy for Disaster Reduction

WASH Water, sanitation and hygiene

WHO World Health Organization

Introduction

"Accessibility is a precondition for persons with disabilities to live independently and participate fully and equally in society."[1]

Why urban development needs to be disability-inclusive and accessible

According to the World Health Organization and the World Bank, 15% of the world's population live with some type of impairment or disability. By 2050, 6.25 billion people will live in urban centers. If these estimates hold true, that means that by 2050 nearly one billion urban dwellers will be persons with disabilities. The unprecedented scale of urban expansion demands a radical rethinking of what cities are, and who they are for.

Living with a disability is virtually a universal experience. Persons with disabilities are young, old, women, men, straight, gay, transgender, indigenous, and of every race and ethnicity. However, the manner in which cities are designed for too long has failed to consider the unique ways that physical and social barriers limit the participation of persons with disabilities in public life.

By developing and enforcing accessibility standards, new transportation systems, pedestrian pathways, and information systems could open unprecedented opportunities to realize social inclusion of persons who have difficulty seeing, hearing, remembering, or moving around without assistance. Furthermore, non-discrimination policies protecting the rights of persons with disabilities are also needed to ensure the right to housing, and to combat exclusionary housing policies and prejudice that perpetuate inequality.

This publication highlights the key physical, social, and institutional factors that act as barriers or facilitators for the full and equal participation for women, men, girls and boys with disabilities. The following chapters shed light on the critical role local and national governments, civil society, academia, philanthropic foundations, and the private sector can play in ensuring that cities of the future are inclusive, accessible, and barrier-free to persons with disabilities.

The unique role of accessibility in urban development

Environmental barriers are not simply obstacles to full participation, they can limit governance and decision making process. The lack of participation of persons with disabilities in urban affairs is one of the biggest challenges facing this large and diverse group. Persons with disabilities include young people, women, men, girls and boys with disabilities, older people and indigenous, all of whom can experience multiple forms of exclusion and marginalization during the implementation of the New Urban Agenda.

Accessibility is the key to inclusive cities and it is an essential condition to realize the Sustainable Development Goals, the Sendai Framework for Disaster Risk Reduction, and the United Nations Convention on the Rights of Persons with Disabilities. The New Urban Agenda is unique because it can stimulate the implementation of these global agreements at the local level by promoting urban policies, services, infrastructure, and products that help make these rights real.

"A world that recognizes the rights of the disabled, ensures that people with disabilities can be productive members of their communities and nations and provides an inclusive and accessible environment, is a world that will benefit all of us – with or without disabilities."[2] UN Secretary-General Ban Ki-moon

Who is this publication aimed at?

This publication offers key recommendations for disability inclusive urban development. The recommendations help ensure that cities respond to the needs of everybody, including persons with disabilities. This publication was developed for city managers, urban planners, development practitioners, designers, disability rights advocates, scholars, and anyone else who is involved in urban development or accessibility.

This publication does not provide a set of standards or give detailed technical information on accessibility standards, instead it provides practical steps and "key questions to ask" to ensure that key issues in the New Urban Agenda, such as accessibility and equality, truly address the needs of everybody, including persons with disabilities.

Good practices are shared alongside the voices of persons with disabilities to promote a better understanding of the key issues and help illustrate how accessibility for women, men, girls and boys with disabilities can be a catalyst for innovation and inclusion in cities.

Who is responsible for providing accessibility?

Accessibility is both a human right and a core principle of development. Many countries have laws about accessibility and many governments who have ratified the Convention on the Rights of Persons with Disabilities (CRPD) are committed to create inclusive societies. By the time of this publication over 166 countries have ratified the UN CRPD[3]. The great majority of these countries

also support the New Urban Agenda and are in the process of developing or will soon develop clear standards for accessibility.

The subsequent chapters illustrate how universal design principles benefit all urban dwellers including senior citizens, children, people with learning disabilities, or even visitors with limited knowledge of the local language.

Adopting "design and access for all" strategies in all investments right from the start would help cities to tackle spatial, social, and economic inequalities as well as demographic changes such as an aging society. Including accessibility from the beginning means avoiding corrective and costly measures to remove barriers in the future.

Whether you are a public authority, a construction professional, a development practitioner, a designer, a scholar, a business owner, or a service provider accessibility and inclusion should always be part of what you do. Access for, and inclusion of, women, men, girls and boys with disabilities can be realized by taking proactive steps to remove unnecessary barriers. This publication provides some steps to get you started.

Key facts and figures about disability and accessibility

1. Today, 1 billion people, or 15% of the world's population, experience some form of disability and 80% of persons with disabilities live in developing countries facing considerable discrimination and barriers that restrict them from participating in society on an equal basis with others.

2. The world's population is aging. By 2050, 2 billion people, over 20% of the world's population, will be 60 or older[4]. As impairment rises with age, accessibility is key to meet the needs of aging populations.

3. One in five, 20%, of the poorest people living in developing countries have a disability. Disability is both a cause and consequence of poverty and access to services in urban areas can contribute to ending the cycle.

4. More than half of all persons with disabilities now live in towns and cities and by 2030 this number is estimated to swell to between 750,000 and 1 billion[5].

5. Women, older women, and pregnant women as well as women with disabilities encounter severe disadvantages because of the few or non-existent conditions of physical accessibility, accessibility to information and communication, and limited access to education and basic health and rehabilitation services[6].

6. Youth with disabilities often face marginalization and severe social, economic and civic disparities as compared with those without disabilities due to a range of factors from stigma to inaccessible environments[7].

7. Removing barriers to accessibility and meeting accessibility requirements in cities would allow girls and boys with disabilities to have safe access to education and public spaces and enjoy their Right to Play[8].

8. Indigenous peoples are often disproportionately affected by disability, and may face additional environmental, social, cultural, linguistic or community barriers when accessing public services or supports[9].

9. Among homeless population, up to 50% of people could experience psychosocial disabilities. The lack of safe and accessible housing options further exacerbates their precarious status[10].

10. It is estimated there will be at least 200 million people displaced by climatic events by 2050, of whom at least 30 million are likely to be persons with disabilities (15% of the population). There are many others who will be left behind to struggle for a livelihood in degraded environments[11].

11. Lack of access to early warning systems, transportation, barrier-free housing, and public buildings and spaces place persons with disabilities and senior citizens at high risk with respect to disasters caused by natural hazards and conflicts or by low-severity high-frequency disasters[12].

12. It is generally feasible to meet accessibility requirements at 1% of the total cost. Retrofitting for accessibility is more expensive – by up to 20% of the original cost – than integrating accessibility and universal design principles into new buildings[13].

Photo credits from top in a clockwise direction: ©Benjamin Dard, ©CBM Haiti/Frédéric Dupoux, ©CBM, ©CBM/Saising, ©Benjamin Dard, ©Benjamin Dard, ©Benjamin Dard, ©Benjamin Dard, ©CBM, ©Benjamin Dard

Overview of the Inclusion Imperative

1. Habitat III and the 2030 Development Agenda: transforming good intentions to measurable actions

The Conference on Housing and Sustainable Development (Habitat III) and the New Urban Agenda provide a critical opportunity for the disability community to help shape a more accessible and inclusive urban future. Habitat III aims to help cities fulfil their role as drivers of sustainable development, and hence shape the implementation of new global development and climate change goals. Furthermore, the New Urban Agenda provides an opportunity to include and further implement accessibility and universal design as a key principle guiding how cities, towns and villages are planned, built and managed[14]. It is widely seen as a key mechanism to mobilize action and coordinate the implementation of the Sustainable Development Goals (SDGs) with local authorities.

