



Accessibility for All: Good practices of accessibility in Asia and the Pacific to promote disability-inclusive development

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**ACCESSIBILITY FOR ALL:
GOOD PRACTICES OF ACCESSIBILITY
IN ASIA AND THE PACIFIC TO PROMOTE
DISABILITY-INCLUSIVE DEVELOPMENT**

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Preface

This publication seeks to support policymakers in promoting accessibility at a policy and practical level. It contains information on relevant global and regional mandates that support and promote disability-inclusive development and accessibility, with a view to demonstrate the multi-faceted value of focusing on disability and accessibility policies to achieve broader development goals. Readers will learn about the core concepts of disability and accessibility, and be empowered with knowledge on standards, tools and means of promoting accessibility. Furthermore, this publication will outline and analyse examples of good practices of accessibility identified in Asia and the Pacific. The majority of the good practices featured in this publication were initially discussed at two international and multi-stakeholder workshops that took place in 2014 and 2015, with a few additional examples drawn from Pacific island member States. The selection of practices for this publication is based on their embodiment of the principles of accessibility, demonstrated success, measurable impact on the community, and their adaptable and replicable nature.

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Chapter I

Introduction

Persons with disabilities, comprising 15 per cent of the population, are one of society's most marginalized groups. This marginalization takes form across professional, educational, cultural and social sectors, to name a few. This phenomenon persists through many entrenched policies, practices and stereotypes that continue to promote the exclusion of persons with disabilities at an institutional level.

The cause of this marginalization boils down to one common thread: barriers. Barriers to participation, opportunity and success exclude persons with disabilities across all sectors of society by limiting their ability to benefit from and participate in development on local, regional, national and global scales. A critical key to disability-inclusive

development is breaking down barriers in order to promote accessibility to the built environment, transportation, information, communication, technology and services.

The World Health Organization (WHO) notes that “disability is a part of the human condition”, and temporary or permanent impairment will be faced by almost everyone at some point in life.¹ Addressing the numerous factors that create barriers to the inclusion of persons with disabilities is therefore not only vital in the development process, but also to ensuring that their rights are met. A number of human rights and development instruments operating at the international and regional levels seek to address these issues by promoting disability-inclusive development. Some are

1 WHO and the World Bank (2011).

disability-specific, while others incorporate the disability perspective in their provisions.

The **Convention on the Rights of Persons with Disabilities (CRPD)** is a disability-specific human rights treaty that contains a specific article on accessibility (Article 9), mandating States Parties to take appropriate measures to ensure accessibility in the physical environment, transportation, information, communications (including technology), and services.² Accessibility is also one of the underlying core principles of the CRPD (Article 3). The Committee on the Rights of Persons with Disabilities issued a General Comment on Article 9 outlining issues and recommendations to improve accessibility for States Parties, calling for accessibility to “be viewed as a disability-specific reaffirmation of the social aspect of the right of access” in all aspects of society and the sustainable development agenda.³ As of August 2016, 39 States in Asia and the Pacific had ratified the CRPD, which entered into force 3 May 2008. In October 2016, the Federated States of Micronesia approved a congressional resolution to ratify the Convention, which once deposited brings the total to 40 States in the region.

The **2030 Agenda for Sustainable Development** dictates the course of development actions between 2015 and 2030. The 17 universal Sustainable Development Goals (SDGs) in the Agenda set the world on a sustainable and resilient path which should leave no one behind. ‘No one left behind’ is an imperative that underscores the urgent global need for fruits of any development to be shared equitably by all segments of society, including persons

with disabilities. The SDGs refer specifically to persons with disabilities in targets within five goals focused on employment, reduced inequalities, education, sustainable cities, and partnership, and make implicit reference to disability and accessibility in a further six of the goals. Within the targets, Member States are tasked to make educational facilities accessible, to improve on accessibility of built cities, public spaces and public transportation, and to enhance access to information and communications technology. Furthermore, Member States are expected to disaggregate the SDGs indicators by disability status.⁴

The **Sendai Framework for Disaster Risk Reduction** was adopted in 2015, and is the global mandate to promote disaster risk reduction. The Framework makes specific references to disability, accessibility or universal design in ten provisions. It underscores the necessity for disaster risk reduction practices to be accessible for persons with disabilities, and calls on Member States to build accessible facilities based in the concept of universal design, and to empower persons with disabilities to be part of making disaster risk reduction processes accessible.⁵

In 1995, the **Beijing Declaration and Platform for Action** provided the foundational policy framework to uphold and advance women’s rights across 12 critical areas of concern, promoting their full participation in the economic, political and educational spheres. The Platform makes specific reference to the particular vulnerabilities of certain demographics, including girls and women with disabilities. The Beijing+20 review in

