Technical Note on Accessibility

Fact Sheet 2:

Accessibility in the ICT Sector of Operations

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Inside front cover

Technical Note on Accessibility

Part 3: The Thematic Fact Sheets

Fact Sheet 2:
Accessibility in the ICT Sector of Operations

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This guidance is one of **four sets of documents constituting the World Bank Technical Note on Accessibility.** It is primarily meant for the Bank's task team leaders (TTLs), program implementing units (PIUs) and E&S specialists. The note can be also used by other development partners, including World Bank clients. It focuses on investment project financing (IPF).

The sections that comprise the **Technical Note on Accessibility** are: **The Narrative (Part 1); The Project Cycle Guidance (Part 2); The Five Thematic Fact Sheets (Part 3); and The Technical References (Part 4).**

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Overview of the Thematic Fact Sheets

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ICT and Accessibility

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Accessible information and communication technology (ICT) can level the playing field for persons with disabilities across a variety of domains, including education, employment, e-governance and civic participation, financial inclusion, and disaster management. ICT enables the use of multiple means of communication—by voice, text, and gestures—thus breaking visual, auditory, intellectual, print-based, and physical barriers to access. Functional features such as voice recognition and magnification in mainstream devices, and Web-enabled accessibility services are driving down the costs of specialized assistive technology. When coupled with increasing public and private provision of services through ICT, digital development can be a major catalyst for the full participation of persons with disabilities.

The Report of the UN Second Committee on Information and Communication Technologies for Development recognizes that access to ICT enables economic development and has a profound impact on how citizens engage in public and private life as well as how they access government and other services. The World Development Report 2016 on Digital Dividends[1] points out that the realization of ICT's potential for inclusive development will require active efforts to realign societal, legislative, personal, and infrastructural factors within the ICT ecosystem. The report argues that digital dividends are not spreading either

1 The World Bank Group. 2016. **World Development Report: Digital Dividends.** Washington, DC: World Bank.

rapidly or evenly, given that 60 percent of the world's people are still offline and cannot fully participate in the digital economy. There also are persistent digital divides across gender, geography, age, and income dimensions within each country[2].

A Holistic Approach to Digital Development

The World Bank Group is supporting digital development through a comprehensive holistic ecosystem approach that gathers World Bank Group expertise and instruments to cover five foundational elements:

- Digital Infrastructure
- Digital Platforms
- Digital Financial Services
- Digital Business
- Digital Skills

Our approach covers policy and regulatory reforms across various pillars. It considers cross-cutting matters including data, cybersecurity, and digital inclusion across these five foundations. It also uses cases that focus on mainstreaming digital applications in various priority sectors of World Bank engagement. Addressing persons with disabilities who are affected by the digital divide requires identifying and tackling the gaps in various entry points of this ecosystem, with the aim of making the internet reliable, affordable, safe, relevant, and accessible for all.

2 World Bank. 2018. **Disability Inclusion and Accountability Framework.** Washington, DC: World Bank.

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Key Elements

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Accessibility must be considered when addressing the digital divide. In less developed countries, traditional written or verbal communications can sometimes be the only forms of communication available and can be completely inaccessible to persons with disabilities, thus preventing them from fully benefitting from education, job opportunities, essential health and safety-related information, and so on. Moreover, in such contexts, *everyone* has limited access to ICT, so the entire population is prevented access to a variety of opportunities in all sectors. Filling the digital gap is, therefore, essential for *everyone*. Addressing it by taking accessibility into account is vital in order to allow persons with disabilities not only to have access to extra opportunities, but also to be able to benefit from basic educational and work-related activities.

At the micro level, accessibility of ICT concerns a variety of elements related to laptops, desktop computers, smartphones or tablets, that could be summarized as follows:

- **Input Methods:** Adapted keyboards and mouses for persons with limited dexterity in one or both hands, joysticks, eye-tracking systems, voice recognition, and so on.
- **Software and Non-Web-Based Digital Content:** Common software that includes accessibility features (for example, the Office package); files that are produced following accessibility recommendations (logical headings, ALT texts, meaningful links, etc.); audiovisual elements adapted for persons with hearing and visual impairments (with captioning, sign language interpretation, audio descriptions, etc.); easy-to-read formats, etc.

- **Web-Based Digital Tools and Content:** Websites and apps that are compliant with accessibility standards (appropriate headers, landmarks, labeling, ALT texts, etc.); applications for video conferences, webinars, or e-learning that are easy to navigate by persons using a screen reader; and so on.

- **Output equipment:** Magnification of screens for persons with low vision; screen-reading software for persons who are blind, dyslexic, who have low vision, and so on; braille displays and printers, improved headphones, and so on.