Mandatory regulation is necessary for lasting urban transformation to occur. Legal reforms can create new incentives elevating accessibility and stimulating new investments in infrastructure and innovations in design. Efforts should focus on engaging the local authorities that set zoning, land use, transportation, and building regulations in these cities to ensure that persons with disabilities, alongside other marginalized communities, are prioritized and within these larger initiatives.

"We don't need more laws. We need to implement the laws we have. In the Philippines we have 99% policy and just 1% implementation. My desire for the cities of the future is that we Persons with Disability will no longer demand accessibility but rather that it is readily available."[15] Della Leonor, Roxas City, Philippines.

> **"Our needs and aspirations as urban or rural citizens are often overlooked by our national or local governments. We are invisible and our economic, social, or cultural contributions too often unrealized due to unnecessary physical or social barriers. Rights-based development needs substantial coordination, financing, and leadership. Mayors, State Governors, Parliamentarians, need to understand the challenges in our cities, and the ways they have failed us."[16]** Juan Angel De Gouveia, Caracas, Venezuela.

The Sustainable Development Goal No. 11 states that cities should be "inclusive, safe, resilient and sustainable"[17]. This calls for actions and measures to ensure universal access to safe, inclusive and accessible green and public spaces, adequate and affordable housing, urban and peri-urban transport and basic services for all urban dwellers, whether or not they live with a disability.

It also means that persons with disabilities are included as full and equal participants in the social, political and economic life of cities and urban dwellings, including representation in civil society and political decision making and access to employment and income-generating activities on an equal basis with others.

2. Inclusion in the Urban Century

Over the next 35 years, cities will shape virtually every aspect of global development, including the manner in which fundamental human rights are won and implemented. Social exclusion and marginalization on the basis of socio-economic status, gender, age, disability, caste, ethnicity, and other categories pose significant difficulties in gaining and securing access, rights, and opportunities in urban areas.

Poor planning, city design and unregulated urban development generate and reinforce exclusion. Cities are under immense pressure to ensure that urban development is inclusive and responds to the needs of marginalized groups, including persons with disabilities.

Women, men, girls and boys with disabilities continue to face considerable discrimination regarding mobility and accessing urban infrastructures and services (i.e. housing, transport, clean water, education, employment, health services, information technology), which not only results in exclusion but fewer opportunities for employment, education, or political participation. Those who are displaced due to conflicts or disaster may also face additional constraints such as legal status and trauma, loss of assistive devices, assets and jobs[18].

Well-planned cities can dramatically improve the social and economic outcomes for individuals with a range of disabilities, their families, and the larger communities they participate in.

"Unless our public spaces are accessible, neither education nor employment is possible. If a person with a disability cannot even step out of his or her home, cannot get into a bus or a train, how will he or she be able to go to college or university? Will the college or university be accessible? If persons with disabilities obtain educational qualifications will their future workplace be accessible?"[19]
A quote from a person with a disability, reported by UNDP

3. Building cities for human diversity, social inclusion and equality

Building cities and societies for human diversity, social inclusion, and equality is becoming an increasing priority and it is key for a truly inclusive and sustainable future for all. Urbanization provides opportunities for social inclusion, equitable access to services and livelihoods, and engaging and mobilizing previously excluded populations. It also provides an opportunity to design an enabling environment that reflects the reality of how urban inhabitants access their communities and live their lives.

"The traditional design process assumes that designers will be designing for people just like themselves. Universal design requires thinking about all users."[20]
Valerie Fletcher, executive director of The Institute for Human Centered Design [Adaptive Environments].

An inclusive city is a place where everyone, regardless of their economic means, gender, ethnicity, disability, age or religion, is enabled and empowered to fully participate in the social, economic, cultural and political opportunities that cities have to offer. Inclusive environments consider people's diversity and break down unnecessary barriers and exclusions in a manner that benefits all.

"At the heart of addressing exclusion from infrastructure is the concept of Universal Design. It requires an engineering approach, developing a comprehensive understanding of the challenges to be addressed, establishing clear objectives to achieve and taking a systematic approach to dealing with them. This requires commitment to Universal Design at every level of the project planning, design, implementation and operation, with the concepts institutionalized in the same way as health and safety."[21]

Like other urban issues, tackling accessibility will require assessing and responding to shortcomings in infrastructure management, municipal codes, land use, transportation planning, housing and community development, mobility, social services, and broader monitoring of human rights on a local level.

Box 1. Accessibility is a right and a core principle of development

Accessibility is a right and a prerequisite for the inclusion of persons with disabilities in society. The Convention on the Rights of Persons with Disabilities (CRPD) has accessibility as a general principle, Article 3 (f), which emphasizes the need for governments, policy makers, and planners to address accessibility across all interventions, policies, and programs[22]. Article 9 gives specific guidance outlining the responsibilities of States Parties to "take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas". The CRPD promotes the concept of universal design (Article 2) that with due consideration of access issues for women and men, girls and boys with disabilities, this creates a more inclusive environment for all, including children, women, older people, and other groups who are often over looked or excluded, but does not exclude the right to individual adaptation, assistive devices, and reasonable accommodation.

These concepts and the principle of accessibility underlie all articles of the CRPD to safeguard and promote the rights of all persons with disabilities regardless of

impairment, age, gender, or any other characteristic to equally access all areas of social, economic, cultural, and political life. This covers all articles but is essential to ensure living independently and being included in the community (Article 19), to access health (Article 24), education (Article 25), work and employment, an adequate standard of living and social protection (Article 28), participation in political and public life (Article 29), and participation in cultural life, recreation, leisure and sport (Article 30).

The CRPD also obligates States Parties to address accessibility and inclusion of persons with disabilities in humanitarian and emergency responses (Article 11) and international cooperation (Article 32).

Universal and equitable access is also a core foundation of sustainable development and enshrined in Agenda 2030 Sustainable Development Goals (SDGs) in the core commitment of "leave no one behind"[23]. Addressing inclusive urban design is therefore key to achieving economic prosperity and development, and building peaceful and resilient communities that can create safe environments for communities to thrive.

The incorporation of the principles of universal design in the Post-2015 Framework for Disaster Risk Reduction adopted in Sendai in March 2015 provides an opportunity for building safe, resilient, and accessible communities, benefiting not only persons with disabilities but society as a whole[24]. Delivering on these commitments will mean true alignment with the Convention on the Rights of Persons with Disabilities.

Box 2. What is universal design?[25]

"Universal Design, by definition, is the design of products, environments, services and programs to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design."
Ronald L. Mace, The Center for Universal Design at North Carolina State University.

- Universal design creates inclusive design solutions and promotes accessibility and usability, allowing people with all levels of ability to live independently.

- A universal design approach therefore requires an appreciation of the varied abilities of every person and to design in such a way that the resulting product, service, or environment can be used by everyone regardless of age, size, ability, or disability.

- The human-centred approach to design that universal design supports is user-friendly and convenient, but is also respectful of user dignity, rights ,and privacy.

Universal design follows 7 Principles which aim to guide the design of environments, products and communications:

Principle 1: Equitable Use: Design that is useful and marketable to persons with diverse abilities.

Principle 2: Flexibility in use: Design that accommodates a wide range of individual preferences and abilities.

Principle 3: Simple and intuitive use: Design that is easy to understand, regardless of the user's experience, knowledge, language skills, or concentration level.

Principle 4: Perceptible information: Design that communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

Principle 5: Tolerance for error: Design that minimises hazards and the adverse consequences of accidental or unintended actions.

Principle 6: Low physical effort: Design that can be used efficiently and comfortably and with a minimum of fatigue.