2 United Nations (2006).

3 United Nations Human Rights (2014).

4 United Nations (2015).

5 UNISDR (2015).

2015 revisited the progress of the Platform, calling for renewed support of achieving gender equality, and women’s rights and empowerment at a global level.⁶

The **Marrakesh Treaty to Facilitate Access to Published Works for Persons who are Blind, Visually Impaired, or Otherwise Print Disabled** was adopted by the Diplomatic Conference of the World Intellectual Property Organization (WIPO) in 2013.⁷ The Treaty seeks to introduce a “standard set of limitations and exceptions to copyright rules in order to permit reproduction, distribution and making available of published works” in formats that are accessible to persons with print disabilities.⁸

The **Incheon Strategy to “Make the Right Real” for Persons with Disabilities in Asia and the Pacific, 2013–2022**, is the world’s first set of regionally agreed disability-inclusive development goals. The Strategy outlines ten interrelated goals, 27 targets and 62 indicators to offer member States a time-bound and data-driven framework for the implementation of the rights of the 650 million persons with disabilities in the region. Concerted efforts made by member States, representatives of organizations of persons with disabilities and other civil society organizations led to the drafting of the Strategy, which was ultimately agreed upon in 2012.⁹

One of the underlying principles of the Incheon Strategy is accessibility, reflected in Goal 3. This Goal urges ESCAP member States to report to the secretariat in 2017 on the mandatory technical accessibility standards for physical environment and



Figure 1: The 10 Goals of the Incheon Strategy.

ICT related services, including accessible government buildings, public documents, international airports, and provision of captioning and sign language interpretation on public television news programmes.

At the subregional level as well, frameworks such as the Pacific Framework on the Rights of Persons with Disabilities (2016–2025) seek to address disability-inclusive development that addresses the particular and unique needs of small island states.

The adoption of the Sustainable Development Goals in 2015 represents an important opportunity to leverage the synergies of

6 UN Women (1995).

7 WIPO (2013a).

8 WIPO (2013b).

9 ESCAP (2014c).

the Incheon Strategy and the 2030 Agenda for Sustainable Development to better support persons with disabilities in Asia and the Pacific, and the world, across various development sectors. As the 2030 Agenda seeks to support vulnerable groups and those furthest behind, achievement of the Incheon

Strategy goals in turn supports States to fulfil their commitments in the Sustainable Development Goals.¹⁰ The diagram in *Annex I* demonstrates how fulfilling the targets of the 10 Incheon Strategy goals directly supports 11 of the Sustainable Development Goals.

¹⁰ ESCAP (2016c).

Chapter II

Understanding the role of impairments and barriers in creating disability

To address the systemic marginalization of persons with disabilities and to promote accessibility as a core pillar of disability-inclusive development, it is important to first understand the concept of disability. Put simply, disability is the interaction of two concepts: impairment, and barriers in the surrounding environment. Impairment refers to variance from the norm or loss with regard to the physical and/or cognitive functioning of an individual. When the surrounding environment does not meet the needs of the individual due to impaired physical and/or cognitive functioning, a barrier is formed that limits the capacity of the individual.

The International Classification of Functioning, Disability and Health (ICF)

is a classification system which seeks to provide a scientific basis and common language for understanding and describing health and health-related matters. The ICF notes the components of disability as being impairments, activity limitations, and participation restrictions.¹¹ Impairments refer to problems in body function or structure as a significant deviation or loss. Impairments, when affected by barriers, can lead to limitations in activities, which refers to any difficulties an individual may face in executing a task. This in turn restricts participation, as limitations in activities may prevent an individual from being involved in various types of life situations.¹²

There are various types of impairments, including but not limited to visual, hearing, speech, mobility, psychosocial and cognitive

11 ESCAP (2012)

12 WHO (2001)



Figure 2: A man and women using different mobility support devices. (Photo by Shumon Ahmed/Artwise/BMZ/CDD)

impairments, which can also greatly vary in degree. The variance in degree affects the activity limitations and subsequent restrictions to participation. Regardless of the degree of impairment, there are clear barriers that are created as a result, and these barriers create ‘disability’ by limiting the full and effective participation of persons with impairments.