At the macro level, accessibility has to be considered within an analysis of the whole digital ecosystem: quality of overall local connectivity; systematic power cuts; the high cost of data packs; limited digital literacy and familiarity with digital assistive devices among the local population; and challenges concerning licensing rights for digital materials, among other things. Ultimately, when producing and sharing digital content, an unbroken chain of communication --including some overall standards, and other criteria specific to the digital domain--should be ensured. This is so that persons with disabilities can access all of the elements: message or concept; the way it is expressed (language, text, voice, page structure, images); support (printouts, files, audiovisuals); and the way that is chosen to share the support (website, Web portal, digital platform, digital event, online/offline, public or private cloud, etc.).

The involvement and participation of persons with disabilities and their representing organizations must be ensured in all phases of an ICT project—from needs assessment to design, follow-up, testing, and evaluation after finalization, to make sure their needs are being properly considered, and to ensure the quality of the results.

ICT cuts across many sectors of operation: education, health, disaster risk reduction (DRR), and so on. A few specific issues related to ICT in these sectors can be addressed following the overall principles of accessibility:

- **Education:** Adaptation of pedagogical tools and techniques, especially in periods of intense remote learning (COVID-19);

- **Health:** Access to information in multiple accessible formats (health promotion, disease prevention, and practical activities like booking an appointment, receiving exam results, etc.);

- **Urban Development / Mobility:** smart solutions for orientation and access to relevant information (especially about temporary circulation disruptions, emergencies, mobility);

- **Disaster Risk Reduction / Humanitarian Action:** Creation of early warning systems and information apps that are accessible for persons with disabilities;
- **Protection:** In situations connected to gender-based violence, digital help lines and services must be accessible to every person at risk, including persons whose disability is either the main factor of discrimination and violence, or one factor among others (e.g. gender, sexual orientation, religious beliefs).

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Data at Glance

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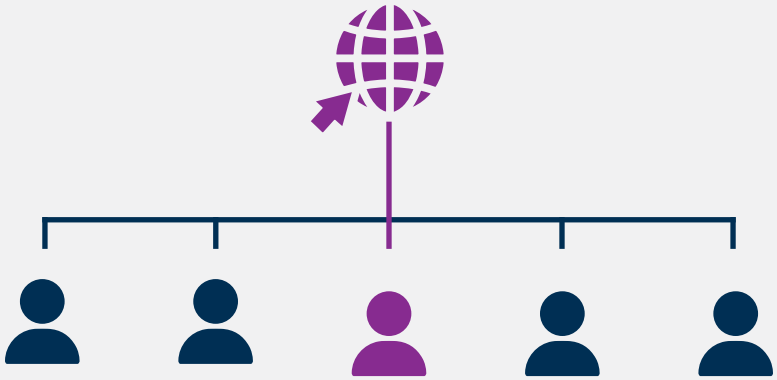
Figure 2: Image Source: https://sdgs.un.org/

Fewer Than 1 in 5 People



Use the Internet in Low-Income Countries 2019

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International Framework

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The **Convention on the Rights of Persons with Disabilities (CRPD)** identifies ICT and accessible technology as important enablers of access to systems and services (Article 9); of accessing information and upholding freedom of expression and opinion (Article 21); of meaningful habilitation and rehabilitation (Article 26); and of access to education, health, employment, and political participation. In addition it recommends promoting the design, development, production, and distribution at an early stage, so that these technologies and systems become accessible at minimum cost.

The CRPD also identifies accessible formats and technologies as a condition for inclusive education (Article 24), and promotes the learning of braille, alternative script, augmentative and alternative modes, means and forms of communication, sign language, and so on.

The development and dissemination of accessible ICT, together with the promotion of digital literacy for all, including persons with disabilities, is essential in order to

reach many of the **Sustainable Development Goals (SDGs),** in particular Goals 4, 8, 10, and 17. In addition, SDG 9c focuses on increasing access to ICT and providing universal and affordable access to the internet in the least-developed countries.

The **UN's New Urban Agenda (2016)** includes a transformative commitment to facilitating access to ICT tools and systems for persons with disabilities on an equal basis with others. It also recognizes the need to eliminate legal, institutional, socioeconomic, and physical barriers to ICT access for persons with disabilities.

The **Marrakesh Treaty** creates a set of mandatory limitations and exceptions to copyright for the benefit of the blind, visually impaired, and otherwise print-disabled (VIPs) persons. There are also national applications of the treaty, for example **The Directive and Regulation for the Implementation of the Marrakesh Treaty in EU law.**

In terms of technical standards, the **Web Content Accessibility Guidelines (WCAG) 2.1** recommendations are the international reference for accessible Web content. They are not binding as such, but should be used to inform legally binding national regulations about Web accessibility. For example, **Référentiel général d'amélioration de l'accessibilité (RGAA Version 4.1) France (2021),** translates WCAG 2.1 into French norms for digital accessibility.