Principle 7: Size and space for approach and use: Design that provides appropriate size and space for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility.

Tactile paving surfaces provide a great solution for enhancing mobility and safety of users with visual impairments in the urban environment.
©CBM/Benjamin Dard

Recommendations for an inclusive urban agenda[26]

A new urban agenda must ensure that all elements of the built environment, including land use, transportation, housing, energy, and infrastructure, work together to provide accessible and affordable places for living, working, and recreation, with a high quality of life that meets the livelihood needs of all citizens and groups.

In addition, the agenda must ensure that the planning process actively involves all segments of the community and includes persons with all types of disabilities in analyzing issues, generating visions, developing plans, and monitoring outcomes.

The following recommendations can help realize this goal.

1. Recommendations to ensure access to the built environment

1.1 Plan for multimodal transportation

A multimodal transportation system allows people to use a variety of transportation modes, including walking, biking, and other mobility devices (e.g. wheelchairs), as well as transit where possible. Such a system reduces dependence on automobiles and encourages more active forms of personal transportation, improving health outcomes, and increasing the mobility of those who are unable or unwilling to drive (e.g. youth, persons with disabilities, the elderly). Fewer cars on the road also translate to reduced air pollution and greenhouse gas emissions with associated health and environmental benefits.

A multimodal transportation system is key to ensure that elements of the travel chain are consistently accessible and are easy to plan and follow.

Box 3. The "travel chain" – components and continuity[27]

The "travel chain" refers to all elements that make up a journey, from starting point to destination, including pedestrian access, vehicles, and transfer points. If any link is inaccessible, the entire trip becomes difficult. The accessibility goal is for people to have access to all vehicles and the full service area, as well as the pedestrian environment. Provisions for privacy, security, and safety should be equally available to all users.

Recommended guiding principles to ensure the travel chain is complete for women, men, girls and boys with disabilities include:

1.   Planning and design approaches involving persons with disabilities.

---

2. Adequate monitoring and enforcement of existing accessibility legislation.

3. Developing campaigns and educational programs to improve policies, practices, and the use of services. Such as posters informing passengers of priority seating.

4. Local knowledge contribution, such as locations for pedestrian crossings on busy/dangerous streets.

5. Provisions for alternative forms of transport, such as separate lanes and paths for tricycles, wheelchairs, bicycles, and scooters, and accessible information.

6. Affordable transport through subsidies for persons with disabilities.

7. Education and training of all parties involved in transportation, for instance:
   - Managers need to understand their responsibilities and front-line staff need to ensure customer care, and
   - Key equipment, such as portable lifts or mechanical ramps require properly trained attendants, as well as stopping vehicles in the right position to allow use.

Comprehensive "way-finding" systems and easy-to-read information help every user including visitors with limited knowledge of the local language to find their way and navigate in complex environments such as public transit stations. ©CBM/Benjamin Dard

1.2 Plan for transit-oriented development

Transit-oriented development (TOD) is characterized by a concentration of higher density mixed use development around transit stations and along transit lines, such that the location and the design of the development encourage transit use and pedestrian activity. TOD allows communities to focus new residential and commercial development in areas that are well connected to public transit. This enables residents to more easily use transit services, which can reduce vehicle-miles traveled and fossil fuels consumed and associated pollution and greenhouse gas emissions. It can also reduce the need for personal automobile ownership, resulting in a decreased need for parking spaces and other automobile-oriented infrastructure.

Box 4. **Compact cities: increasing accessibility and low-carbon mobility in cities**

Sprawling areas generally force people and goods to travel further distances, compounding unsustainability in patterns of movement and congestion, as well as reinforcing segregation. With 'compact and connected urban form', however, cities don't have to be like this. Urban environments that are accessible, low-carbon, human-centered, and can influence a community's health in the long term are possible. Compact city development can be supported by measures that include minimum density standards, mixed-use regulations, and a density bonus for developers. One example of such a measure is Denmark's Planning Act on the "Station Proximity Principle". "[It] requires new offices over 1,500m2 to be located within 600m of a rail station, leading to Copenhagen's efficient, compact urban form"[28].

Low floor buses improve access to public transportation for the general public, particularly senior citizens and persons with disabilities, including those using wheelchairs and walkers. ©CBM/Benjamin Dard

---

19

1.3 Provide complete streets serving multiple functions

Complete streets are streets that are designed and operated with all users in mind – including motorists, pedestrians, bicyclists, and public transit riders (where applicable) of all ages and abilities – to support an accessible and affordable multi-modal transportation system. A complete street network is one that safely and conveniently accommodates all users and desired functions, though this does not mean that all modes or functions will be equally prioritized on any given street segment. Streets that serve multiple functions can accommodate travel, social interaction, and commerce to provide for more vibrant neighborhoods and more livable communities.

1.4 Plan for mixed land-use patterns that are walkable and bikeable

Mixed land-use patterns are characterized by residential and nonresidential land uses located in close proximity to one another. Mixing land uses and providing housing in close proximity to everyday destinations (e.g. shops, civic places, workplaces) can increase walking and biking and increase personal mobility. Mixed land-use patterns should incorporate safe, convenient, accessible, and attractive design features (e.g. sidewalks, bike street furniture and facilities, street trees) to promote walking and biking.

"Better [urban] policies and design strategies can increase mental health and happiness. These include policies that improve mental health services in urban areas, more affordable urban housing and transportation, improved walking and cycling conditions, improved public realm, social inclusion programs that integrate visible minorities and welcome newcomers, [plus] appropriate public parks and recreation facilities."[29]

Accessible Pedestrian Signals provide visual, audible cues and vibrotactile signals to convey pedestrian crossing information to the broadest range of individuals including people who are blind, visually impaired and deafblind. ©CBM/Benjamin Dard

1.5 Prioritize access with infill development

Infill development is characterized by development or redevelopment of undeveloped or underutilized parcels of land in otherwise built-up areas, which are usually served by or have ready access to existing infrastructure and services.

1.6 Encourage design standards appropriate to the community context

Design standards are specific criteria and requirements for the form and appearance of development within a neighborhood, corridor, special district, or jurisdiction as a whole. These standards serve to improve accessibility or protect the function and aesthetic appeal of a community or neighborhood. Design standards typically address building placement, building massing and materials, and the location and appearance of elements (such as landscaping, signage, and street furniture). All these features have accessibility and design considerations for women, men, girls and boys with disabilities. Access considerations can encourage development that is compatible with the community context and that enhances sense of place. While accessible design standards will not be specified in a comprehensive city-wide master plan, the plan can establish the direction and objectives that detailed accessibility standards should achieve.

1.7 Provide accessible public facilities and spaces

Public facilities play an important role in every city, and they should be able to accommodate persons of all ages and abilities. Public facilities and spaces such as schools, parks, civic or community centers, public safety facilities, arts and cultural facilities, recreational facilities, plazas, should be equitably distributed throughout the city. They should be located and designed to be safe, served by different transportation modes, and accessible to visitors with mobility impairments.

Box 5. Building without barriers reduces exposure to risk

Public spaces designed with care and implemented with skill engender a sense of pride in a place, enable all persons to use them with ease, may discourage crime, promote healthy living, and increase land values. Well-designed public spaces also reduce everyone's exposure to risk in the event of a disaster (for example, creating wide evacuation routes, covering open manholes, removing tripping hazards on roads and footpaths, and posting written and pictorial routes to assembly points). Incorporating accessibility in low-resource environments such as refugee camps and emergency housing reduces risk and uncertainty for all residents and improves health, wellness, and household autonomy by developing readily accessible spaces, places, and services of everyday life.

