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**CDPF On-line Disability Equality Capacity Building Course Book**

**Module 4: Innovation - focusing on improving Access and Assistive Devices**

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# **i) Introduction**

A fundamental human right is for disabled people to gain access and participation on an equal level with others, regardless of our impairments. Disabled people have struggled for many years to adapt society’s lived physical and information environment for this to happen. The first International Human Rights Treaty to explicitly mention it was the UN Convention on the Rights of Persons with Disabilities (UNCRPD), 2008. There had been Clauses in previous Treaties, National Laws, building codes and standards that had partially acknowledged the need for access in the previous 120 years. All of these were fought for by disabled people and their organisations and some non-disabled led charities. People with sensory impairments were in the vanguard arguing for the teaching and use of Braille, Sign Language, gaining concessions in a minority of countries, usually higher income. However, it is clear that **Article 9 establishes binding obligations for States and consequently, rights for persons with disabilities that are not included in the other core human rights treaties**, although article 25 (c) of the International Covenant on Civil and Political Rights and article 5 (f) of the International Convention on the Elimination of All Forms of Racial Discrimination do contain important precedents.

The provision of these means of communication were often provided in segregated, sometimes residential schools, colleges and ‘sheltered’ workplaces. The built environment, transport, libraries, shops, hospitals, schools, colleges, universities, housing, places of entertainment and political processes, indeed all of ‘normal’ human life, was not adapted for disabled people to take part. Where possible we had to be rehabilitated to be as ‘normal’ as possible. These moves were usually led by non-disabled medically trained rehabilitation professionals and they and some disabled people faced with the huge number of barriers in the environment, designed a wide range of assistive devices to make living in an inaccessible world easier. For those of us who could not be fitted in or rehabilitated we were either abandoned to begging or later segregated in institutions. This ‘medical model’ approach usually meant a loss of autonomy and a separate ‘voice’ for disabled people. However, alongside this approach developed struggles led by disabled people for our access, autonomy, and human rights.

The idea that built environments, transport and systems of communication must be adapted and renewed as universally designed, so there are no barriers, gained support in the last 50 years as disabled people and Disabled People’s Organisations (DPOs), became better at expressing our goals through **‘social model’** thinking. This set the stage for the UNCRPD and the incorporation of the ideas and principles into the Sustainable Development Goals (SDGs e.g.11.2 and 11.7).

The current COVID-19 pandemic has tested the robustness of our societies and how have incorporated these principles into our day to day activities and they have been wanting. Around the world and across the Commonwealth, our DPOs have had to push Government to provide Signed announcements and information, to provide essential information in Easy Read and pictograms. Those who are literate with information technology and who are Blind or visually impaired have been able to benefit from the availability of access programmes, text to speech. IT operating systems have shown the way forward as such adaptions are now standard on I-pads, Laptops and Smart Phones. All the surveys by DPOs show that mental anxiety has risen across disabled people, especially those with psycho-social conditions. This tells us that Access is not just about communicating a message but how the message is communicated and how disabled people are supported. As we ‘Build Back Better’ there has never been a better time to argue for Access and the provision of assistive technology, to avert the colossal wastage of human potential and pain that a ‘business as usual’ approach will mean for the world and its disabled inhabitants. We know how to do this better. Let us put it into practice for all our sakes.

# **ii) The Language the CDPF Uses**

**Disabled People:** Why we still choose to call ourselves ‘disabled people’. In the Commonwealth Disabled People’s Forum (CDPF) we call ourselves ‘**disabled people’** because of the development of the **‘social model of disability’.** In the C19th and C20th, a disabled person’s medical condition was thought to be the root cause of their exclusion from society, an approach now referred to as the **‘medical’ or ‘individual model’** of disability. We use the **‘social model’** of disability, where the barriers of environment, attitude and organisation are what disable people with impairments and lead to prejudice and discrimination.To call ourselves ‘persons with disabilities’ is to accept that we are objects and powerless.We also view ourselves as united by a common oppression, so are proud to identify as ‘**disabled people’. When we are talking about the UN Convention on the Rights of Persons with Disabilities** we will use **‘people with disabilities’.**

# **iii) Access is a human rights principle and key-Article 9. Linked to Article 26-Rehabilitation, Article 20-Personal Mobility and Article 21-Freedom of Expression and Access to Information**

One of the key thrusts of the UNCRPD is to create accessibility by universal design and accessibility standards. **Accessibility** is a human rights principle running throughout the convention. “Inaccessibility: discrimination and freedom of movement/independent living. Physical, informational, and technological barriers prevent persons with disabilities from fully participating in society on an equal basis with others. Inaccessibility also relates to negative attitudes in society that perpetuate images of persons with disabilities as being slow, less intelligent, or unable to make decisions, for example. A key element to ensure equal rights for persons with disabilities is improving the accessibility of the built environment, information and communications technology, transport and other facilities, goods and services open to the public”[[1]](#footnote-1).

**Article 9** of the Convention on the Rights of Persons with Disabilities

“1. To enable persons with disabilities to live independently and participate fully in all aspects of life, States Parties shall 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.

*-It is important that accessibility is addressed in all its complexity, encompassing the physical environment, transportation, information and communication, and services.*

*-The focus is no longer on legal personality and the public or private nature of those who own buildings, transport infrastructure, vehicles, information and communication, and services.*

*-As long as goods, products and services are open or provided to the public, they must be accessible to all, regardless of whether they are owned and/or provided by a public authority or a private enterprise.*

*- Persons with disabilities should have equal access to all goods, products and services that are open or provided to the public in a manner that ensures their effective and equal access and respects their dignity.*

*- This approach stems from the prohibition against discrimination; denial of access should be considered to constitute a discriminatory act, regardless of whether the perpetrator is a public or private entity.*

*-Accessibility should be provided to all persons with disabilities, regardless of the type of impairment, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status, legal or social status, gender or age. Accessibility should especially take into account the gender and age perspectives for persons with disabilities”.[[2]](#footnote-2)*

“1. These measures, which shall include the identification and elimination of obstacles and barriers to accessibility, shall apply to, inter alia:

a) Buildings, roads, transportation and other indoor and outdoor facilities, including schools, housing, medical facilities and workplaces

b) Information, communications and other services, including electronic services and emergency services”.

*“The other indoor and outdoor facilities, mentioned above, should include law enforcement agencies, tribunals, prisons, social institutions, areas for social interaction and recreation, cultural, religious, political and sports activities, and shopping establishments. Other services should include postal, banking, telecommunication and information services”[[3]](#footnote-3).*

Article 9 continued

“2. States Parties shall also take appropriate measures:

a) To develop, promulgate and monitor the implementation of minimum standards and guidelines for the accessibility of facilities and services open or provided to the public

b) To ensure that private entities that offer facilities and services which are open or provided to the public take into account all aspects of accessibility for persons with disabilities

*States parties must..develop, promulgate and monitor the implementation of minimum national standards for the accessibility of facilities and services open or provided to the public. States parties are also required to take measures to ensure that private entities that offer facilities and services that are open or provided to the public take into account all aspects of accessibility for persons with disabilities*.[[4]](#footnote-4)

c) To provide training for stakeholders on accessibility issues facing persons with disabilities

*Since a lack of accessibility is often the result of insufficient awareness and technical know-how, article 9 requires that States parties provide training to all stakeholders on accessibility for persons with disabilities (para. 2 (c)). Article 9 does not attempt to enumerate the relevant stakeholders: any exhaustive list should include the authorities that issue building permits, broadcasting boards, chambers of engineers, designers, architects, urban planners, transport authorities, service providers, members of the academic community and persons with disabilities. Training should be provided not just to those designing goods, services and products, but also to those who actually produce them. Ultimately, it is the builders on the construction site who make a building accessible or not. It is important to put in place training and monitoring systems for all these groups in order to ensure the practical application of accessibility standards”.[[5]](#footnote-5)*

d) To provide in buildings and other facilities open to the public signage in Braille and in easy to read and understand forms

e) To provide forms of live assistance and intermediaries, including guides, readers and professional sign language interpreters, to facilitate accessibility to buildings and other facilities open to the public