Standards are also available for accessible ICT products and services, like the European Standard for Accessibility Requirements for ICT Products and Services (**EN 301 549** **V2.1.2**), which is harmonized with WCAG, and covers additional aspects that are not Web-related. Accessible non-Web information and communication technologies, specifically non-Web documents and software, are not formally standardized, but reference can be made to the **Guidance on Applying WCAG 2.0 to Non-Web Information and Communications Technologies (WCAG2ICT) (w3.org),** or the **EN 301 549 V2.1.2, Chapter 10.**

However, these guidelines are not particularly easy to use, especially when it comes to the accessibility recommendations for commonly used files (Word, PowerPoint, Excel, etc.). More **user-friendly guidance for accessible files can be found on Microsoft's website,** for example.

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Examples of Key Challenges and Actions for Accessibility in ICT

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Type of Difficulty	Challenges in Accessing ICT	Considerations for Reducing Barriers
Physical (mobility, dexterity, and physical strength)	› IT equipment that is not easy to use for those with limited dexterity (mouses, keyboards, touch screens, etc.); › Web and digital services that do not work properly with keyboards or with screen readers.	✓ Adapted keyboards, voice recognition systems, adapted and virtual keyboards, joysticks and adapted mouses; ✓ Use of eye-gaze and gestures to control devices; ✓ Remote and online access to work, education, and other services; ✓ Web and digital services structured following accessibility principles.
Visual	› IT equipment that relies only on touch screens;	✓ Text-to-speech rendition and speech/voice output;

Type of Difficulty	Challenges in Accessing ICT	Considerations for Reducing Barriers
	> Web and digital services that don't work properly with screen readers; > Files and non-Web services that are not adapted for screen readers; > Inappropriate font type and size, color contrast, etc.; > Absence of ALT text for images, inconsistent headings, illogical order of elements, etc.; > Audiovisual elements that are not properly adapted for persons with visual impairments (lack of audio descriptions, transcriptions, etc.).	✓ Web-based and non-Web-based digital services; ✓ Braille displays; ✓ Screen and text magnification ; ✓ Voice recognition; ✓ Audio description of graphic and visual media; ✓ GPS-facilitated navigation; ✓ Changing screen brightness, color contrast.
Hearing	> Audiovisual elements not properly adapted for persons with hearing impairments (inappropriate captioning, absence of sign language interpretation, etc.).	✓ Closed and open captioning, subtitles for videos, TV programming; ✓ SMS and text messaging; ✓ Telecommunications relay services that allow text-to-speech conversions through an operator; ✓ Use of vibrations/text alerts instead of audio alerts.

Type of Difficulty	Challenges in Accessing ICT	Considerations for Reducing Barriers
Speech	> Web-based services, including web applications that rely on interaction using voice only; > Websites that offer phone numbers as the only way to communicate with the organizations.	✓ SMS, text messaging; ✓ Synthesized voice output, text-to-speech functionality; ✓ Use of virtual picture boards and communication solutions.
Cognitive	> Web and digital content that is difficult to understand and interpret; > Web and digital tools that are difficult to navigate, not intuitive, unclear structure; > Absence of easy-to-read formats; > Time-based Web functions that do not allow viewers enough time to perform the function.	✓ Simple and logical Web and digital structure, content presented in multiple ways, easy-to-read formats; ✓ Available mobile apps and online resources that mimic augmentative and alternative communication (AAC) devices; ✓ Electronic picture boards for communication; ✓ Organization and memory aid tools such as online calendars, note taking, alerts; ✓ Use of multimedia to aid comprehension with videos, graphics.
Psychosocial	> Difficulty understanding, remembering, or following instructions;	✓ Organization and memory aid tools such as online calendars, note taking, alerts;

Type of Difficulty	Challenges in Accessing ICT	Considerations for Reducing Barriers
	Difficulty in communicating or expressing thoughts and ideas; Content that flashes or flickers and can trigger seizures in susceptible individuals.	Simple and logical Web and digital structure; Content presented in multiple ways, easy-to-read formats; Absence of flashing content or of popups that cannot be controlled or turned off.

For additional details on practical recommendations for this sector, please refer to **PART 4 of this Technical Note: "Technical References."**

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Accessible ICT Projects

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NOTE: This section contextualizes the main sections of **Part 1 of this Note (the Narrative),** in which the desired conditions for accessibility in a country, together with possible activities, are described with an overarching perspective. Here, concrete examples are provided for the ICT sector.