1.8 Conserve and enhance historic resources

Historic resources are buildings, sites, landmarks, or districts with exceptional value or quality for illustrating or interpreting the cultural heritage of a city. It is important to address accessibility in the conservation and enhancement of historic resources. Examples of how to do this effectively exist[30]. In Europe, the League of Historical and Accessible Cities (LHAC) was launched in 2010 as a pilot project focusing on improving the accessibility of historical towns while at the same time promoting the development of sustainable tourism and the protection of cultural heritage[31].

Box 6. Applying universal design to historic buildings and places[32]

"A universal design strategy applied to places of built heritage should aim to include the following goals wherever practicable:

- Pre-visit information available in accessible formats and providing information about the accessibility of the site and services

- Staff trained in disability and equality awareness

- An accessible external landscape [including routes]

- Simple and intuitive wayfinding and orientation

- Well-designed and legible signage

- An accessible principal entry point

- Access for everyone to facilities or, where this is not possible, alternative access provided

- Interpretive information available in a variety of formats

- Programmes and events that are accessible to all

- Emergency evacuation for everyone."[33]

1.9 Implement accessibility standards into green building design and energy conservation

A green building is characterized by design features that, if used as intended, will minimize the environmental impacts of the building over the course of its lifespan. In addition, social sustainability including principles of universal design should be considered in parallel to environmental impact assessment. This reduces the need to retrofit in the future and supports change of behavior that is more accepting of accessibility.

"Adopting the mentality of universal design can also be a competitive marketing advantage. […] 'Universal design, like green design, is the right thing to do. Facility executives should be concerned about universal design because accessibility is becoming the expectation, not just the law.' John Salmen, president, Universal Designers & Consultants."[34]

Planning for non-motorized travel benefits communities in many ways; it can remove barriers to mobility, increase the safety and comfort of pedestrians and cyclists, and help create more liveable communities. ©CBM/Benjamin Dard

2. Recommendations to ensure equity

2.1 Plan for improved health and safety for at-risk populations

An at-risk population is characterized by vulnerability to health or safety impacts through factors such as race or ethnicity, socioeconomic status, geography, gender, age, behavior, or disability status. These populations may have additional needs before, during, and after a destabilizing event. Such an event may be a conflict, a natural or human-made disaster, a period of extreme weather, or throughout an indefinite period of localized instability related to an economic downturn or a period of social turmoil. At-risk populations include children, the elderly, persons with disabilities, those living in institutionalized settings, those with limited language proficiency, and those who are transportation disadvantaged.

2.2 Provide a range of housing types

A range of housing types is characterized by the presence of residential units of different sizes, configurations, tenures, and price points located in buildings of different sizes.

Universally designed homes are designed to provide improved function for all possible residents, rather than providing specific adaptations that only help persons with disabilities. By incorporating features into dwellings that are inherently adapted to all, and with careful consideration as to the neighborhood context, the layout and provision of adequate space for people to maneuver, dwellings will be convenient for as broad of a range of households and visitors as possible.

"Designers cannot just copy details from technical manuals when accessibility is required; they must treat accessibility as an integral part of creating livable homes and neighborhoods. Designing inclusive housing from the beginning is one way of integrating accessibility with neighborhoods for the life span."[35]

"When we're building we should be building for everyone […]. For example, poor soundproofing in a residence – so that you can hear the neighbours in the next apartment – can be an annoyance for some people; for people with autism, it can make a home "almost unliveable." It may not be immediately apparent … but [such] barriers are much more significant for autistic people."[36] Ari Ne'eman, co-founder of the Autistic Self-Advocacy Network in the United States.

Box 7. What makes a home "visitable"?[37]

The concept of "visitability" can be seen as a first step to universal design. Visitability refers to housing designed in such a way that it can be lived in or visited by people who have difficulties with steps or who use wheelchairs or walkers. With visitability, only a portion of the house or building will be universally designed to be usable. For instance, a house is **visitable** when it meets the following three basic requirements:

1. At least one "no-step" entrance into the main floor of the home.

2. Wider doors and hallways.

3. One wheelchair-accessible bathroom on the main floor.

Universal design and visitability features in the housing stock enable people to live longer in their current housing, improve their quality of life, reduce accident risks as well as the costs to society for healthcare, rehabilitation, and institutionalization. The estimated added cost of visitability, when incorporated intelligently, is extremely low – about 100 USD for new homes built on a concrete slab, including 25% in overhead and profit[38].

2.3 Provide accessible and quality public services, facilities, and health care to minority and low-income neighborhoods

A public service is a service performed for the benefit of the people who live in (and sometimes those who visit) the jurisdiction. A public facility is any building or property – such as a library, park, or community center – owned, leased, or funded by a public entity. Public services, facilities, and health care that meet or exceed industry standards for service provision should be located so that all members of the public have safe and convenient transportation options to reach them. Public services, facilities, and healthcare providers often underserve minority and low-income neighborhoods.

"When developing or implementing slum-upgrading programmes, there is an opportunity to adopt creative solutions, propose alternative accessible routes and open spaces and create a more inclusive environment, instead of surrendering to the challenge of budget constraints."[39]

Ensuring that WASH facilities and service delivery are accessible and affordable to all is key to providing a healthier future for low-income urban communities. ©CBM/Saising

2.4 Protect at-risk populations from natural hazards

A natural hazard is a natural event that threatens lives, property, and other assets. Natural hazards include floods, high wind events, landslides, earthquakes, and wildfires. Precarious neighborhoods face higher risks than others when disaster events occur. A population may be at risk for a variety of reasons, including location, socioeconomic status or access to resources, lack of leadership and organization, and lack of planning.

Community based mechanisms and programs such as Community Based Rehabilitation (CBR) are essential to build resilient communities engaging the whole community, including persons with disabilities and their families into disaster risk reduction planning in urban areas. I.e. developing individual emergency plans and a support system based on community focal points, identifying gathering points, emergency shelters, and evacuation routes that are safe and accessible.

"Even the best early warning systems and preparedness efforts to evacuate populations in danger do not address fully the diversity of disabilities that we have in our societies. The only way to address this is to ensure that persons with disabilities are involved in the design and planning of the systems that are designed to protect the safety of the population in all countries."[40]
Margareta Wahlström, Special Representative for UNISDR.

Box 8. Flash flood resilient accessible housing: collaboration between national and local actors for creating an innovative model of access in Bangladesh[41]

Chakaria, Bangladesh, is affected by flash floods every year and each year the level of flash flood water has kept on rising. The Centre for Disability in Development (CDD) and Social Assistance and Rehabilitation for the Physically Vulnerable (SARPV) work closely together as part of the Promotion of Human Rights for Persons with Disabilities (PHRPBD) project. Their work has been supported by CBM over the past number of years. Following the 2015 floods, the highest in living memory, CDD and CBM with SARPV, the Housing and Building Research Institute (HBRI) and the Bangladesh Government conducted a study to design and construct a prototype accessible-for-all and flash flood resistant house.

Students of Chittagong University of Engineering and Technology (CUET) and Premier University took part in a competition to design such a house. They met with the affected community and persons with disabilities to learn about their needs, including housing, in general and in a flood situation. Sixty-six students submitted 19 designs, providing an opportunity to select different accessibility and universal design features and options from the different designs. Central to this selection are issues of comfort, usability, and safety, using local materials and methods of construction that are easily replicable and at a low cost.

The next step of this fruitful collaboration between key national and local actors is to construct the prototype and study its resistance at the next flash flood. If it proves successful, CDD and CBM will plan an advocacy campaign to promote that any new construction of houses in flash flood zones consider this new design and its innovations in terms of accessibility and universal design.