*“Movement and orientation in buildings and other places open to the public can be a challenge for some persons with disabilities if there is no adequate signage, accessible information and communication or support services. Article 9, paragraphs 2 (d) and (e), therefore provide that buildings and other places open to the public should have signage in Braille and in easy-to-read and understand forms, and that live assistance and intermediaries, including guides, readers and professional sign-language interpreters should be provided to facilitate accessibility. Without such signage, accessible information and communication and support services, orientation and movement in and through buildings may become impossible for many persons with disabilities, especially those experiencing cognitive fatigue”.[[6]](#footnote-6)*

f) “To promote other appropriate forms of assistance and support to persons with disabilities to ensure their access to information

g) To promote access for persons with disabilities to new information and communications technologies and systems, including the Internet

*“Without access to information and communication, persons with disabilities cannot enjoy freedom of thought and expression and many other basic rights and freedoms. Article 9, paragraphs 2 (f) and (g), of the Convention therefore provide that States parties should promote live assistance and intermediaries, including guides, readers and professional sign language interpreters (section (e)), promote other appropriate forms of assistance and support to persons with disabilities to ensure their access to information, and promote access for persons with disabilities to new information and communications technologies and systems, including the Internet, through the application of mandatory accessibility standards”[[7]](#footnote-7)*

h) To promote the design, development, production and distribution of accessible information and communications technologies and systems at an early stage, so that these technologies and systems become accessible at minimum cost.[[8]](#footnote-8)

*“New technologies can be used to promote the full and equal participation of persons with disabilities in society, but only if they are designed and produced in a way that ensures their accessibility. New investments, research and production should contribute to eliminating inequality, not to the creation of new barriers. Article 9, paragraph 2 (h), therefore calls on States parties to promote the design, development, production and distribution of accessible information and communications technologies and systems at an early stage, so that these technologies and systems become accessible at minimum cost”. [[9]](#footnote-9)*

**As part of the General Obligations of the UNCRPD (Article 3.1)** there are three specific points which are very relevant:

“i) To undertake or promote research and development of universally designed goods, services, equipment and facilities, as defined in article 2 of the present UNCRPD, which should require the minimum possible adaptation and the least cost to meet the specific needs of a person with disabilities, to promote their availability and use, and to promote universal design in the development of standards and guidelines;

*“The strict application of universal design to all new goods, products, facilities, technologies and services should ensure full, equal and unrestricted access for all potential consumers, including persons with disabilities, in a way that takes full account of their inherent dignity and diversity. It should contribute to the creation of an unrestricted chain of movement for an individual from one space to another, including movement inside particular spaces, with no barriers. Persons with disabilities and other users should be able to move in barrier-free streets, enter accessible low-floor vehicles, access information and communication, and enter and move inside universally designed buildings, using technical aids and live assistance where necessary.* ***The application of universal design does not automatically eliminate the need for technical aids. Its application to a building from the initial design stage helps to make construction much less costly: making a building accessible from the outset might increase the total cost of construction up to 0.5 per cent (or not at all, in many cases), while the cost of subsequent adaptations in order to make a building accessible could in some cases amount to one third of the total construction cost.*** *Accessibility of information and communication, including information and communications technology (ICT), should also be achieved from the outset because subsequent adaptations to the Internet and ICT may increase costs. It is therefore more economical to incorporate mandatory ICT accessibility features from the earliest stages of design and construction”. [[10]](#footnote-10)*

g) To undertake or promote research and development of, and to promote the availability and use of new technologies, including information and communications technologies, mobility aids, devices and assistive technologies, suitable for persons with disabilities, giving priority to technologies at an affordable cost

h) To provide accessible information to persons with disabilities about mobility aids, devices and assistive technologies, including new technologies, as well as other forms of assistance, support services and facilities;”

**The UNCRPD has some specific provisions reinforcing the principle of Accessibility that runs throughout the Convention.** Apart from **Article 9** in particular, which also cover Assistive technology, there is **Article 20** Personal Mobility**, Article 21** Freedom of Expression, Opinion and Access to Information**, Article 24** on access to education**, Article 29** on participation in political and public life, **Article 32** International Cooperation also mention the need for Assistive Technology, but it is omitted in **Article** 6 Women, **Article** 19 Independent Living, **Article** 25 Health and **Article** 27 Work.

**Article 20b - Personal Mobility**

States parties shall take effective measures to ensure personal mobility with the greatest possible independence for persons with disabilities, including by: “Facilitating access by persons with disabilities to quality mobility aids, devices, assistive technologies and forms of live assistance and intermediaries, including by making them available at affordable cost;”

**Article 21 - Freedom of Expression, Opinion and Access to Information**

States Parties shall take all appropriate measures to ensure that persons with disabilities can exercise the right to freedom of expression and opinion, including the freedom to seek, receive and impart information and ideas on an equal basis with others and through all forms of communication of their choice, as defined in article 2 of the present Convention, including by:

(a) Providing information intended for the general public to persons with disabilities in accessible formats and technologies appropriate to different kinds of disabilities in a timely manner and without additional cost

(b) Accepting and facilitating the use of sign languages, Braille, augmentative and alternative communication, and all other accessible means, modes and formats of communication of their choice by persons with disabilities in official interactions

(c) Urging private entities that provide services to the general public, including through the Internet, to provide information and services in accessible and usable formats for persons with disabilities

(d) Encouraging the mass media, including providers of information through the Internet, to make their services accessible to persons with disabilities

(e) Recognizing and promoting the use of sign languages”.

**Article 24 Education**

States Parties recognize the right of persons with disabilities to education. With a view to realizing this right without discrimination and on the basis of equal opportunity, States Parties shall ensure **an inclusive education system** at all levels and life-long learning and spelling out that this is to be delivered with the necessary individualised support and reasonable accommodations, the article goes on to specify:-

“3. States Parties shall enable persons with disabilities to learn life and social development skills to facilitate their full and equal participation in education and as members of the community. To this end, States Parties shall take appropriate measures, including:

(a) Facilitating the learning of Braille, alternative script, augmentative and alternative modes, means and formats of communication and orientation and mobility skills, and facilitating peer support and mentoring

(b) Facilitating the learning of sign language and the promotion of the linguistic identity of the deaf community

(c) Ensuring that the education of persons, and in particular children, who are blind, deaf or deafblind, is delivered in the most appropriate languages and modes and means of communication for the individual, and in environments which maximize academic and social development”.

**Article 29** Participation in Political and Public Life, **Article 32** International Cooperation also mention the need for Assistive Technology, but it is omitted in **Article** 6 Women, **Article** 19 Independent Living, **Article** 25 Health and **Article** 27 Work. **Because Access is a General Obligation (Article 4) and an overriding principle (Article 2) of the UNCRPD the drafters may have thought this was covered and probably the divergence represents the prime interest of the different impairment/disability grouping that drafted the initial drafts for each Article.**

**Twin Track Approach in UNCRPD**

The UNCRPD adopted an overarching anticipatory approach to access as a human right requiring State parties to move to Universal Design, while recognising that most were in reality very far from this. Therefore, a **twin-track** approach is apparent with the reasonable accommodation duty as an immediate requirement which covers assistive devices, alternative technologies, communication methods, organisational adjustment, and individualised support.

***Follow Up Activities 4.1,4.2,4.3***

***4.1 Analyse Article 9,19,20,21,26 to make a charter of the main Human Rights for disabled people for Access.***

***4.2 Make a diagram or map of your local area. Identify with key symbols for the different access barriers for a range of people with different impairments.***

***4.3 Now add in the solutions to various access barriers such as dropped kerbs, ramps, lifts, acoustic signals, flashing signals, information and cash points, braille signs, video sign language signals.***

# **iv) Appreciate that Access to Independent Living is a vital right as outlined in Article 19**

**Article 19 – Living independently and being included in the community**

 “States Parties to the present Convention recognize the equal right of all persons with disabilities to live in the community, with choices equal to others, and shall take effective and appropriate measures to facilitate full enjoyment by persons with disabilities of this right and their full inclusion and participation in the community, including by ensuring that:

a) Persons with disabilities have the opportunity to choose their place of residence and where and with whom they live on an equal basis with others and are not obliged to live in a particular living arrangement;

b) Persons with disabilities have access to a range of in-home, residential and other community support services, including personal assistance necessary to support living and inclusion in the community, and to prevent isolation or segregation from the community;

c) Community services and facilities for the general population are available on an equal basis to persons with disabilities and are responsive to their needs”.

Disabled people should be able to live independently just like everyone else, with real choice over our lives.