An accessible ICT project should aim to achieve key conditions for accessibility in the sector, such as:

Condition	Description/ Examples
Institutional Commitment	Existence of public ICT policies and strategies aimed at better inclusion of persons with disabilities.
Operationalization	Enforcement of implementation mechanisms to ensure that compliance with accessibility standards is actively required, monitored, and evaluated.
Empowerment	Capacity development regarding accessibility in ICT, and communication to all the relevant actors at all stages.

Condition	Description/ Examples
Enactment	Funding and support for projects that improve accessible ICT and communication for all.
Durability	Development and sharing of knowledge about inclusive ICT and Communication.

It should also implement the main activities that can contribute to the enhancement of accessibility in the sector, such as:

Activity	Description/ Examples
Advocacy / Awareness Raising	Raises awareness and sensitizes local authorities, institutions, development actors, professionals, the general public, and all stakeholders to the importance of disability-inclusive ICT.
Assessments and Data Collection	Assesses the existence and quality of local policies, strategies, legislation, standards, or guidelines concerning the accessibility of ICT, and supports for the development or improvement of the needed tools; Assesses the existence and quality of local implementation mechanisms concerning the accessibility of ICT, and supports for the definition or improvement of the needed processes.
Budget and Human Resources	Ensures the allocation of appropriate funds for accessibility implementation in terms of activities and human resources.

Condition	Description/ Examples
Meaningful Participation	Works to empower organizations of persons with disabilities (OPDs) as the main actors in the process; Promotes inclusive and participatory approaches at all stages of an ICT project (initial needs assessment, design and proposal review, monitoring and testing of solutions, evaluation of the implemented activities); Takes disability into account for the public, customers, and staff members of the public ICT sector.
Capacity Development	Supports the technical capacity development of local professionals in the sector, university students, development workers, and so on; Engages stakeholders and OPDs in thematic seminars, workshops, conferences, and other public events around accessible and inclusive ICT; Encourages the development of communities of practice and the creation and sharing of research, thematic publications, collections of good practices and lessons learned, and other capitalization tools.
Technical Support to Stakeholders	Uses accessible design practices in ICT-enabled development projects; (for example, health, education, ICT and jobs, smart cities, and disaster risk management); Supports clients and projects to use ICT to address barriers faced by persons with disabilities in education, employment, social participation, and health; Carries out analytical work on how ICT can facilitate access and inclusion across various domains;

Condition	Description/ Examples
	Supports the development of policies and regulations that expand the adoption and use of accessible ICT in public and private sector services; Facilitates the creation of public services that enhance access to information and communication for persons with disabilities (that is, public relay services).
Procurement	Promotes the adoption of public procurement strategies that refer to accessibility standards for ICT solutions, services, and products, Web-based or not.
Involvement of the Private Sector	Encourages incentives to research and innovate in the private sector for more accessible ICT solutions, Web-based or not.

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Practical Examples

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Recommendation	Example
Data Collection and Monitoring: Promote the collection of relevant information on disability related to digital technologies, to inform projects and programs.	The Rwanda Digital Acceleration Project (P173373) will include disability-inclusion elements such as the adoption of devices for digital skills programs; disability monitoring to take stock of disability data in existing household surveys and censuses to establish a baseline; disability quotas for targeting will be set for many of the financed interventions.
Address the inclusion Digital Gap: Make sure that the needs of persons with disabilities are taken into account in interventions that are	The Log In Georgia Project (P169698) is aiming to bring broadband internet infrastructure to 1,000 rural settlements in Georgia. It will support targeted interventions to boost digital inclusion for vulnerable groups, including training programs to address digital exclusion; a pilot program to provide accessible

Recommendation	Example
addressing the digital divide.	technologies; and specific monitoring to track the impact of digital inclusion among women, households headed by women, social minorities, and persons with disabilities.
Capitalization: Promote research on accessible digital technologies to identify gaps and opportunities for innovative practices in a relatively new domain.	Growth, jobs, and services are the most important returns on digital investments. By reducing information costs, digital technologies greatly lower the cost of economic and social transactions for firms, individuals, and the public sector. They boost efficiency as existing activities and services become cheaper, quicker, or more convenient. This can be transformational for persons with disabilities. "Bridging the Disability Divide through Digital Technologies," a background paper for the 2016 World Development Report, provides an overview of the opportunities presented by the internet and ICT for the full participation of persons with disabilities.[3]
Policies and Strategies: Promote the development of policies and strategies that take accessibility into account while planning the digital development of a country.	The **Broadband Strategies Handbook**[4] points out that accessibility for persons with disabilities must be considered in the development of regulations, strategies for fund allocation, and consumer applications to achieve universal broadband access and use. Countries such as Jamaica, Kenya, and Pakistan have used universal service access funds to expand access in education, health, and media for persons with disabilities.[5]
Capacity Development: Promote initiatives that enhance the digital	The Partnership in Opportunities for Employment through Technology in the Americas (POETA) program trains persons with disabilities on ICT and job readiness