Examples of prototypes for flash flood resilient accessible houses submitted by the students during the competition

27

3. Recommendations to ensure full participation

3.1 Engage stakeholders at all stages of the planning process

Engaging stakeholders, including local authorities, community members, planners, and developers, throughout the planning process is important to ensure that the plan accurately reflects community values and addresses community priorities and needs. Such engagement starts from creating a community vision to defining goals, principles, objectives, and action steps, as well as involvement in implementation and evaluation. In addition, engagement builds public understanding and ownership of the adopted plan, leading to more effective implementation.

3.2 Seek diverse participation in the plan development process

A robust and comprehensive planning process engages a wide range of participants across generations, ethnic groups, and income ranges. Especially important is reaching out to groups that might not always have a voice in community governance, including representatives of disadvantaged and minority communities. Participation of persons with disabilities is key to ensure an inclusive and comprehensive planning process.

Participation of women, men, girls and boys with disabilities also provides a more holistic approach to design accessibility "for all" while remaining sensitive to customized adaptations. For example, installing tactile guide systems on pedestrian routes to enhance mobility and safety of persons with visual impairments. The pursuit of inclusive design is an opportunity to create more equitable solutions to urban traffic and improve the walkability of a city in a way that benefits everyone[42].

3.3 Promote leadership development in disadvantaged communities during the planning process

Leaders and respected members of disadvantaged communities can act as important contacts and liaisons for planners in order to engage and empower community members throughout the planning process. Participation in the process can encourage development of emerging leaders, especially from within communities and disability groups that may not have participated in planning previously.

3.4 Provide ongoing and understandable information for all participants

Information available in multiple, easily accessible formats, and languages is key to communicating with all constituents. Such communication may involve translating professional terms into more common, lay vocabulary. In providing opportunities for participation, specific types of consultation methods, such as focus groups or workshops, should be considered for smaller numbers of people in accessible locations. These approaches can deliver a more effective means of providing information and enabling feedback.

Box 9. Improving human rights, civic engagement, and business outcomes in today's increasingly digital world: smart cities and digital inclusion[43]

"Technology empowers persons with disabilities to achieve more in the places where they live and work. As cities evolve and integrate new technologies, we can help them define what it means to be smart – and accessible – to make sure no one is left behind." Jenny Lay-Flurrie, chief accessibility officer, Microsoft.

A smart city is an urban area in which digital technologies are integrated into the infrastructure in order to provide services for the citizens and government of the city. Smart cities are using information and communications technologies (ICTs) to empower employees and promote deeper civic engagement, and to effectively address many of the challenges facing cities. For example, access to public services – in particular for older people, persons with disabilities, those who are home-bound, or geographically isolated.

The global Defining Accessible Smart Cities Initiative was launched by the Global Initiative for Inclusive ICTs and World Enabled. Bringing together industry, government, and civil society experts and practitioners worldwide this initiative not only defines how a smart city can also be a digitally inclusive city, it aims to infuse accessibility into smart cities programs to improve human rights, civic engagement, and business outcomes for all.

The digital services of Smart Cities can be more accessible and, by taking into account the needs of citizens with disabilities, Smart Cities initiatives can use technology investments to influence the design, development, procurement, and broader deployment of increasingly accessible ICTs. They can actually reduce the digital divide for persons with disabilities; content, for example, can be made available in multiple formats and languages, with digital formats serving multiple disabilities and interacting with a broad range of assistive technologies.

3.5 Continue to engage the public after a comprehensive urban development plan is adopted

Stakeholder engagement should not end with the adoption of a comprehensive urban development plan. An effective planning process continues to engage stakeholders including community members, municipal authorities, planners, and developers during the implementing, updating, and amending of the plan, so that the public remains involved with ongoing proposals and decisions.

Box 10. **Key Questions for ensuring inclusive participation on Urban Development Plans**

1. Has consideration been given to all sections of the community during the development plan consultation? Are the proposed consultation activities inclusive of both women and men or girls and boys with disabilities?

2. Have adequate measures been used to engage with all community members including disability and aging groups?

3. Has contact been made with key decision makers and representative organizations such as Disabled People's Organizations? Have you consulted with everyone in the community and not just with the educated elite, including the educated elite within the disability community?

4. Have you paid attention to diversity, making sure you have participants with a good cross section of age, types of impairments, backgrounds, ethnic groups, and other characteristics?

5. Have public consultation events been organized at accessible and safe locations? Have you identified solutions to make accessibility adjustments and reduce environmental footprints, risks, or hazards during your development plan consultation activities?

6. Is development plan documentation available at accessible locations and in accessible formats?

7. Have you thought about developing different feedback mechanisms for girls, boys, women and men with all types of disabilities to contribute to the plan design, implementation, monitoring, and evaluation?

Box 11. **The key role of DPOs in creating inclusive and accessible urban environments – we hear from Manish Prasai, administrative manager of the National Federation of the Disabled Nepal**

When I understood "disability" as the consequences of different types of barriers rather than only a health issue, I started to teach myself about accessibility, universal design, and chain of access in the society. I got a very new perspective to explain disability from a social and human rights point of view. I found all disabled persons as a huge work force ready to contribute to the society with their full potential and capacities.

Manish Prasai, administrative manager of the National Federation of the Disabled Nepal. ©NFDN

I started sharing my knowledge about accessibility through training sessions, presentations, and articles. I wanted to contribute to the government for developing minimum basic national standards for accessibility. When I was in RCRD Nepal, I started advocating for such guidelines through that organization in joint collaboration with NFDN and the Independent Living Center, Kathmandu. The Ministry of Women, Children and Social Welfare was ready to coordinate and lead the process. On behalf of the organization, I worked as the key person to prepare the draft of the accessibility guidelines for the government. The draft guidelines went through different courses of consultations and finally passed from the cabinet in 2012. Now, we are working in close cooperation with Kathmandu Metropolitan City Office to implement accessibility standards in public places.

The provisions mentioned in the guidelines might not be good enough to ensure all the principles of universal design but we are proud that we have set a strong milestone on institutionalizing it. The role of NFDN to carry out various consultation meetings, discussions, and to get the guidelines passed from government was crucial.

Here in Nepal, accessibility is key for us. Many people with disabilities, elderly people, and even the children faced problems applying safety measures during the earthquake. This was due to the inaccessible nature of public places, government buildings, private apartments, and the hazardous situation of infrastructures. The open spaces were supposed to be safe during such horrible situations but were not accessible to all. The post-earthquake reconstruction provides an opportunity to build back better, and as far as possible in line with the principles of universal design. We can ensure that accessibility standards in the public places – not only as mentioned in the guidelines – go beyond that in following the international practice of making services, products, and public places accessible to us all.

4. Recommendations for implementation and coordination

4.1 Be persuasive in communicating a plan for accessibility

A persuasive plan communicates key principles and ideas in a readable and attractive manner in order to inspire, inform, and engage readers. It uses up-to-date visual imagery to highlight and support its recommendations.

4.2 Be consistent across plan components and modalities

A consistent plan frames proposals for barrier removal as sets of mutually reinforcing actions in a systems approach aligning the plan with broader public programs and regulations.

4.3 Coordinate with the plans of other jurisdictions and levels of government

A coordinated plan for disability inclusive development is aligned horizontally with plans, priorities, and forecasts of adjacent jurisdictions, and vertically with federal, state, and regional plans.

4.4 Comply with applicable anti-discrimination laws and mandates

A compliant plan meets requirements of mandates and laws concerning preparing, adopting, and implementing integrated plans, programs, and policies.