Independence does not mean doing everything for ourselves. Society is based on systems of interdependence, in which people support one another in all sorts of ways.

For example, most of us go to a professional to get our hair cut, rather than cut it ourselves. We choose who we go to, when, and what type of hair style we have. We all rely on other people for support in our lives in many different ways, and we expect to be able to have choice and control over what kind of support this is. Having the right support, and choice and control over this, can allow disabled people to live more independently.

Disabled people have identified 12 Pillars of Independent Living, which we believe everyone needs to live independently.

These are:

* Appropriate and accessible information
* An adequate income
* Appropriate and accessible health and social care provisions
* A fully-accessible transport system
* Full access to the environment
* Adequate provision of technical aids and equipment
* Availability of accessible and adapted housing
* Adequate provision of personal assistance
* Availability of inclusive education and training
* Equal opportunities for employment
* Availability of independent advocacy and self- advocacy
* Availability of peer counselling

More recently, people have also begun to see access to digital technology as a key requirement for independence in the modern world[[11]](#footnote-11).

***Follow Up Activity 4.4***

***What barriers need to be removed from housing so the full range of disabled people can live independently?***

# **v) Know the various reasonable accommodations to maximise access to environment, information and transport in Low and Middle Income situations.**

According to the World Health Organisation, assistive devices and technologies are those whose primary purpose is to maintain or improve an individual’s functioning and independence to facilitate participation and to enhance overall well-being. They can also help prevent impairments and secondary health conditions. Examples of assistive devices and technologies include wheelchairs, prostheses, hearings aids, visual aids, specialized computer software and hardware that increase mobility, hearing, vision or communication capacities. Responsible planning of systems for the provision of assistive technology ought to be based on quantitative data on the needs for assistive products. However, reliable data on these needs is simply not available in many countries. Global estimates indicate that about 0.5% of a population need prosthetic or orthotic devices, about 1% need a wheelchair and about 3% need a hearing aid. In years following the adoption of the CRPD, it was estimated that only 5-15% of the population in need have access to assistive products, and that only 3% of those that would benefit from using a hearing aid have one.[[12]](#footnote-12)

More recently, a resolution on improving access to assistive technology was adopted at the 71st World Health Assembly. The resolution urged member states to improve access to assistive technology through, amongst others, development of policies and programmes within universal health and/or social services coverage, training of human resources on assistive products, research and development on product designs, international and regional collaboration, and collection of population-based data on health and long-term care needs[[13]](#footnote-13).

Available evidence from developing countries suggests there is a large unmet need for assistive devices. Among 10 countries, around 2013, the percentage of persons with disabilities who needed but did not have assistive devices was on average 68%, from 33% in Chile to 82% in Lesotho.[ Data for other Commonwealth countries in survey Malawi 82%, Zambia 81%, Cameroon 78%, Mozambique 78%, Sri Lanka 64% and Botswana 45%][[14]](#footnote-14).

**Major barriers** in achieving universal assistive technology coverage include lack of awareness, governance, services, products, accessibility, human resources, affordability, and economic resources. In many countries, persons with disabilities, their families and health-related personnel have limited knowledge about assistive products or where to get them. Moreover, policy- and decision-makers are often not aware about assistive technology and the possibilities they bring. In many countries, services are in short supply, often located far away from people in need of them. Similarly, the availability of safe and effective assistive products is limited in terms of quantity, as well as in terms of the range of types, models, and sizes of the products. Lack of physical and cognitive accessibility of the transport system and the facilities where services are provided raise additional barriers. Another common barrier to assistive technology provisioning is the lack of properly trained personnel, skilled in manufacturing or adapting products, or delivering services. Finally, high costs for assistive products and services and traveling costs constitute major barriers. Taxes and duties on assistive products, or materials and components for their production, add to the costs. Data available from 5 countries on persons with disabilities who stopped using assistive devices indicates that most often they stopped because the device was too expensive (22% on average) or not helpful for them (26% on average). The device no longer being available (8% on average) or the service to get it being too far (7% on average) were also identified as reason in these countries. [ Data from Botswana, Mozambique, Eswatini, Zambia and Nepal[[15]](#footnote-15)].

**The way forward on the supply of assistive devices**

1) States should formulate policies and laws to support the development, production, distribution, and servicing of assistive products. Provision of assistive technology should be incorporated into existing or new legislation, strategies, and policies, including in the areas of education, employment, and health.

2) States should ensure that assistive products are available and affordable for persons with disabilities including through a provision of grants.

3) Incentivise research on and the development of assistive technology. Provide financial incentives for research and development of assistive technology. Design assistive products and programs in close collaboration with persons with disabilities and their organizations.

4) Enhance capacities of persons with disabilities and their families, governmental officials, and service providers on assistive technology. Ensure that persons with disabilities and their families obtain knowledge on available assistive products and schemes from which they can benefit.

5) Invest in the environment to optimize the benefits of assistive technology. Although assistive products have the potential to improve quality of life and participation in society, success cannot be guaranteed. Accessibility of the environment is a precondition for using certain assistive products, for example, ramps and wide doorways can enable effective use of a wheelchair. Measures should be taken to ensure that assistive products can be used effectively, such as hearing loops for hearing aid users. In addition to accessibility, assistive products need to meet the preferences and expectations of a user to be effective.

6) Monitor unmet needs for assistive technology to identify and fill the gaps. Little research has been conducted on population-level needs for assistive products, policies, service provision models, implementation and cost-effectiveness. There is a need to monitor progress in meeting these needs for assistive products and the barriers to access[[16]](#footnote-16).

**WHO prioritise 50 key assistive devices**

In 2013 World Health Organisation (WHO)promoted 50 priority assistive products, selected on the basis of widespread need and impact on a person’s life. The list was not be restrictive; the aim was to provide Member States with a model from which to develop a national priority assistive products list, according to national need, available resources and assisted by Disabled People’s Organisations (DPOs) and to set up Global Cooperation on Assistive Technology (GATE).

 Adjustment to ride bicycle with one leg

They came up with the following definitions:

**‘Assistive technology’**: The application of organized knowledge and skills related to assistive products, including systems and services. Assistive technology is a subset of health technology.

**Assistive products**: Any external product (including devices, equipment, instruments or software), especially produced or generally available, the primary purpose of which is to maintain or improve an individual’s functioning and independence, and thereby promote their well-being. Assistive products are also used to prevent impairments and secondary health conditions.

**Priority assistive products**: Those products that are highly needed,

an absolute necessity to maintain or improve an individual’s

functioning and which need to be available at a price the community/state can afford. Chosen by survey of rehabilitation experts and disabled users in many countries and 50 languages across the world.’

**50 chosen assistive products.**

1 Alarm signallers with light/sound/vibration

2 Audio players with DAISY capability

3 Braille displays (note takers)

4 Braille writing equipment/ Braillers

5 Canes/sticks

6 Chairs for shower/ bath/toilet

7 Closed captioning displays

8 Club foot braces

9 Communication boards/books/cards

10 Communication software

11 Crutches, axillary/elbow

12 Deafblind communicators

13 Fall detectors

14 Gesture to voice technology

43 Video communication devices

44 Walking frames/walkers

15 Global positioning system (GPS) locators

16 Handrails/grab bars

17 Hearing aids (digital) and batteries

18 Hearing loops/FM systems

19 Incontinence products, absorbent

20 Keyboard and mouse emulation software

21 Magnifiers, digital hand-held

22 Magnifiers, optical

23 Orthoses, lower limb

24 Orthoses, spinal

25 Orthoses, upper limb

26 Personal digital assistant (PDA)

27 Personal emergency alarm systems

28 Pill organizers

29 Pressure relief cushions

30 Pressure relief mattresses

31 Prostheses, lower limb

32 Ramps, portable

33 Recorders

34 Rollators

35 Screen readers

36 Simplified mobile phones

37 Spectacles; low vision, short distance, long distance, filters and protection

38 Standing frames, adjustable

39 Therapeutic footwear; diabetic, neuropathic, orthopaedic

40 Time management products

41 Travel aids, portable

42 Tricycles

45 Watches, talking/ touching

46 Wheelchairs, manual for active use

47 Wheelchairs, manual assistant-controlled

48 Wheelchairs, manual with postural support

49 Wheelchairs, electrically powered

50 White cane[[17]](#footnote-17)

However, only 1 in 10 disabled people in need of appropriate assistive devices currently have access to them. This results in many missed opportunities for people to participate in society – for younger people to access education and work, and for older people to continue to live healthy, independent lives in their own homes. **Access to assistive technology offers a public health solution to meet the needs of 21st Century populations.**