3 World Bank. 2018. **Disability Inclusion and Accessibility Framework.** Washington, DC: World Bank.

4 Kelly, T., and Rossotto, C.M. 2012. **Broadband Strategies Handbook.** Washington, DC: World Bank.

5 World Bank. 2018. **Disability Inclusion and Accountability Framework.** Washington, DC: World Bank.

Recommendation	Example
literacy of persons with disabilities.	skills. POETA has boosted access to ICT and adaptive technologies; trained 15,675 people, including community and business stakeholders; and supported close to 2,000 trainees to become employed.Digital Divide Data, a company in Cambodia providing business process outsourcing solutions, trains youth with disabilities in digital job skills and hires trainees to provide a range of digital services for global clients.[6]
Participation / Evaluation: Facilitate the meaningful participation of persons with disabilities, in particular by testing new solutions, methods, tools, and initiatives toward better accessibility.	The Tunisia Broadband Internet and ICT for Education Acceleration Technical Assistance (P158114) program is assisting the government of Tunisia in increasing and improving access to education through ICT. This program will test and evaluate innovative approaches for ICT in education and develop a detailed implementation strategy that seeks to be disability-inclusive through consultations with students with visual and hearing impairments.[7]
Procurement: Make sure that accessibility is considered in the procurement of IT equipment and services.	Adoption of accessibility standards such as Section 508 of the Rehabilitation Act (US) and EN 301 549 (EU) are important to drive the design and delivery of accessible ICT. Increasingly, countries are including accessibility requirements in public procurement processes. Industry stakeholders have identified this as a driver for innovation and competition, with a spillover effect for the larger consumer market (G3ict 2015).[8]
Advocacy / Policymaking: Promote the development	The OECD Digital Government Toolkit, financed by the Digital Development Partnership, includes survey

6 World Bank. 2018. **Disability Inclusion and Accountability Framework.** Washington, DC: World Bank.
7 Ibid.
8 Ibid.

Recommendation	Example
of accessibility policies and strategies that consider accessibility while planning the digital development of a country.	questions that assess the capabilities and maturity of governments in envisioning digital strategies to transform public service delivery for persons with disabilities. Designing digital government services with assistive technologies helps to ensure access and inclusion for all users.[9]
Procurement / Standards: Promote the creation of local standards around ICT and Web content, and encourage referring to them in public procurement.	The United States Access Board has issued accessibility requirements for information and communication technology (508 standards), including computer hardware and software, websites, and multimedia such as video, phone systems, and copiers. Web Content Accessibility Guidelines, developed by Essential Accessibility, provide a step-by-step set of technical requirements explaining how to make websites accessible to all persons with disabilities. Using text messaging for emergency communications is an emerging best practice.
Cross-Silo Approaches: Address digital accessibility as a catalyst for inclusive development across sectors: education, employment, health, etc.	The Digital Ethiopia Foundations Project (P171034, FY21) includes a focus on increasing the inclusiveness and affordability of digital services and job creation in Ethiopia. One of the PDO indicators seeks to measure the increase in the number of jobs created, facilitated, or sustained by digital businesses for persons with disabilities and women, especially given the recent shift to home-based work and the increased use of streaming for online working. The component encourages digital businesses to provide training, digital devices, and other support to Ethiopians to participate in the digital economy. It will ensure that the promotion campaign reaches targeted entrepreneurs with disabilities, and

8 Ibid.
9 Ibid.

Recommendation	Example
	it will encourage the allocation of grants to digital entrepreneurs who have disabilities, or to digital businesses that provide jobs for persons with disabilities.
Empowerment: Support the provision of accessible devices and technologies to persons with disabilities as a means for supporting their education, access to job opportunities, and self-realization.	The Tunisia Information and Communication Technologies Sector Development Project's e-Disabled component funded the provision of adapted and accessible equipment and software applications in school computer labs, and equipped social service centers with specialized information technology solutions for persons with disabilities. The project created accessible digital courses for children with intellectual and learning disabilities, established 24 telecenters equipped with computers with braille keyboards, touch screen computers, and sign language functionality, and ensured the compatibility of all major government websites with the World Wide Web Consortium Web Content Accessibility Guidelines (WCAG).[10]
Equality: Ensure that persons with disabilities and other vulnerable groups are a focus for interventions addressing the digital divide.	The report "Information and Communication Technologies for Women's Socio-Economic Empowerment"[11] published by the World Bank, highlights gender inequalities in the adoption of new technologies in developing countries and suggests that minority ethnic groups, women, and persons with disabilities should be a focus of network access and application support using techniques based on human-centered design.[12]