4.5 Be transparent in the plan's substance

A transparent plan clearly articulates the rationale for all goals, objectives, policies, actions, and key plan maps[44]. It explains the "what, how, and why" of each recommendation.

4.6 Use formats that go beyond paper

A plan that goes beyond paper is produced in a web-based format and/or other accessible, user-friendly formats in addition to a standard printed document. Planning websites can be used both to engage and to inform citizens and different constituencies about the plan.

Box 12. The importance of maintenance to ensure accessibility

No matter how good accessibility is, it will fail if local governments and relevant authorities do not allocate budgets for maintenance. Ensuring that monitoring and maintenance costs are addressed at the early stages of the planning process is key to ensure that projects are fully accessible and usable throughout their lifespan. Examples of maintenance include replacement of tactile guiding blocks on sidewalks and high contrast painting, regular tests of emergency alarms and early warning systems, update of information in accessible formats in community facilities or information centres, repair of mechanical and automatic ramps in low-floor buses, and maintenance of lifts in subway and train stations[45].

Accessibility audits organised with the community are one of the first of many steps that can help to identify barriers and monitor accessibility of public spaces and buildings. ©CBM/Benjamin Dard

Some useful resources

General information on universal design and accessibility

The Center for Universal Design (CUD). The CUD is a national information, technical assistance, and research center that evaluates, develops, and promotes accessible and universal design in housing, commercial and public facilities, outdoor environments, and products. It also developed the principles of universal design in collaboration with a consortium of universal design (UD) researchers and practitioners across the US. The Center for Universal Design, web address: https://www.ncsu.edu/ncsu/design/cud/index.htm

The Center for Inclusive Design and Environmental Access (IDEA Center), State University of New York-Buffalo. IDEA provides resources and technical expertise in architecture, product design, facilities management, and the social and behavioral sciences to promote universal design. The Center for Inclusive Design and Environmental Access, web address: http://idea.ap.buffalo.edu//Home/index.asp

The Trace Center at the University of Wisconsin-Madison focuses on the design of mainstream information technology and telecommunications products and systems for use by all people. Trace is also the home of the Rehabilitation Engineering Research Center (RERC) on Information Technology Access and (in partnership with Gallaudet University, Washington D.C.) the RERC on Telecommunication Access. Both are funded by the National Institute on Disability and Rehabilitation Research. A number of resources exist on this site: The Trace Center, web address: http://www.trace.wisc.edu/

- Ideas Browser is for product designers; currently focused on telecommunications products, but soon to be expanded for all Electronic &Information Technology (E&IT) products and systems.
- UACCESS-L and SEC508 are list discussions hosted by Trace.

The Global Network on Disability Inclusive and Accessible Urban Development (DIAUD) is a multi-stakeholder network focused on disability-inclusive contributions to the UN Habitat III process and the New Urban Agenda. It aims to build and enhance networking among persons with disabilities and disability rights advocates; policymakers and government officials; urban development professionals; academia; foundations; the private sector; and development cooperation partners. Global Network DIAUD, web address: http://www.disabilityinclusivedevelopment.org/disability-inclusive-development-collaboratory/events/diaud-13-oct-coordination-meeting

The Global Alliance on Accessible Technologies and Environments (GAATES) is an international organization dedicated to the promotion of accessibility of the built and virtual environments. A number of resources exist on this site: GAATES, website address: http://gaates.org/

- The Illustrated Technical Guide to the Accessibility Standard for the Design of Public Spaces helps design professionals develop public spaces that are open and welcoming to everyone, including people with diverse abilities.
- International Best Practices in Universal Design: A Global Review provides an international overview of the technical information on accessibility criteria for the built environment that can be used by any country, especially those that have signed or ratified the Convention on the Rights of Persons with Disabilities.

The **IDEAL group** is a professional services organization. Its mission is to drive the design of ICT that are accessible by the greatest number of consumers as is technically possible and economically feasible. The IDEAL Group, web address: http://www.ideal-group.org/

The **Institute for Human Centered Design (IHCD)**, founded in Boston in 1978 as Adaptive Environments, is an international non-governmental educational organization (NGO). It is committed to advancing the role of design in expanding opportunity and enhancing experience for people of all ages and abilities through excellence in design. IHCD's work balances expertise in legally required accessibility with promotion of best practices in human-centered or universal design. The Institute for Human Centered Design, web address: http://www. humancentereddesign.org/about-us

Source is an international online resource center on disability and inclusion including information on universal design. Source, web address: http://www.asksource.info/resources/search?fulltext=universal+design

The **United States Access Board** is an independent federal agency devoted to accessibility for persons with disabilities. Created in 1973 to ensure access to federally funded facilities, the Board is now a leading source of information on accessible design. It develops and maintains design criteria for the built environment, transit vehicles, and ICT. The U.S Access Board, web address: https://www.access-board.gov/

UniversalDesign.com is run by Universal Designers & Consultants. They provide services including assessments, training, and consultations on accessibility and universal design. UniversalDesign.com, web address: http://www.universaldesign.com/

Universal Design Education Online is a resource for those interested in teaching about universal design and accessibility. This new project, funded by the National Institute on Disability and Rehabilitation Research, is compiling educational materials related to universal design for download and use by others. Universal Design Education Online, web address: http://www. udeducation.org/

World Enabled is an educational non-profit organization that carries out research, leadership, and capacity building initiatives in partnership with governments, private corporations, community based organizations, and networks of persons with disabilities. World Enabled, web address: http://worldenabled.org/

Specific information on universal design and accessibility according to sectors

Accessible Urban development

Accessibility of Housing: A Handbook of Inclusive Affordable Housing Solutions for Persons with Disabilities and Older Persons. This publication is part of the activities of the Global Network for Sustainable Housing (GNSH) managed by the UN-Habitat Housing Unit. The handbook presents practical solutions to outgrow accessibility barriers for persons with disabilities and older persons in the contexts of slum upgrading, reconstruction, and large-scale affordable and social housing programs. Read the full publication at http://unhabitat. org/books/accessibility-of-housing/

The **Operational Guidelines on Accessibility in Urban Development Projects** aim to facilitate the incorporation of accessibility – with universal design principles – into the preparation phase of urban development, building, and public transportation projects. Read the full publication at http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=35394819

Conduct an accessibility audit in low- and middle-income countries is a reference document to guide the preparation and implementation of accessibility audits, including those involving Handicap International's offices. Read the full publication at http://www.hiproweb.org/uploads/tx_hidrtdocs/AccessibilityAudit_PG13.pdf

Inclusive education

CAST is a non-profit education research and development organization that works to expand learning opportunities for all individuals through Universal Design for Learning (UDL). CAST, web address: http://www.cast.org/

The **National Center on Universal Design for Learning** (UDL) supports the effective implementation of UDL by connecting stakeholders in the field and providing resources and information about UDL. National Center on UDL, web address: www.udlcenter.org/

The **Center for Universal Design in Education** (CUDE) develops and collects resources to help educators apply universal design to all aspects of the educational experience. Center for Universal Design in Education, web address: http://www.washington.edu/

Guides for Schools on Inclusive Education and UDL provide New Zealand educators with practical strategies, suggestions, and resources to support learners with diverse needs. Inclusive Education Guides for Schools, web address: http://inclusive.tki.org.nz/

Inclusive egress

The **Accessible Exit Sign Project** is a campaign that promotes the need for an accessible means of egress in all buildings. Accessible Exit Sign Project, web address: https://accessibleexitsigns.com/

The guide developed by Lee Wilson, **Evacuation of People with Disability and Emergent Limitations: Considerations for Safer Buildings and Efficient Evacuations**, provides useful information with considerations for all building occupants, including persons with disabilities.