**Screen Readers**

A screen reader is a form of assistive technology. They are software applications that translate text and image content on a screen into speech, which can be heard through an Earphone or Speaker. Screen readers are essential to people who are blind, and are useful to people who are visually impaired, illiterate, or have a learning disability. Through and with the invention, development and innovation of Screen Readers, blind and visually impaired people are now able to have access and use of technology on an equal basis with others. Screen readers work closely with the computer's Operating System (OS) to provide information about icons, menus, dialogue boxes, files, and folders. Web browsers, word processors, icons and windows and email programs are just some of the applications used successfully by screen reader users. List of screen readers[[18]](#footnote-18)

[Microsoft Windows](https://en.wikipedia.org/wiki/Microsoft_Windows) [operating systems](https://en.wikipedia.org/wiki/Operating_systems) have included the [Microsoft Narrator](https://en.wikipedia.org/wiki/Microsoft_Narrator) screen reader since [Windows 2000](https://en.wikipedia.org/wiki/Windows_2000), though separate products such as the [free and open source](https://en.wikipedia.org/wiki/Free_and_open_source) screen reader [NVDA](https://en.wikipedia.org/wiki/NonVisual_Desktop_Access) by NV Access and [Freedom Scientific](https://en.wikipedia.org/wiki/Freedom_Scientific)'s commercially available [JAWS](https://en.wikipedia.org/wiki/JAWS_(screen_reader)) screen reader and [ZoomText](https://en.wikipedia.org/wiki/ZoomText) screen magnifier are more popular for that operating system.[[7]](https://en.wikipedia.org/wiki/Screen_reader#cite_note-7) [Apple Inc.](https://en.wikipedia.org/wiki/Apple_Inc.)'s [macOS](https://en.wikipedia.org/wiki/MacOS), [iOS](https://en.wikipedia.org/wiki/IOS), and [tvOS](https://en.wikipedia.org/wiki/TvOS" \o "TvOS) include [VoiceOver](https://en.wikipedia.org/wiki/VoiceOver" \o "VoiceOver) as a built-in screen reader, while [Google](https://en.wikipedia.org/wiki/Google)'s [Android](https://en.wikipedia.org/wiki/Android_(operating_system)) provides the [Talkback screen reader](https://en.wikipedia.org/wiki/Google_TalkBack) and its [Chrome OS](https://en.wikipedia.org/wiki/Chrome_OS) can use ChromeVox.[[8]](https://en.wikipedia.org/wiki/Screen_reader#cite_note-8) Similarly, Android-based devices from Amazon provide the VoiceView screen reader. There are also free and open source screen readers for [Linux](https://en.wikipedia.org/wiki/Linux) and [Unix-like](https://en.wikipedia.org/wiki/Unix-like) systems, such as Speakup and [Orca](https://en.wikipedia.org/wiki/Orca_(assistive_technology)).

Free and open source (LGPL 2.1) The development of Orca was started by Sun Microsystems as part of the GNOME project with contributions from many community members, but since Oracle acquired Sun Microsystems in 2010, Orca turned into a completely community-driven project. It supports AT-SPI, so it works with the GNOME desktop, Mozilla Firefox/Thunderbird, OpenOffice/LibreOffice and GTK+, KDE/Qt and Java Swing/SWT applications. Though it is developed by the GNOME project, it is the most popular screen reader for Unix like systems with graphical environments other than GNOME, like KDE or Unity.

SpeakComputers.com Windows Freeware A free program that converts written text into spoken words or even written text into MP3 files. Seven programs: Text to speech: Reader, Web browser, Mini Clipboard reader, Image Presentation, Appointment Reminder, Speaking Clock, Parental Controls

Apple Inc. Mac OS X, iPhone, iPad, Apple Watch, iPods, and Apple TV Free, Commercial. Free and included with any Apple product. No installation or setup required. Available in over 30 language voices, which are also included for free. See Apple Accessibility [6] for more information.

WebAnywhere, University of Washington, Web Free and Open Source (new BSD) Doesn't require any software installation to run so can be used at any public terminal that has sound available - works on any platform.

WinZoom, Clarity Windows Commercial Screen reader with magnifier. The USB version does not require any installation and can be used on any public computer.

There are now many variants, but the important thing is that to an ever-increasing extent text to speech is being included as standard software on computers and smart phones. A good example of Universal Design.

**The Marrakesh Treaty and Copywrite**

Copywrite law was preventing blind and other print impaired people from making copies of published books and articles in various formats such as Braille that they could then access for information, study, or enjoyment.

The Marrakesh Treaty was signed in Marrakesh Morocco on June 27 2013, and came into force on September 30, 2016. This is an international instrument that addresses the right to read, particularly focusing on blind and visually impaired persons and people with print disabilities.

The World Intellectual Property Organisation (WIPO) administered Treaty makes the production and international transfer of specially adapted books for people with blindness or visual impairments easier. Its main goal is to create a set of mandatory limitations and exceptions for the benefit of the blind, visually impaired, and otherwise print disabled. This Treaty must be ratified by Governments and when this is done, they are to amend their traditional Copyright Laws thus enabling persons with print disabilities to access reading materials, including books, at their leisure.

The World Blind Union Guide to the Marrakesh Treaty: ‘Facilitating Access to Books for Print-Disabled Individuals’. The Guide is intended to help governments of ratifying countries, as they face a variety of legal and policy choices, when deciding how to incorporate the Marrakesh Treaty into their national legal systems.  It will also be a useful resource for disability rights organizations and other civil society groups, and print-disabled individuals themselves when advocating for the ratification and implementation of the Marrakesh Treaty.  
  
The Guide provides a comprehensive analysis of the Treaty, including an article-by-article analysis of key provisions, and specific legal and policy recommendations for giving effect to the provisions. The Guide views the Marrakesh Treaty as an international agreement that employs the legal doctrines and policy tools of copyright to advance human rights ends. It was written by academic experts from both the copyright law and international human rights fields.[[19]](#footnote-19) The Guide is intended to be read either as a whole or selectively. For readers who wish to focus on specific topics, the Guide is written in such a way that each section should stand on its own without the need for additional background reading.​  
  
The WBU Guide to the Marrakesh Treaty has been published by Oxford University Press (OUP). You can order your copy of the Guide on the [OUP we​bsite](https://global.oup.com/academic/product/the-world-blind-union-guide-to-the-marrakesh-treaty-9780190679651?cc=us&lang=en). “This book provides a timely, clear, and insightful guide to a complex and novel legal subject with immense practical significance. A must-read for anybody interested in making accessible versions of printed material available to disabled people.” Anna Lawson Professor of Law and Director of the Centre for Disability Studies University of Leeds OUP has allowed for an open access copy to be available on our website. This enables print-disabled individuals, including WBU members to have access to an online accessible version of the Guide.[[20]](#footnote-20)

# **vi) Examples of how innovators, DPOs and universities, businesses and governments can link up for a win-win access situation and the economic benefits.**

**Examples of the wide range of ways access and supply of assistive devices can be improved**

**The Global Alliance on Accessible Technology and Environments (GAATES)[[21]](#footnote-21)** The Mission of GAATES is to promote the understanding and implementation of accessibility of the sustainable built, social and virtual environments, … so that everyone, including people with disabilities and older persons are able to fully participate and contribute to society. The promotion of Universal Design (UD) is a general obligation of States Parties in the UN Convention on the Rights of Persons with Disabilities and is defined by Article 2. Universal Design recognizes that Assistive Devices can enable inclusion.

*Picture: Universal Design and Accessibility: A line drawing graphic conceptual illustration of a building, showing multiple routes of entry, access within the building, egress, etc*.

**Universal Design and Accessibility
A line drawing graphic conceptual illustration of a building, showing multiple routes of entry, access within the building, egress, etc. **

# **vii) Universal Design**

“Universal design” means the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. “Universal design” shall not exclude assistive devices for particular groups of persons with disabilities where this is needed”. Article 2 UNCRPD.

**Principles of Universal Design**

**1. Equitable Use** The design is useful and marketable to people with diverse abilities.

* + Means of use is identical or equivalent for all users
  + No one is segregated or stigmatized
  + Safety and security are equally available to all users.