10 World Bank. 2018. **Disability Inclusion and Accountability Framework.** Washington, DC: World Bank.

11 Melhem, S., Morell, C., and Tandon, N. 2009. **Information and Communication Technologies for Women's Socio-Economic Empowerment.** Washington, DC: World Bank.

12 World Bank. 2018. **Disability Inclusion and Accountability Framework.** Washington, DC: World Bank.

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Annexes: Useful Insights

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Annex 1: Overall Definitions

Accessibility is the degree to which persons with disabilities can gain "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." (CRPD, Article 9).

Accessibility is about applying the seven principles of **Universal Design** both to new infrastructure, products, and services, and to existing ones as much as possible, while taking into consideration the local context. Universal Design means "the design of products, environments, programs and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design." (CRPD, Article 2).

It is not always possible to apply the principles of Universal Design to the fullest, but it is always possible to identify and provide reasonable accommodation to a person who requires it. **Reasonable Accommodation** is "necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure to persons with disabilities the enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms." (CRPD, Article 2).

Annex 2: No Quick Solutions

While including accessibility in Web design from the initial stages is not particularly difficult or costly, adapting an existing website for accessibility purposes can be tricky and time consuming, depending on the complexity of the site. As a general rule, public websites should align with level AA of the **Web Content Accessibility Guidelines (WCAG) 2.1 (w3.org),** which identifies four main characteristics that have to be complied with:

- **Perceivable:** Information and user interface components must be presentable to users in ways they can perceive. This means that users must be able to perceive the information being presented (it can't be invisible to all of their senses).
- **Operable:** User interface components and navigation must be operable. This means that users must be able to operate the interface (the interface cannot require interaction that a user cannot perform).
- **Understandable:** Information and the operation of user interface must be understandable. This means that users must be able to understand the information as well as the operation of the user interface (the content or operation cannot be beyond their understanding).
- **Robust:** Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies. This means that users must be able to access the content as technologies advance (as technologies and user agents evolve, the content should remain accessible).[13]

Quick solutions like overlay accessibility widgets as an alternative to the upgrading of a website should be avoided, because there are many accessibility problems that they don’t detect; they may not be detected by users of screen readers; they don’t provide solutions for many issues; and they basically create a parallel, overlapping website instead of promoting accessibility for all without discrimination.

13 Introduction to Understanding WCAG 2.1 (w3.org)

Annex 3: A Change in Mindset

The creation and provision of accessible technology should be accompanied by the sensitization and training of developers and users, because to be effective in reducing discrimination a profound change in people's mindset is required.

For example, accessible websites are useless if the uploaded materials are not accessible; therefore, users need to be trained in how to create accessible digital materials (i.e. documents, presentations, videos, etc.). Similarly, captions in videos/ALT text may exist, but they are not useful if not properly done (for example, captions that are too small, or not clear; ALT text that does not properly describe a diagram, etc.).

Annex 4: Why Accessibility in ICT Matters: Advocacy Tips

NOTE: This section contextualizes **Chapter 3 and 5Bc of Part 1 of this Note (the Narrative),** in which the main arguments in favor of accessibility are described with an overarching perspective. Here concrete examples are provided for the ICT sector.

Social Benefits

- Accessibility of ICT is not a voluntary choice or an act of goodwill; it is a right for persons with disabilities that is recognized by international treaties.
- Accessibility is a legal obligation for states, especially those that have ratified CRPD; and its implementation is monitored at the international level.
- Accessibility of ICT is a condition for inclusion, along with nondiscrimination and participation.
- Accessibility of ICT is beneficial for *all* members of society; it is a shared value (not only for persons with disabilities but also for older people, children, persons unable to use a mouse or a keyboard, etc.).
- Accessibility boosts dignity and self-esteem because it allows persons with disabilities to live their lives in a more independent way, and become less reliant on other people's help and more self-confident.
- More accessible digital environments put persons with disabilities in a position to fully reach their potential as human beings in the domain of their choice.
- Accessible ICT and digital services can play a paramount role in the protection of persons with disabilities, victims of violence, or those in need of support.
- The accessibility of digital early-warning mechanisms, evacuation processes, etc. is a life-saving requirement in emergency preparedness and response, so that persons with disabilities will not be left behind in case of natural disaster, conflict, etc.