Inclusive tourism

The **Rolling Rains** site is a service to the travel & hospitality industry. It provides resources on Inclusive Tourism – a concept arising from the vigor of a global disability community that both enjoys and asserts the right to full social inclusion. The Rolling Rains, web address: http://www.rollingrains.com/

Information and communication technologies

G3ict – the Global Initiative for Inclusive Information and Communication Technologies – is an advocacy initiative launched in December 2006 by the United Nations Global Alliance for ICT and Development, in cooperation with the Secretariat for the Convention on the Rights of Persons with Disabilities at UN DESA. Its mission is to facilitate and support

the implementation of the dispositions of the Convention on the Rights of Persons with Disabilities on the accessibility of Information and Communication Technologies (ICTs) and assistive technologies. G3ict, web address: http://www.g3ict.org/

The **Web Accessibility Initiative** provides strategies, guidelines, and resources to make the Web accessible to people with disabilities. Web Accessibility Initiative, web address: https://www.w3.org/WAI/

How to make information accessible, a guide to producing easy read documents is a book developed by **CHANGE**, an organization led by persons with disabilities. This book provides clear guidelines for umbrella organizations on producing documents and information in accessible, easy to read text and pictures. CHANGE, web address: http://www.changepeople.org/

Transportation

Access Exchange International (AEI) is a non-governmental organization promoting accessible public transport for persons with disabilities and seniors in Latin America, Africa, Asia, and Eastern Europe. Access Exchange International, web address: http://www.globalride-sf.org/

Accessible Design for the Blind is a woman-owned business that was started in 1992 by Billie Louise (Beezy) Bentzen and is committed to making travel safer for pedestrians with disabilities through research, consultation, education, and advocacy. Accessible Design for the Blind, web address: http://accessforblind.org/

Bus Rapid Transit Accessibility Guidelines focus on Bus Rapid Transit environments and assume that interested parties can take advantage of existing guidelines to clarify general issues of access to public spaces, buildings, and pedestrian infrastructure. Read the full report at http://siteresources.worldbank.org/DISABILITY/Resources/280658-1172672474385/BusRapidEngRickert.pdf

Shelters and settlements in emergencies

The book **All Under One Roof, Disability-Inclusive shelter and settlements in emergencies** wants to transform the way humanitarian organizations approach inclusion and accessibility in their shelter and settlement programs. It is the result of a collaborative process that started in 2013, involving CBM, Handicap International, and the International Federation of Red Cross and Red Crescent Societies (IFRC). Read the full publication at http://www.alnap.org/resource/20570

The **16 Minimum Requirements for building accessible shelters** provide guidance for the design and the building of accessible individual housing and shelters in a post-disaster context. The publication includes 16 minimum requirements with information on ways of implementing accessibility and Design for All, as well as technical recommendations and practical solutions. Read the full publication at http://www.alnap.org/resource/20569

Both documents are available online through the Active Learning Network for Accountability and Performance in Humanitarian Action (ALNAP). Active Learning Network for Accountability and Performance in Humanitarian Action (ALNAP), web address: http://www.alnap.org/

Water, sanitation, and hygiene (WASH)

The **Water, Engineering and Development Center** (WEDC) is one of the world's leading education and research institutes for developing knowledge and capacity in water and sanitation for low- and middle-income countries. It is based in the School of Civil and Building Engineering at Loughborough University, UK. A number of resources exist on the WEDC website: The Water, Engineering and Development Centre, web address: http://wedc.lboro.ac.uk/

- The book on **Water and Sanitation for Disabled People and Other Vulnerable Groups: Designing services to improve accessibility** focuses on facilities for families in rural and peri-urban areas of low- and middle-income countries, but many of the approaches and solutions may also be applied in institutional settings, such as schools and hospitals and in emergency situations. This book is also available in French. Read the full book at https://wedc-knowledge.lboro.ac.uk/details.html?id=16357

- Materials on Equity and Inclusion in Water, sanitation, and hygiene developed by WEDC in collaboration with WaterAid. Available at https://wedc-knowledge.lboro.ac.uk/collections/equity-inclusion/general.html

WaterAid is an international organization whose mission is to transform the lives of the poorest and most marginalized people by improving access to safe water, sanitation, and hygiene. A number of resources exist on their website: WaterAid, web address: http://www.wateraid.org/

- The **Compendium of Accessible Wash technologies** provides examples of low-cost technologies to improve accessibility of household WASH facilities. It is available in English, French and Spanish. Read the full publication at http://www.wateraid.org/what-we-do/our-approach/research-and-publications/view-publication?id=aff6d098-00f2-42e5-b9a0-22ec2b264a5e

Bibliography

Agarwal, A., and Steele, A. (2016). "Disability considerations for Infrastructure Programmes", UK Department for International Development (DFID).

CBM (2015). "Dialogues on Sustainable Development: A Disability-Inclusive Perspective", retrieved on September 16, 2016 from: http://www.cbm.org/article/downloads/54741/CBM_Inclusive_Development_Dialogues_2015.pdf

The Committee on the Rights of Persons with Disabilities, 11th session, March 31 to April 11, 2014, General Comment No. 2 (May 22, 2014) on Article 9: Accessibility.

Historic England (2015). "Easy Access to Historic Buildings", English Heritage.

International Organisation for Migration (IOM). "Migration, Climate Change and the Environment: A Complex Nexus".

Litman, T. (2016). "Urban Sanity: Understanding Urban Mental Health Impacts and How to create saner, happier cities", Victoria Transport Policy Institute, Canada: p.44.

Montgomery, C. (2013). "Happy City. Transforming Our Lives Through Urban Design", Farrar, Straus & Giroux, United States.

National Disability Authority (2011). "Access: improving the accessibility of Historic Building and Places", Government of Ireland, Dublin.

Pineda, V. et al. (2016). "The inclusion imperative: forging an inclusive new urban agenda".

Rode, P., et al. (2014): "Accessibility in Cities: Transport and Urban Form". NCE Cities Paper 03, LSE Cities, London School of Economics and Political Science.

Steinfeld, E., and Maisel, J. (2012). "Universal Design: Creating Inclusive Environments", Hoboken, John Wiley & Sons, Inc.

UN (2013). "Panel Discussion on Disaster resilience and disability: ensuring equality and inclusion", United Nations Headquarters on October 10, 2013.

UNDESA (2015). "World Population Prospects The 2015 Revision : Key Findings and Advance Tables", Department of Economic and Social Affairs, UN, New York.

UNDESA (????). "Youth with Disabilities, Fact sheet". Retrieved on September 13, 2016 from: http://www.un.org/esa/socdev/documents/youth/fact-sheets/youth-with-disabilities.pdf

UNDP (2013). "Towards an inclusive and accessible future for all", UN, New York.

UN Habitat (2014). "Accessibility of Housing. A Handbook of Inclusive Affordable Housing Solutions for Persons with Disabilities and Older Persons", UN Habitat.

UN inter-agency support group on indigenous people's issues (2014). "Thematic paper towards the preparation of the 2014 World Conference on Indigenous Peoples". Retrieved on September 13, 2016 from: http://www.un.org/en/ga/president/68/pdf/wcip/IASG%20Thematic%20Paper_Disabilities.pdf

United Nations (2006). Convention on the Rights of Persons with Disabilities.

United Nations Division for Social Policy and Development. Retrieved on September 13, 2016 from: https://www.un.org/development/desa/disabilities/news/dspd/the-netherlands-ratifies-crpd-total-166.html

UN News Centre (September 9, 2013). "Countries must increase commitment to rights of persons with disabilities": http://www.un.org/apps/news/story.asp?NewsID=45800&Cr&Cr1#.V9AthaLqXST

WHO and World Bank (2011). "World Report on Disability", WHO Press, Geneva.