**2. Flexibility of Use** The design accommodates a wide range of individual preferences and abilities.

* + Provide choice such as right or left-handed use
  + Allow for different levels of accuracy
  + Allow for people who may do things at a different pace.

**3. Simple and Intuitive Use** The design is easy to understand, regardless of the user’s experience, knowledge, language skills, or current concentration level.

* + Keep it simple
  + Consider what the user may be expecting
  + Allow for different literacy and languages
  + Provide prompts and feedback.

**4. Perceptible Information** The design communicates information effectively to the user, regardless of ambient conditions or the user’s sensory abilities.

* + Use different ways of presenting information (pictorial, verbal, tactile)
  + Make it easy to provide directions or instructions
  + Create compatibility for different devices or techniques used by people with sensory disabilities.

**5. Tolerance for Error**

The design minimizes hazards and the adverse consequences of accidental or unintended actions.

* + Arrange commonly used elements where most accessible and hazardous elements either removed or shielded
  + Provide warnings and fail-safe features
  + Encourage concentration where it is needed.

**6. Low physical effort**

The design can be used efficiently and comfortably and with a minimum of fatigue.

* + Allow for user to be in a neutral body position
  + Use operating forces that are reasonable
  + Minimize repetitive actions
  + Minimize the need for a sustained physical effort.

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

* Provide a clear line of sight to important elements for any seated or standing user
* Make reach to all components comfortable for any seated or standing user
* Accommodate variations in hand and grip size
* Provide adequate space for the use of assistive devices or personal assistance.[[22]](#footnote-22)

***Follow Up Activities 4.5, 4.6***

***4.5) Re draw your local area from the principle of Universal Design and write a commentary on changes from 4.1, 4.2, 4.3.***

***4.6) How would you organise a campaign to achieve the access designs above? Who would you involve, what arguments would you make and what activities would you organise to make the campaign happen?***

**Online newsletter with 100s of examples of practice moving forward[[23]](#footnote-23)**

**Case Studies**

**India:** **Accessibility and associated technology for disabled people are quite advanced.**  There are numerous organizations working exclusively on making society more accessible. They have been fairly successful in implementing their strategies. Although this is not the case for all MFIs and socially driven organizations in India, six impressive initiatives have made great strides in making accessibility a reality.  
**Access audits**, in particular, have proven to be a powerful tool for improving accessibility for disabled people. These audits evaluate existing infrastructure and services in terms of accessibility and generate corresponding recommendations. [Samarthyam](http://www.samarthyam.org/), a national information, technical assistance and research organization has conducted access audits in over 2,000 locations throughout India and has trained professionals in implementing accessible design. Samarthyam’s work is housed primarily under the “National Centre for Accessible Environments” project, through which it evaluates, develops, and promotes accessible design across many environments, including transportation systems and consumer products. In 2005, Samarthyam conducted a study on the accessibility of Low Floor Buses (LFB), bus shelters, and the new Bus Rapid Transit System. It provided corresponding design solutions and has been monitoring their implementation. In a similar study of the Indian Railway system, Samarthyam looked at the accessibility of stations, reservation centers and passenger compartments for disabled people. The organization has also designed Braille registration plates and audio meters for auto rickshaws.   
The [Swayam](http://www.svayam.com/Index.aspx) initiative looks to raise public awareness of and support for widespread accessibility. It does so while working closely with government agencies and corporations. For example, it works with the Ministry of Tourism in promoting inclusive tourism. Swayam is also the accessibility consultant for the Archaeological Survey of India (ASI), ensuring that historical sites, monuments, and properties protected under ASI are accessible to disabled people. It has conducted accessibility audits of notable sites which include Humayon’s Tomb, Lal Quila, the Red Fort, Kashmir Gate, and Jallian Walla Bagh. Swayam also works alongside Delhi University raising awareness amongst students, faculty, and staff on disability equality.

 Considered a pioneer in India’s drive towards accessibility, [AccessAbility](http://www.accessability.co.in/access/) is an Indian design consultancy firm offering disabled people-friendly design solutions. AccessAbility is credited with introducing access consulting as a beneficial service. The firm begins prospective-construction projects by reviewing architectural layouts and plans in the blueprint stage and suggesting potential access features through access appraisals. These appraisals allow the access consultant to do detailed evaluations and create technical reports with recommendations for external, structural, built and signage environments. The consultant will then be available to provide support for the recommendations. The firm also conducts accessibility audits of already-constructed environments and services. To support public awareness, AccessAbility provides sensitization trainings spanning topics including escorting people with disabilities, using non-offensive terminology and general education. AccessAbility’s clients are wide-ranging, encompassing hospitality, healthcare, retail, educational institutes, and research.

The [National Institute of Speech and Hearing](http://www.nish.ac.in/) in Kerala serves a variety of purposes for the rehabilitation of speech and hearing impaired persons. It provides professional services and technology and promotes awareness and accessibility through research. In an overlapping realm, [Kerala’s Center for Disability Studies](http://www.cdskerala.org/)  focuses on the development of new educational technologies and programs for the visually impaired, physically impaired and Deaf and hard of hearing. The Centre is looking to begin offering academic instruction in disability studies at both the masters and doctoral levels and to develop educational materials for disabled working professionals, activists, and others. The Centre plans to conduct research on the promotion of inclusive educational practices at school and collegiate levels for disabled students.[[24]](#footnote-24)

**Jamaica** Persons who are blind or visually impaired will benefit from assistive technology to help them access the Internet. This is being facilitated by the Government under the Caribbean Community (Caricom) Trade and Competitiveness Project (CTCP), which is aimed at contributing to the deepening of the regional integration process. “This is an exciting development partnership and I thank the Caricom Secretariat in Barbados for this kind donation and look forward to its implementation in the coming weeks,” said Minister of Labour and Social Security, Shahine Robinson. She was addressing the opening of the Regional Disability Studies Conference at the Mona campus of the University of the West Indies on March 16, 2016.  
The assistive software will be available through the Jamaica Council for Persons with Disabilities (JCPD). Robinson noted that modern technologies have the capacity to level the playing field and provide independence, equality, and integration for persons with disabilities. Turning to other initiatives to assist the disabled community, Robinson informed that later this week, the JCPD will be participating in a strategic planning workshop for the development of a virtual relay interpreting system to enhance communication for deaf persons. The workshop is being organised by the Jamaica Association for the Deaf through its ‘Advancing Deaf Kids Jamaica’ project. The initiative aims to advance the rights and protection of deaf children and young people through a nationwide programme of communication, safe behaviour and positive parenting by utilising sports and dance as channels for engagement. Robinson noted that the Ministry, through the JCPD, will continue to advocate for the rights of persons with disabilities and ensure that they are included in Government’s plans and policies.[[25]](#footnote-25)

**Namibia: Disability Accessibility Standard Aims to Make Progress in the Built Environment**

“Imagine every day and every activity being a challenge or simply not being able to take part in everyday life. People with disabilities face this prospect daily, simply because buildings and infrastructure have not been made with them in mind. Leaving buildings, offices, schools, shops and infrastructure inaccessible to them because of lack of wheelchair access for example. This is why in the spirit of Leave No One Behind (LNOB) a Disability Accessibility Standard for all Public Buildings and Infrastructure has been created in Namibia. This Standard was launched during a workshop for stakeholders in March of this year, in Windhoek. The key mandate of the National Disability Council of Namibia (NDCN) is to Improve the lives of People with Disabilities, and to create a Barrier Free Society for the 100,000 people in Namibia with disabilities.

It is vital that the principle of ‘Leave No One Behind’ includes people that have disabilities. That is why the NDCN has taken the steps, to develop a **Disability Standards for Public Buildings and Facilities.** This standard provides guidelines and specifications for auditing and inspecting facilities.

When speaking about Namibia, we often speak of the Namibian House and there needing to be room for every Namibian and how it needs to be welcoming safe and a place to thrive. Now, imagine some of the population not being able to get through the front door of the ‘House’ due to wheelchair inaccessibility or getting passed the stairs, as there’s no lift. Simply not knowing if you are in the correct building, as there’s no braille signage anywhere. The lack of sign language interpreters, braille documents, information and communication and other assistive devices at our court houses, police stations, hospitals, schools, governmental and private institutions limit the ability of persons with disabilities to effectively participate in the Namibian House. These hurdles and more need to be removed so that the Namibian house is truly all embracing for each citizen. This is in short what the Disability Accessibility standard looks to rectify and change. The majority of buildings, infrastructure, restaurants, gyms, shops, libraries museum and other facilities in Namibia are just not made with disability accessibility standards in mind. This is due to the fact that the buildings were built well before the accessibility standards were developed.