Environmental barriers and attitudinal barriers are two broad categorisations for aspects of society that cause the exclusion of persons with disabilities. Environmental barriers refer to the challenges faced by persons with impairments in both physical and virtual surroundings. Such barriers pose a challenge on the personal level to complete a certain task, be it mobility, comprehension or interaction based. Attitudinal barriers function in a similar manner in that they pose challenges to persons with impairments, though with increased emphasis on the social

dimension. These barriers are spread through the negative perceptions and predispositions concerning what can and cannot be achieved by persons with impairments.

Different approaches to assessing disability attribute different significance to impairments, and environmental and attitudinal barriers in creating disabilities. The traditional *medical model* looks at impairments of the individual as defining and limiting factors, with the response focusing on normalizing and rehabilitating the person. It fails to recognize the role that society plays in putting up the barriers that limit persons with disabilities and promoting social exclusion and discrimination. The *social or human rights-based model*, which is enshrined in the CRPD, on the other hand, places the environmental barriers centre stage, examining how societal structures, values and norms limit the full and effective participation of persons who have

physical, mental or sensory impairments. It emphasizes the social responsibility to dismantle the barriers and construct disability inclusive societies.

The human rights-based approach to disability upholds the right of persons with disabilities to all human rights and fundamental freedoms on an equal basis with others – including equal access to health care, employment and education. The CRPD thus does not confer new rights, but rather injects a disability perspective into these already recognized rights and freedoms. It also constitutes a tool for social

development. This landmark treaty calls for increased respect for the inherent dignity of persons with disabilities, as well as their right to non-discrimination, full and effective participation, equality of opportunity, and accessibility.¹³

Environmental and attitudinal barriers shape the interactions between impairments and functioning. In this regard, the removal of barriers facilitates increased functioning and participation, and better supports the rights of persons with disabilities. This process constitutes a basis for actions on accessibility.

13 WHO and the World Bank (2011).

Chapter III

Exploring the conceptual and tangible dimensions of accessibility

Accessibility is the practice of identifying and breaking down the barriers that hinder persons with disabilities to live a full and effective life of dignity, respect and independence. Promoting accessibility thus refers to promoting means through which persons with disabilities will be able to interact as equal members of society. To successfully promote accessibility, it is important to first understand the relevant theories and principles, and the physical, information, communication and technological forms in which accessibility products and services are applied.

A. Key concepts of accessibility

Universal Design

Universal design is rooted in and also highlights the importance of universally applying the concept of accessibility. Design, by nature, aims at “planning on the functioning of something before it is built or made.”¹⁴ The universal design concept asserts that anything and everything should be designed in order to be accessible not only to persons with diverse disabilities, but more generally to the broadest possible spectrum of humanity. For example, public buildings designed with ramps at entranceways allow for the easy movement

¹⁴ ESCAP (2014b).

of persons with mobility disabilities, along with people with heavy luggage on wheels; parents with strollers; pregnant women; people with injuries; and older persons, for whom a sloping surface is often easier to use than steps. Similarly, in the realm of information accessibility, television programmes that are produced from the outset with the provision of subtitles constitute a form of universal design, since subtitles enhance the accessibility of programmes not only for persons with hearing disabilities, but also people watching in noisy environments or those who are not proficient in the broadcasted language. The concept of universal design calls for the integration of accessibility considerations at the earliest design stages, not as an afterthought once a building, product or service is already completed. This concept will become increasingly important with the unprecedented rate of population ageing underway, alongside advances in medical technology that prolong people's lives and lead to increased prevalence of functional difficulties. The term 'universal design' is often used interchangeably with other terms such as 'design for all' and 'inclusive design'.

Reasonable Accommodation

Reasonable accommodation ensures accessibility on an individual basis, in a context of human rights discourse. In contrast to universal design, reasonable accommodation seeks to address specific needs rather than integrating needs with those of the general population. It involves tailor made adjustments to the social or physical environment such as a workplace, classroom, housing, public transport or courtroom, in order to accommodate the specific needs of an individual with disability. This concept is often applied in a legal context in which there are duty bearers and rights holders. For example, an employer (duty bearer) may provide accessible

communication products or services, such as Braille information along with signage, at significant points in a building for a blind employee's easy mobility. However, a newly employed blind person (rights holder) might request a refreshable Braille reader to understand text output from a computer. If the duty bearer considers the required action reasonable without causing undue burden on them – for example by being too costly, extensive or disruptive – then such an action should be undertaken to accommodate the rights holder. The failure or refusal to provide reasonable accommodation amounts to discrimination under the CRPD.