- In global emergencies like the Covid-19 pandemic, the availability of accessible digital information strategies and tools (in multiple accessible formats, accessible Web platforms, etc.) is vital to ensure that persons with disabilities are aware of essential health-related information and instructions, and can protect themselves as well as everyone else can.

Other Benefits

Accessibility of ICT allows more persons with disabilities to work (and therefore contribute to the development and increase of a country's GDP), so that they can:

- Rely less on national allowances (allowing these funds to be used elsewhere);
- Become consumers (and contribute to the economy of the country);
- Become taxpayers (and contribute to developing the country).
- Accessibility of ICT allows persons with disabilities to be more independent, allowing caretakers and family members to spend more time working, producing, and consuming.
- Accessibility improvements of digital tools for wayfinding, information on cultural events or sites, booking, transportation services, etc. would allow more persons with disabilities to travel, contributing to developing tourism-related activities.
- Consistency with good practices for digital accessibility, especially for government Web services and platforms, shows tangible commitment of a country toward a more inclusive, democratic, and developed society.
- Digital accessibility is not very expensive, and the cost-effectiveness is generally high.

Annex 5: Indicators for Accessibility in ICT

According to the **ESCAP Guide on Disability Indicators for the Incheon Strategy** there are two different ways of capturing the environment. The first is at the individual level, which reflects the actual interaction between a person and their immediate environment. The second is at the societal level, which encompasses all of the various systems that provide goods and services for the whole society: education, health care, shelter, police and fire protection, food, entertainment and recreation. Capturing the environment at a societal level requires something akin to an environmental audit. To facilitate the operationalization of the Incheon Strategy, the ESCAP guide recommends some indicators and monitoring mechanisms to help reach Goal 3 ("Enhance access to the physical environment, public transportation, knowledge, information and communication"). The most relevant for ICT are:

INDICATOR 3.3: Proportion of Daily Captioning and Sign-Language Interpretation of Public Television News Programs

Definition: The proportion of public television news programs that meet agreed-upon standards of daily captioning and sign-language interpretation. Public television refers to programs that are produced, funded, or subsidized by the government.

Data Collection and Methodology: National standards on captioning and sign-language interpretation should be adopted in direct consultation with Organizations of Persons with Disabilities (OPDs) and national media authorities. International standards can be used as a starting point and adapted based on the local context. The producers of all public television programs should have to report to the appropriate ministry on an annual basis as to whether they are meeting these standards.

INDICATOR 3.4: Proportion of Accessible and Usable Public Documents and Websites that Meet Internationally Recognized Accessibility Standards.

Definition: The proportion of public documents published as of a specified year, and all current websites meeting the relevant International Organization for Standardization (ISO) criteria that are found in ISO/IEC 40500:2012, Information Technology - W3C Web Content Accessibility Guidelines (WCAG) 2.0. Public documents refer to all documents issued by the national government as well as all subnational documents. They include all publications such as laws, regulations, reports, forms, and informational brochures.

Data Collection and Methodology: An audit of all documents published in a specific year, as well as all currently available websites, should be undertaken to determine if they meet accessibility standards. Each year every agency can submit a list of all published websites and documents. A random sample of each agency's material can be selected and reviewed by an audit team to verify that they are in compliance with the agreed upon national standards. The audit team should include people with visual and hearing difficulties who rely upon these standards.

INDICATOR 3.9: Availability of Mandatory Technical Standards for Barrier-Free Access that Govern the Approval of all ICT-Related Services, such as Websites for the Public, taking into Consideration Internationally Recognized Standards, such as those of the ISO.

Definition: The existence of published technical standards on barrier-free access that apply to all ICT-related services, such as publicly available websites.

Data Collection and Methodology: National standards should be consistent with international standards, such as those of the ISO.

Annex 6: Policies, Regulations, and Government Initiatives

Consumers with disabilities may require adapted equipment or services in order to enjoy equitable digital access; but the digital options for these people have potential for wider social and economic benefit as well. Regulators can influence positive developments for persons with disabilities through both regulation and encouragement of voluntary initiatives.

The first concrete recognition by ICT regulators of the special needs of persons with disabilities has often been through **universal access policies.** Increasingly, regulators are also implementing ICT accessibility policies, which may deal, for example, with specialized equipment and the usability of online resources.