Mr. Tjiueza Tjombumbi from the NDCN said that the Disability Accessibility Standard will not only benefit those with disabilities in Namibia, but also those in Africa and the tourists beyond the Sub-Saharan Africa region coming to Namibia. When we visit their countries, we benefit from their accessible infrastructures, visitors should also benefit from our universal design when they visit Namibia. The Deputy Minister of Works and Transport stated that all OMAS, private entities and development partners should take note that, public funds must not be used to discriminate against anybody. The principle of “LNOB” of Agenda 2030, must be put into practice in planning, executions and monitoring and evaluation of our projects and activities. No one should feel left out.”

Dr Steytler, leader of the Sustainable Development Goals Initiative at GIZ Namibia said, “The design of any building or infrastructural project should be founded on the principle that it must be accessible to everyone, regardless of their physical abilities. This has to become the new norm for architects and project developers. To set an example GIZ Namibia recently upgraded some of its office infrastructure to ensure that it is accessible to persons with disabilities. …GIZ Namibia will continue to work together with the relevant stakeholders such as the NDCN and Ministries to ensure that no one is ‘Left behind’ and that buildings and infrastructure in Namibia are accessible to everyone”.[[26]](#footnote-26)

**Nigeria:** On January 23, 2019 Nigeria’s President Muhammadu Buhari signed into law the [Discrimination Against Persons with Disabilities (Prohibition) Act, 2018,](https://drive.google.com/file/d/12459t6medwbLvSunXgk6o9x9npnXG6W4/view) following 9 years of [relentless advocacy](https://www.vanguardngr.com/2018/12/2019-well-vote-against-politicians-opposed-to-disability-bill-jonapwd/) by disability rights groups and activists. According to the World Health Organization’s 2011 [World Disability Report](https://www.who.int/disabilities/world_report/2011/report/en/), about 15 percent of Nigeria’s population, or [at least 27 million are disabled people](https://www.vanguardngr.com/2018/05/ccb-urges-buhari-sign-disability-bill-law/). Many of them face a number of [human rights abuses](https://www.iiste.org/Journals/index.php/JLPG/article/viewFile/39027/40128) including stigma, discrimination, violence, and lack of access to healthcare, housing, and education. In 2011 and 2015, the National Assembly passed the Discrimination Against Persons with Disabilities (Prohibition) Bill 2009, but former President Goodluck Jonathan declined to sign it into law. The bill for the new law was passed by the House of Representatives and the Senate joint committee in [November 2016](https://www.pmnewsnigeria.com/2017/12/12/national-assembly-urged-fast-track-disability-bill-assent/), but was not sent to Buhari for his signature until December 2018. On January 17, Buhari denied on national television that he had received the bill. Hundreds of people [protested](https://www.tribuneonlineng.com/184739/) and barely five days later, he signed the bill into law.

The law prohibits discrimination on the basis of disability and imposes sanctions including fines and prison sentences on those who contravene it. It also stipulates a five-year transitional period for modifying public buildings, structures, and automobiles to make them accessible and usable for people with disabilities. The law will also establish a National Commission for Persons with Disabilities, responsible for ensuring access to housing, education, and healthcare. The Commission will be empowered to receive complaints of rights violations and support victims to seek legal redress amongst other duties.[[27]](#footnote-27) “Public infrastructures in Nigeria is another... let me call it a hell to persons with disabilities ranging from the school, you can imagine as a person with disabilities you're going to lectures in a four-storey building.. you can imagine you want to access probably a bank, hospital, places of worship, there's no provision for a ramp for you to come in"  According to Nigeria’s Centre for Citizens with Disabilities, 98 percent of public structures and facilities are not disabled accessible.[[28]](#footnote-28)

**Pakistan:** Disabled people face many barriers in Pakistan—not just physical ones. Even if they can navigate cities without ramps or elevators for those in wheelchairs, they still need to overcome deep prejudices that keep disabled people from becoming full members of society. Those who dare to venture outside their home are routinely met with stares or are approached by strangers who ask them to pray on their behalf. In rural areas, where disability is seen as a bad omen or curse from god, blind and crippled people are mocked. Ashamed parents keep disabled children shut inside and feed them poorly.  “Even in the most educated circles, people are just too dumbfounded to talk to me. They don’t know what to talk to me about,” says Tanzila Khan, a wheelchair user and social entrepreneur from Lahore who has been disabled since birth.

Despite her impairment, Khan counts herself lucky as she’s been spared the worst treatment. She has also been encouraged by her family and friends to lead a normal life. At age nine, a charity paid for her to fly to the United States for medical treatment. They removed some weaker bones and gave her artificial prosthetics to help her walk. But the biggest change was psychological: she experienced “a world where there were ramps and people were friendly.”

A group of Asian women posing for the camera selfie held by young woman in wheelchair

 Now at 27, Khan is trying to make her own society more open. A Monopoly player since childhood, Khan is adapting the board game to teach people that everyone in society should be held accountable for how disabled people are treated. Her trip to the United States “inspired me to want a world like that for Pakistan and South Asia,” she says. Khan’s game features a city called Accessibility Town, or “A-Town,” where all the properties and spaces pose problems for different types of people: a print shop lacks ramps, a school has a discriminatory admissions policy, a municipal office doesn’t have interpreters. Each player is assigned an impairment, which isn’t known to the other players. Like in Monopoly, players buy up properties and try to improve them in order to get rich and bankrupt the other players. But in A-Town, players are rewarded for making their properties more accessible. For example, a blind player who lands on a restaurant that offers menus in Braille has to spend money there. A renter who builds a ramp for his apartment building sees his rent go down.  The game uses role play to help people experience disability and decision-making power at the same time. The hope is that they become motivated in their real life to demand more accessible spaces and fairer and more humane treatment for disabled people, Khan says. “The whole idea is to get people to realize that everyone is accountable to make sure the policies, the buildings and the services and products are all available to the wide range of people,” she explains.[[29]](#footnote-29)

**Samoa:** In 2013 there was no formal Government provision in Samoa of mobility device services for children and adults with a permanent mobility impairment. Existing provision of wheelchairs is un-coordinated and inequitable. People who have funds are able to seek assistance outside of the country; the provision under the Accident Compensation Corporation addresses only a minority of wheelchair users; and donated equipment is provided on the basis of people identified by the donating organisations. There is also currently no lower limb prosthetics service functioning in Samoa, despite a rapid growth in demand as a result of an increase in diabetic related above and below knee amputations. A small number of individuals are able to travel overseas (with private, family or insurance funds) to access prosthetics services. Other mobility devices including orthoses, walking frames and crutches are also largely unavailable. The purpose of this four-year project titled: Samoa Integrated Mobility Device Services (SIMDES), is to create consistent, equitable and sustainable access to appropriate mobility device provision for women, men, girls and boys with a mobility disability in Samoa. The budget to implement this project is part of the broader Samoa Disability Programme (SDP) and is shown in the PDD budget annex as AU$877,500.

There are a number of key stakeholders engaged in the SDP. The Ministry of Women, Community and Social Development (MWCSD) are the coordinating Ministry and focal point for disability for the Government of Samoa (GoS), and therefore have ownership of the wider SDP. The NHS is the government agency responsible for the delivery of mobility devices services and therefore the primary implementation partner for this project. NOLA, the National Disabled Persons Organisation, plays a key role as the disability advocacy body in Samoa, and is an important link between the SDP and the primary beneficiaries of the programme.

It is essential that there is a strong emphasis on activities to build capacity to carry out aspects of mobility device service provision in the community, through Government and Non-Government organisations. This will require a great deal of cooperation and coordination with the NGOs who have been providing the majority of mobility devices to date, to ensure that the new services are relevant and responsive to the needs of people with mobility disabilities in the community. This represents a major challenge for the SIMDES project. In general, reactions to the proposed project during the consultations were overwhelmingly positive; with some caution amongst NGOs regarding the NHS owning an activity that to date it has not shown great interest in or dedicated many resources to addressing.