World Bank (2015). "World – Inclusive Cities Approach Paper", World Bank. Retrieved on September 13, 2016 from: http://documents.worldbank.org/curated/en/402451468169453117/World-Inclusive-cities-approach-paper

Zimmermann, R. (2006). "Universal Design means accessibility for one and all". Retrieved on ?DATE? from: http://www.facilitiesnet.com/ada/article/Accessibility-for-One-and-All-Facilities-Management-ADA-Feature--5573

Endnotes

1 The Committee on the Rights of Persons with Disabilities, 11th session, March 31 to April 11, 2014, in its General Comment No. 2 (May 22, 2014) on Article 9: Accessibility.

2 UN News Centre (September 9, 2013). "Countries must increase commitment to rights of persons with disabilities"., Retrieved on September 17, 2016 from: http://www.un.org/apps/news/story.asp?NewsID=45800&Cr&Cr1#.V9AthaLqXST

3 United Nations Division for Social Policy and Development. Retrieved on September 13, 2016 from: https://www.un.org/development/desa/disabilities/news/dspd/the-netherlands-ratifies-crpd-total-166.html

4 UNDESA (2015). "World Population Prospects The 2015 Revision: Key Findings and Advance Tables", Department of Economic and Social Affairs, UN, New York.

5 Utilizing 5 billion urban dwellers, we calculated that 15 to 20% of these would be persons with disabilities. Our data sources were derived from: WHO and World Bank (2011). "World Report on Disability", WHO Press, Geneva, and "Urbanization | UNFPA - United Nations Population Fund", retrieved on September 16, 2016 from: http://www.unfpa.org/urbanization.

6 CBM (2015). "Dialogues on Sustainable Development: A Disability-Inclusive Perspective": p51. Retrieved on September 16, 2016 from: http://www.cbm.org/article/downloads/54741/CBM_Inclusive_Development_Dialogues_2015.pdf

7 UNDESA "Youth with Disabilities, Fact sheet". Retrieved on September 13, 2016 from: http://www.un.org/esa/socdev/documents/youth/fact-sheets/youth-with-disabilities.pdf

8 150 million children (under the age of 18) have a disability. WHO and World Bank (2011): p. 36. This report can be retrieved from: http://www.who.int/disabilities/world_report/2011/en/index.html

9 UN inter-agency support group on indigenous people's issues (2014). "Thematic paper towards the preparation of the 2014 World Conference on Indigenous Peoples". Retrieved on September 13, 2016 from: http://www.un.org/en/ga/president/68/pdf/wcip/IASG%20Thematic%20Paper_Disabilities.pdf

10 Read the full online article at http://www.who.int/mental_health/policy/development/en/

11 International Organisation for Migration (IOM). "Migration, Climate Change and the Environment: A Complex Nexus". Retrieved on September 13, 2016 from: https://www.iom.int/complex-nexus

12 For instance, research indicates that the mortality rate among persons with disabilities was twice that of the rest of the population during the 2011 Japan earthquake and tsunami. UN (2013). "Panel Discussion on Disaster resilience and disability: ensuring equality and inclusion", United Nations Headquarters on October 10, 2013.

13 WHO and World Bank (2011): p.173.

14 The Conference welcomes the participation and contributions of all Member States and relevant stakeholders, including parliamentarians, civil society organizations, regional and local government and municipality representatives, professionals and researchers, academia, foundations, women and youth groups, trade unions, and the private sector, as well as organizations of the United Nations system and intergovernmental organizations.

15 Pineda, V., et al. (2016). "The inclusion imperative: forging an inclusive new urban agenda": p11. More information is available at: http://berkeley.academia.edu/VictorSantiagoPineda

16 Ibid: p. 13.

17 Read more about the SDGs at http://www.un.org/sustainabledevelopment/sustainable-development-goals/

18 World Bank (2015). "World – Inclusive Cities Approach Paper", World Bank. Retrieved on September 13, 2016 from: http://documents.worldbank.org/curated/en/402451468169453117/World-Inclusive-cities-approach-paper

19 UNDP (2013). "Towards an inclusive and accessible future for all", UN, New York: p. 43 (a quote from a person with a disability).

20 Zimmermann, R. (2006). "Universal Design means accessibility for one and all". Retrieved from: http://www.facilitiesnet.com/ada/article/Accessibility-for-One-and-All-Facilities-Management-ADA-Feature--5573

21 Agarwal, A., and Steele, A. (2016). "Disability considerations for Infrastructure Programmes", UK Department for International Development (DFID): p.5.

22 Read the CRPD in full at http://www.un.org/disabilities/convention/conventionfull.shtml

23 Read more about SDGs at http://www.un.org/sustainabledevelopment/sustainable-development-goals/

24 Read more about the Post-2015 Framework for Disaster Risk Reduction at http://www.unisdr.org/we/coordinate/hfa-post2015

25 Read the full article at http://universaldesign.ie/, the Centre for Excellence in Universal Design (CEUD). Retrieved on September 16, 2016.

26 Pineda, V., et al: p. 17.

27 Agarwal, A., and Steele, A. (2016): p.5.

28 Read the full article at http://newclimateeconomy.report/2015/wp-content/uploads/2016/04/LSE-Cities-2014-Transport-and-Urban-Form-NCE-Cities-Paper-03.pdf

29 Litman, T. (2016). "Urban Sanity: Understanding Urban Mental Health Impacts and How to create saner, happier cities", Victoria Transport Policy Institute, Canada: p.44. Retrieved on September 13, 2016 from: http://www.vtpi.org/urban-sanity.pdf

30 Historic England (2015). "Easy Access to Historic Buildings", English Heritage.

31 Read more about LHAC at http://www.lhac.eu/

32 National Disability Authority (2011). "Access: improving the accessibility of Historic Building and Places", Government of Ireland, Dublin: p.16.

33 Ibid.

34 Zimmermann, R. (2006).

35 Steinfeld, E., and Maisel, J. (2012). "Universal Design: Creating Inclusive Environments", Hoboken, John Wiley & Sons, Inc.: p.240.

36 Bozikovic, A. (2015) "'Design empathy' builds inclusive spaces for people with autism", The Globe and Mail. Read the full article at http://www.theglobeandmail.com/life/home-and-garden/design/design-empathy-builds-inclusive-spaces-for-people-with-autism/article23966012/

37 Read more about visitability at http://www.visitability.org/

38 Ibid (2012). P.232

39 UN Habitat (2014). "Accessibility of Housing. A Handbook of Inclusive Affordable Housing Solutions for Persons with Disabilities and Older Persons", UN Habitat: p.10.

40 Margareta Wahlström, Special Representative for UNISDR, at the conference of State Parties to the CRPD in June 2013.

41 Bari, N., and Gopal Saha, B., Centre for Disability in Development (CDD), September 2016.

42 Montgomery, C. (2013). "Happy City. Transforming Our Lives Through Urban Design", Farrar, Straus & Giroux, United States.

43 Read more about Accessible SMART cities at http://g3ict.org/resource_center/g3ict_smart_cities_initiative

44 Key plan maps are the maps associated with or that have been developed with an urban development plan. For example, if the urban plan refers to reducing risk, then there should be a map that sets out the risks and hazards of the city or the neighbourhood. The same applies to accessibility and barriers to mobility.

45 Agarwal, A., and Steele, A. (2016): p.11.

For further information contact:

Accessible version online:
www.disabilityinclusivedevelopment.org/diaud-network/content/additional-documentation

Easy read version available

www.cbm.org/publications