An International Telecommunication Union (ITU) survey in 2019 showed that only 29 percent of 195 regulators responding worldwide had no ICT accessibility framework, with separate attention being paid to mobile, TV / video programming, Web and public ICT accessibility, as well as other aspects. However, the percentage with no accessibility framework rose to 48 percent in Africa. The South African regulator, ICASA,[14] has a Consumer Advisory Panel that includes representatives of persons with disabilities. It also has a comprehensive code for persons with disabilities, which lists many requirements for operators regarding catering to persons with special needs.[15]

14 Independent Communications Authority of South Africa.

15 ID4 (Identification for Development). 2020. **Creating Disability Inclusive ID Systems.** Washington, DC: World Bank.

Annex 7: Digital IDs: A Potential Booster for Inclusion and Nondiscrimination

Access to identification (ID) is a vital priority. In developing countries, persons with disabilities are among those most likely to face barriers in accessing government services such as health and rehabilitation, public transportation, education, voting, financial services, and economic opportunities. For women and girls, and other persons with intersecting identities, these barriers are multidimensional. Addressing poverty among persons with disabilities and their families requires solutions that address their differentiated and sometimes complex needs – a precondition of which is possessing official proof of identity.

A robust, government-recognized ID can facilitate persons with disabilities living independently in the community and participating in social and economic activities. Yet persons with disabilities, especially those who live in rural communities, are more likely to lack access to identification and face additional barriers to accessing and using IDs.

Creating an inclusive ID system in order to overcome barriers to enrollment and use for persons with disabilities requires a comprehensive approach. It should adhere to common principles of disability and inclusion, primarily nondiscrimination, accessibility, reasonable accommodation, and universal design. In the context of creating IDs, applying these principles in practice requires:

- Ensuring a supportive legal framework for disability-inclusive IDs;
- Conducting disability-inclusive planning and outreach - including a disability assessment, stakeholder engagement, and information and education campaigns;

- Adapting processes and technologies throughout the identity life cycle - enrollment, credential issuing, use and authentication, and grievance redress - to meet inclusivity standards and principles;
- Continuously monitoring processes to fix issues that arise for persons with disabilities.[16]

16 ID4 (Identification for Development). 2020. **Creating Disability Inclusive ID Systems.** Washington DC: World Bank

Annex 8: Funding Mechanisms

Regarding internet access and usage, Universal Access and Service Funds (UASFs) are funding mechanisms established by national governments to promote universal access to telecommunication services. They provide financial incentives to telecommunication service operators to provide service in locations that would otherwise not be commercially viable.

Traditionally, governments have allocated subsidies in service-specific ways (for example, for fixed telephony payphone services). However, they have evolved to allow service-neutral competition (fixed or mobile), as well as technology-neutral competition for UASF subsidies. UASFs are used to support ICT/broadband programs, including access to PCs and other digital devices, broadband internet connections, and localized content and services. Further, the Economic Commission for Latin America and the Caribbean (ECLAC) notes that UASFs are a valuable resource that can be used to fund programs to assist persons with disabilities in the Caribbean, a view that is equally valid for other disadvantaged populations and in other regions.[17]

17 Ibid.

Annex 9: An Unbroken Chain of Communication

When producing and sharing digital content, an unbroken chain of communication should be ensured - including some overall criteria and other criteria specific to the digital domain - so that persons with disabilities can access all the elements, such as

- A clear, logical, and explicable message/concept;
- **An accessible way to express the message/concept:**
  - **Language** (simple short sentences, affirmative, understandable vocabulary, nonsexist /inclusive /respectful expressions, no use of acronyms/jargon, etc.);
  - **Text** (font type/size/ decoration, alignment, length of paragraphs, etc.);
  - **Voice** (tone and volume, speed, clarity of expression, etc.);
  - **Page** (layout/structure, background /colors/contrasts, easy-to-read, etc.);
  - **Images** (clear, relevant, visible, unambiguous, etc.)
- **Accessible support:**
  - **Files:** Requirements for screen readers and keyboard users (headings / links, ALT text, text boxes, etc.);
  - **Audiovisual:** light / clarity / speed of images, captions / Sign Language Interpretation, audio description, introductions / speakers, titles / logos

Accessible vector, chosen to share the support:

- **Website, Web Portal, Digital Platform** (language settings, use of headings, titles, landmarks, ALT text and labels, order and sequence, control of audiovisuals, etc);
- **Digital Events** like videoconferences, webinars, etc.;
- **Good behavior practices (before/during/after):** Describing yourself and your environment before taking the floor, no talking over others, saying your name before speaking, speaking slow, describing what you are showing, etc.).

Annex 10: Additional Resources

G3ict. 2015. **CRPD Implementation: Promoting Global Digital Inclusion through ICT Procurement Policies & Accessibility Standards.**

ID4 (Identification for Development). 2020. **Creating Disability Inclusive ID Systems.** World Bank. Washington, DC: World Bank.

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