This project represents a tremendous opportunity for all Samoan stakeholders; with broad government support; a brand-new purpose-built facility; potential for new career pathways and professionals; and the building of an active community of NGOs/DPOs. The PDD embraced the idea of integrating services for wheelchairs, supportive seating, Prosthetics & Orthotics (P&O) and other devices (such as walkers, crutches, walking sticks, white canes,) into one mobility device department. This would be the first implementation of the strategy in the Pacific to integrate all services from the beginning. The MDS project plan encompasses a diverse range of specialist inputs in order to achieve the desired objectives. Given this diversity, in the context of the current capacity of the NHS and NGO service providers at this time, it is recommended that the MDS project is implemented through the engagement of a specialist technical partner that works closely with the NHS, NOLA (as the peak representative body of people with a disability) and engages with the MWCSD.[[30]](#footnote-30)

**Seychelles: The Deaf & hearing-impaired community in Seychelles has its own sign language dictionary for the first time**



Photo: Seychelles Nation/Seychelles News Agency

The dictionary was launched last Saturday after 10 years of work, in a ceremony held at the Citizenship Engagement Platform (CEPS) in Victoria, the capital.

When presenting the dictionary, Annie Risler from the University of Lille, said that “it is intended to follow the local signs and thus promote their dissemination. It is also a valuable tool for young deaf people to meet sign language for the first time and a valuable tool for deaf students and their teachers.”

Risler said that the sign language in Seychelles is one of many around the world and results from repeat varied interactions among deaf people belonging to the same community.

“It develops and spreads among the deaf of Seychelles. The signatory population is very small. The deaf community of Seychelles has developed over generations a specific vocabulary representing a remarkable heritage. The dictionary is the culmination of a long process of documenting the signs used by the deaf people of Seychelles,” she added. The publication was made possible through a partnership agreement between the National Institute for the Young Deaf in Paris (INJS), the Association of People with Hearing Impairment in Seychelles, the Ministry of Education and Human Resources Development and the University of Lille. Speaker of the National Assembly, Nicholas Prea, who was present at the ceremony, said that he was very happy because “the Deaf Association is really solid, and it was not an easy journey. Their goal to have this dictionary took a decade and they now have a great and exceptional tool. My presence today shows the importance that we must give to this group and also give them their importance and their place in society. At the level of the Assembly now, we will propose with the government to accept sign language as the fourth language of Seychelles. “The chairperson of the Association of People with Hearing Impairment in Seychelles, Anita Gardner, said she is very happy and proud of the team that worked on the project. “We had our ups and downs, but we were determined to finish it. As sign language is a right, our association felt it was our duty to make sure that happened. Now our job is to teach the whole population,” she said.”[[31]](#footnote-31)

**Southern Africa:** The Assistive Technology Information Mapping project (AT-Info-Map) was funded by the [Google Impact Challenge](https://www.google.org/impactchallenge/disabilities/grants.html) as one of the *‘****big ideas that will use technology to expand opportunity and independence for people with disabilities’***. With an estimate that 8%-95% of disabled people in Southern Africa who need assistive technology do not get it, this project was extremely important.

AT-Info-Map is a 3-year project (2016-2019) that has the goal of mapping the availability of different types of assistive technology (AT) in 10 countries in Southern Africa. Identifying *WHAT* types of AT are available and *WHERE* those products are located will serve three purposes:

* Connecting persons with disabilities to the available AT near their community
* Supporting key actors in identifying AT needs. Key actors include public AT providers (clinics, community health centres, secondary and tertiary hospitals, schools), civil society, government, non-governmental organizations (NGOs), disabled people’s organizations (DPOs) and businesses
* Informing AT suppliers, manufacturers, and designers of unmet public demand.

**The**[**Southern Africa Federation of the Disabled**](http://www.safod.net/) (SAFOD) in partnership with [AfriNEAD](http://blogs.sun.ac.za/afrinead/), [University of Washington](http://www.washington.edu/), and [Dimagi](http://www.dimagi.com/) are the four lead partners implementing the AT-Info-Map project. Within each of the 10 SAFOD countries, national DPOs, government officials, AT providers, and local organizations that serve persons with disabilities are invited to participate in implementation. Assistive technology (AT) includes a wide range of technology products (often called devices or aids) that are used to improve mobility, hearing, vision, communication, and learning. The definition used in the World Disability Report is, “Any item, piece of equipment or product system, whether acquired commercially, off-the-shelf, modified or customized, that is used to increase, maintain or improve functional capabilities of individuals with disabilities” (United States Congress, 2004).Examples of AT products include devices designed to improve functioning, enhance independence, improve quality of life, and restore human dignity for people with disabilities including:

* Daily living and self-care – adaptive aids and utensils for a variety of functions (cooking, gardening, working, etc.),
* Mobility – prosthetics, wheelchairs, crutches,
* Hearing – hearing aids, speech-text software,
* Vision – eye glasses, screen readers,
* Communication – voice amplifiers, communication cards,
* Learning – memory aids, reading software.

AT is provided through a wide variety of public and private organizations and institutions within the health, education, or employment sectors.[[32]](#footnote-32)

**Case Study Access to Health care Pakistan**[[33]](#footnote-33)

Pakistan is home to an estimated 28 million persons with disabilities who face barriers to full and effective participation in society. Majority of them are poor and in vulnerable employment without adequate social protection. UNESCAP research indicates that the difference in poverty rates between persons with disabilities and the general population can be as high as 20.6 per cent. These disadvantaged circumstances make persons with disabilities more vulnerable during the COVID-19 pandemic, especially those with existing health conditions. They were confined in their homes due to COVID 19 outbreak. In that situation general health issues of persons with disabilities were being totally ignored and they were going to mental illness due to double isolation and depression. International Disability Alliance in a joint statement had been emphasized that all services related to COVID-19 crisis, including remote/telephone medical advice through Tele-health and helpline for information on essential supplies and services should be accessible for persons with disabilities. With an objective to pilot an online health service for persons with severe impairments or mainly having mobility barriers was proposed to US Alumni Small Grant and it was accepted. To achieve the envisaged objectives following activities were caried out:

1. Persons with disabilities living across Pakistan were identified through the organizations of persons with disabilities and advertisement on social media particularly who were facing barriers to access health facilities. As per agreed scope of the project 50 persons with disabilities were identified and received the direct service. A form developed to collect the basic data.
2. Two medical doctors and one psychologist were taken on board to provide services virtually
3. One of the PUAN Alumnus facilitated to schedule appointments with identified persons with disabilities for physicians and phycologist.
4. Zoom Account was procured and virtual clinic was established.
5. Online health consultations were provided followed by a counseling session with phycologist.

The initiative is contributing to the objectives cited in PUAN constitution in particular objective three which refers to contributed towards improved quality of life of the people, by drawing upon the skills and insights of its members, gained from their interaction with the people of the United States through participation in exchange programs. Since this practice will be published as a case study by Center for Research on Inclusive Development (CRID) it also contributes to the objective five that is to serve as a repository of institutional knowledge and advice for future beneficiaries of the people-to-people contact initiatives.

Since the targeted beneficiaries were from the most marginalized communities, majority of them did not have access to adequate quality of internet to avail the service and availability of devices such as android mobile phone was also an issue to be addressed. At the same time using the interface like Zoom was also a challenging task. To address these challenges, we mobilized some volunteers to assist them and where needed provided some communication cost for the internet. The initiative has been appreciated by the end users and they want it as a continual service though this practice has been adopted by a recently established commercial enterprise Mobiaccess.biz providing assistive technology for persons with disabilities. They have added it to their web portal and business model. The activity can be scaled up in collaboration with Ministry of national health services in the second phase to address this nationwide issue.

# **vii) What Needs to Be Done!**

From an analysis of the UNCRPD Committee’s comments[[34]](#footnote-34) on Article 9, 20, 21 and 26 for 14 Commonwealth countries, the following guidance is offered to DPOs, NGOs and State Parties.

1. DPOs to carry out a situational analysis to identify barriers to access not addressed, compliance with existing legislation and identify gaps in national legislation and implementation frameworks on accessibility, reasonable accommodations and assistive technology, compared to the requirements of the UNCRPD and the Sustainable Development Goals.