Seamless connectivity

The multi-dimensional application of accessibility features is crucial for ensuring seamless connectivity, which by definition allows persons with disabilities to move between environments, both physical and virtual, without barriers. Seamless connectivity can be thought of as the combination of multiple accessible parts fitting into a singular accessible whole. In the physical world, this could refer to a low-incline ramp arriving at a wide doorway, which opens to an accessible path leading to an accessible lift. In the virtual world, this could refer to an accessible mobile phone used to visit a website that was accessibly designed, through which someone can access real-time text to speech interpretation. Without seamless connectivity, individual pieces are not accessible by design, as the barriers between them inhibit the user from completing a task.

Adaptable and replicable

Accessible products and services must be adaptable and replicable in different contexts and over time in order to promote accessibility universally. Such contexts vary in type and influence as different social,

cultural and religious norms may determine how certain products and services can be developed and deployed.¹⁵ Economic and financial factors are similarly important to consider in evaluating whether a product or service to promote accessibility is economically feasible and affordable for both the developer and the end user. Geography and topography are important considerations in assessing the impact of an accessible product or service for a specific group of people. Furthermore, effective products and services must not only adapt to the needs of persons with disabilities in various contexts, but also be easily replicated so as to support persons with disabilities on a larger scale. Ability to replicate depends on the financing of the product or service, the time it takes to create and deploy, and its sustainability as an accessible support. With a view to promote universal accessibility, the practices in this publication are included based on their adaptability to different social, economic and political contexts, with a focus on their strong potential for replication.

B. Physical, and information communication and technology (ICT) accessibility

Accessibility is considered in two forms:

(i) physical accessibility, or accessibility of the built environment; and (ii) information, communication and technology (ICT) accessibility. The division into these two categories does not mean that physical and ICT accessibility are mutually exclusive concepts. On the contrary, the overlapping and complementary nature of

physical and ICT products and services is essential in making the world accessible to persons with disabilities. This section will outline the characteristics of each in order to build understanding of how to effectively implement accessibility initiatives that integrate both forms.

One of the primary manifestations of accessibility of the built environment is in the public sphere, where – according to the principles of universal design – all individuals, regardless of whether or not they have a disability, should be able to independently navigate and interact with their surrounding environment on an equal basis with others. The public sphere consists of facilities and services that aim to make everyday lives easier, safer and richer for all members of society. It encompasses but is not limited to: public transport; police stations; hospitals; courts; banks; shops; toilets; parks; schools; polling stations; museums; and libraries. Basic physical features to support accessibility in the public sphere may include a ramp to assist persons with mobility challenges reaching a building, or a tactile path on a sidewalk to assist persons with visual impairments find their destination.

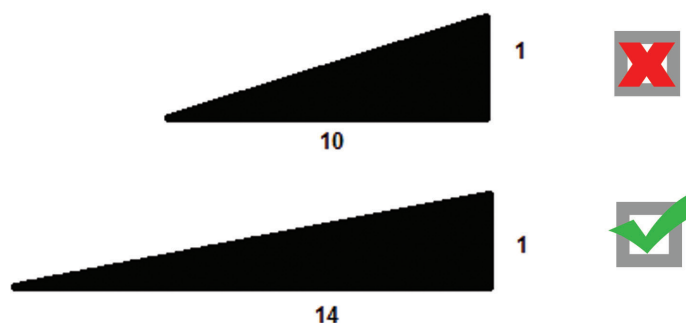


Figure 3: The ramp with a green check mark has an ideal gradient: 1 to 14.

¹⁵ Altman, B. (2011).



Figure 4: Mobility ramp for wheelchair users. (Photo by Thomas Jurkowski/Dreamstime.com)

Similar considerations to those in the design of the public sphere can be employed in the private sphere too, as accessible physical features in homes are necessary to create accessible and independent living environments for persons with disabilities. The convergence of public and private sphere accessibility features supports establishing seamless connectivity, allowing persons with disabilities to move between home, school, work and other activities alongside the general public.

Seamless connectivity, along with universal design and the intricacies of constructing accessible built environments must be valued and understood by policymakers and stakeholders in order to ensure the rights of persons with disabilities are upheld. Likewise, if the physical environment is not universally designed with due consideration of the needs of persons with disabilities, the result is exclusion and a breach of the right to live a life of dignity on an equal basis with others. Thus, regular assessment of physical accessibility should be undertaken to ensure

the rights of persons with disabilities are not being neglected. One example of this is 'access audit', which evaluates the accessibility of an initiative from various perspectives and throughout various stages of a project. This concept will be further explored alongside the innovative practices that employ access audit.

Currently, the relevance and importance of activities conducted in the virtual environment parallel, if not surpass, those in the physical environment. The free-flow of information and communication is the bedrock on which societies develop, and the recent developments in technology have facilitated vast improvements in how information is shared and communication is conducted. As ICT accessibility becomes increasingly relevant in our digital society, considerations of the accessibility dimension of innovations in this sector also become increasingly crucial.