2. State parties and all levels of government to audit implementation of and compliance with existing Disability Legislation with regards to Accessibility Standards, which should include the physical environment, built environment including new or extensively modified public and private housing, public transport including road, rail, air and by boat. Review and amend primary and secondary legislation where found inadequate against international treaty commitments.

3. State parties to accelerate the full implementation of accessible ICT including by the provision of low-cost software and assistive devices for all disabled people, Information and Communication including the development and promotion of the use of all accessible formats, such as Sign language, Captioning, Braille and Easy Read, alternative and augmentative modes of communication and adopt capacity-building programmes for translators and/or interpreters of such formats of communication across the entire population and where they live, travel and work including those living in rural areas. For Blind and visually impaired and others who are ‘print disabled’, ensure the Marrakesh Treaty is fully incorporated into national legislation to allow copywrite material to be available in alternative formats.

4. State parties to implement national and state law on accessibility, by taking a cross-sectoral approach, requiring all ministries engaged in public infrastructure to address accessibility in all planning and implementation processes, with an appropriate time frame, budget, monitoring and evaluation, in order to improve accessibility, especially in rural areas, and involving disabled people through their representative organizations at every stage.

5. State parties to ensure compliance with article 9 of the UNCRPD and National Legislation on Accessibility and a right to redress in the justice system to enforce:

a) legally binding accessibility action plan, with benchmarks, indicators, and timelines, to cover all aspects of the built environment, public service provision, information and communications, including sign language interpretation, as well as assistive listening systems

b) progressively developing the operational measures to implement accessibility

c) the accessibility of transportation services, including transport concessions and licences with no additional charging for those who use taxis because they cannot use public transport

d) the Information and Communication Technology Policy to provide access to information and technology for persons with disabilities on an equal basis with others, ensuring assistive devices are readily available

e) the provision of remedy for disabled people and introduce sanctions in case of non-compliance, including infrastructural projects by foreign investment

f) strengthening of enforcement mechanisms in the public and private sector and ensure adjustment orders are issued to non-compliant stakeholders

g) setting a time frame and targets for implementing access to caption services and descriptive video content for mainstream media, websites and social media

h) compliance with internationally recognised standards of access and provision of assistive devices

i)require Universal Design standards in new products and infra-structure developments.

6. State parties to develop effective monitoring and reporting of the above, by allocating sufficient human and financial resources for implementation; training civil servants in charge of monitoring; make the necessary legislative and policy measures, such as the development of public procurement criteria, to implement the full range of accessibility obligations including through universal design under the UNCRPD.

7. State parties should take measures to ensure that the technology and services necessary for the repair and manufacturing of quality mobility aids, assistive devices, be made available locally and at an affordable cost, including through subsidies, taking into consideration individual requirements and choice and adopt an effective national strategy for the training and retraining of orientation and mobility practitioners and teachers in the use of devices for motor impaired, blind and visually impaired persons, particularly in remote and rural areas.

8. State parties should support the teaching, use and development of their national sign language for Deaf people and deaf/blind people and ensure sufficient sign interpreters are trained and available, that for those who are hard of hearing hearing-aid technology is widely and cheaply available.

9. State parties should ensure teaching and information is provided accessibly to those with learning difficulty and psycho-social impairments, in ways and environments that are conducive to their comprehension.



Long handled water pump to use from seat

10. State parties adopt clear procedures for the early intervention services for disabled people to appropriate and accessible habilitation and rehabilitation services, including services for disabled parents, with special regard to parents of all disabled children and ensure that health, rehabilitation and other disability-related expenses for disabled children be covered.

11. State parties need to pay attention to the links between article 9 of the Convention and the Committee’s general comment No. 2 (2014) on accessibility, and targets 9, 11.2 and 11.7 of the Sustainable Development Goals; with full implementation of the Marrakesh Treaty lifting copywrite on published material provided in alternative formats

**Conclusions**

An examination of the critical comments in the final observations on country report for Commonwealth countries (14 countries) by the UN CRPD Committee shows that progress is slow in achieving the most fundamental right of access for disabled people [[35]](#footnote-35) .

The UNCRPD Committee final observations show:

* lack of progress in implementing accessible public transport especially in rural areas
* lack of progress in making buildings open to the public accessible
* lack of progress in implementing enforceable standards and building codes
* lack of progress in recognising National Sign Language
* lack of progress in making widely available information in Easy Read and pictograms such as info graphics, so startling demonstrated during the current COVID-19 pandemic
* insufficient or complete lack of the legal means of addressing these shortcomings
* a lack of priority and sufficient political will of state parties.

However, from our examples of promising practice and hundreds of others available, there are now clear signs of change. Due to pressure from Disabled People’s Organisations, International Organisations such as United Nations, Non-Governmental Organisations and Parent Organisations, some Governments and businesses are slowly waking up to the importance of access and provision of assistive devices. The huge amount of talent to be unlocked and growing market for assistive devices and technological fixes to inaccessibility show that a global shift is underway and slowly gathering momentum.

**Using SDGs to enhance Access**

Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

Target 11.2: By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, disabled people and older people

Indicator 11.2.1: Proportion of population that has convenient access to public transport, by sex, age and disabled people

Target 11.7: By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

Indicator 11.7.1: Average share of the built-up area of cities that is open space for public use for all, by sex, age and disabled people

Indicator 11.7.2: Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months

Our job as CDPF and disabled activists is to speed up the process by holding our governments to account. As the users of assistive devices and negotiating our environments we are the experts on access. In this area the adage ‘Nothing About Us Without Us’ should be our compass.

***Follow Up Activity 4.7***

***4.7 List the Communication and information technology system you use. Find out how these could be made more accessible for Blind People, Deaf People, someone who cannot use their hands and someone who is neuro diverse or has a significant learning difficulty.***

***4.8 Write a letter to your Government summarising the current access situation and why and how it has to change to bring in disability equality for all disabled people.***

**Implementation Strategies - Innovation - improving Access and Assistive Devices**

i) All Commonwealth Countries must prioritise upgrading the internet connectivity and ensuring it is fully accessible and interfaces for all disabled people to access. How will you campaign for this?

ii) Building campaigns for National Sign Language to be taught in all schools/colleges so they are bilingual. What would be the main elements of this campaign?

iii) How would you build campaigns to ensure all School Curricula, including means of assessment, should be diversified, and differentiated to meet the needs of all learners?

iv) Develop advocacy to ensure all State systems provide free and easy access to assistive devices which is available locally. What would you do to make this occur?

v) Ensure DPOs contact Governments and Parliamentary representatives to ensure all new infrastructure and public transport must be fully accessible and environmentally sustainable.

vi) Neuro-diverse people are disabled a largely unrecognised part of each country’s population of disabled people. Identify their access needs and then explain how you will get your Government to recognise and legislate for their needs?

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3. Ibid para 17 [↑](#footnote-ref-3)
4. Ibid para 18 [↑](#footnote-ref-4)
5. Ibid para 19 [↑](#footnote-ref-5)
6. Ibid para 20 [↑](#footnote-ref-6)
7. Ibid para 21 [↑](#footnote-ref-7)
8. <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/article-9-accessibility.html> [↑](#footnote-ref-8)
9. UNCRPD General Comment on Accessibility <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G14/033/13/PDF/G1403313.pdf?OpenElement> para 22 [↑](#footnote-ref-9)
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13. WHO Improving Access to Assistive Technology, 2018 <https://apps.who.int/gb/ebwha/pdf_files/WHA71/A71_21-en.pdf> [↑](#footnote-ref-13)
14. <https://www.un.org/development/desa/disabilities/wp-content/uploads/sites/15/2018/12/UN-Flagship-Report-Disability.pdf> p241 [↑](#footnote-ref-14)
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16. Ibid p244-245 [↑](#footnote-ref-16)
17. <https://www.who.int/phi/implementation/assistive_technology/global_survey-apl/en/> [↑](#footnote-ref-17)
18. Information on the list of Screen Readers as taken From Wikipedia, the free encyclopedia. [↑](#footnote-ref-18)
19. [http://www.worldblindunion.org/english/our-work/our-prioriries/documents/final version-wbu guide to mt.docx](http://www.worldblindunion.org/english/our-work/our-prioriries/documents/final%20version-wbu%20guide%20to%20mt.docx) Professors Laurence R. Helfer, Molly K. Land, Ruth L. Okediji, and Jerome H. Reichman. [↑](#footnote-ref-19)
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