ICT accessibility refers to the application and integration of enhanced and technology-facilitated processes to meet the specific needs of persons with disabilities. This is reflected in the increasing number of activities conducted over internet, computers, mobile phones and applications. In a disability-focused context, special accessibility features built into computers and mobile devices, along with new mobility aids, demonstrate how the ICT revolution drives the development of accessible products and services.

Research has demonstrated that ICT products and services are invaluable to those who face additional barriers to inclusion. For instance, accessible ICT products and services are particularly helpful for those with hearing and visual disabilities, or those on the autism spectrum, as these groups tend to face additional barriers when interacting

face-to-face with others.¹⁶ Furthermore, general health and diagnostic information can be disseminated over the internet, and one survey found that while only 21 per cent of the general population used the web for this purpose, 95 per cent of persons with mental health conditions accessed health and diagnostic information online.¹⁷

Together with these opportunities, there are key obstacles to note, which affect the adoption of ICTs by persons with hearing disabilities. From a linguistic perspective, several languages in the Asia Pacific region (such as Chinese, Hindi and Malay) present unique challenges. Principally, these languages are characterized by diglossia, a term defined by Charles Ferguson as: “A relatively stable language situation in which, in addition to the primary dialects of the language (which may include a standard or regional standards), there is a very divergent, highly codified (often grammatically more complex) superposed variety.”¹⁸ That is to say that formal and written texts, for example, may differ from what is spoken in daily life.

Because of this, it is more difficult for persons with hearing disabilities to use standard written forms of these languages to communicate with hearing speakers. In essence, persons with hearing disabilities in countries utilizing diglossic languages in the region must learn three languages in order to function in society: sign language, spoken language and the written equivalent. In several cases, these differences can be quite significant, such as in modern Chinese, in which a single written form of the language is used by a variety of different spoken forms, further adding to the complexity of usability



Figure 5: A blind person accessing information on a phone using accessibility features. (Photo by DAISY Consortium)

for persons with hearing disabilities. Approaches to technological solutions should be sensitive to these realities in order to effectively assist in disability inclusive development. ICT solutions such as video conferencing would be more resilient to these issues, while text messaging would be more impacted, for example.

Given the importance of ICT developments in facilitating the daily activities of persons with disabilities, it is abundantly clear that any barriers of access to ICT products and services have strongly adverse impacts on the full and effective participation of persons with disabilities in society. Barriers include limited adaptability in functionality of products and services, high costs for consumers, and weak policy frameworks to support the development and provision of accessible ICT products and services, to name a few.

The increasingly essential role of ICT products and services in daily life is reflected in the good practices presented in this publication, as the majority demonstrate the leveraging of new ICT developments to

16 WHO and the World Bank (2011).

17 Ibid.

18 Ferguson, C. (1959).

promote accessibility. This high proportion of ICT-focused accessibility practices and their regular integration into the built environment does not imply a diminished value of accessibility in the physical sphere, but rather exemplifies how the two categorizations are mutually supportive and increasingly intertwined.

C. Identifying and tackling the inequalities of accessibility

Inequalities of opportunity refer to unequal access to the chances required to lead meaningful lives, including in relation to fundamental services, such as health care and education.¹⁹ Marginalized groups, including persons with disabilities, are often more susceptible to experiencing such inequalities. In the context of disability, unequal access to the physical, social, economic and cultural environments, as defined by the CRPD, creates further barriers to upholding the basic rights of persons with disabilities. As such, inequalities of accessibility refer to these additional barriers and the resulting unequal fulfilment of a life of dignity, respect and independence for persons with disabilities, when access is not universal.

Persons with disabilities often find themselves impoverished due to environmental and systemic factors that limit their participation. The flipside of this is that poverty itself is often a cause of disability.²⁰ This relates to the challenge of the affordability of accessibility products and

services. Whether governments can afford to create accessible built environments, products or services could be attributed to number of factors such as the lack of effective overall social protection and non-discrimination policy, the lack of political will, as well as financial constraints.

Because of inequalities of accessibility, disasters have a disproportionately large impact on persons with disabilities in terms of mortality, injury and long-term health problems. In addition to the causal role of disasters in impairing survivors, the disproportionate risk faced by persons with disabilities in disaster situations is a result of the embedded inequalities of accessibility in planning and disaster warning information dissemination, evacuation routes, and shelter access. Estimates suggest that the number of persons with disabilities killed during the 2011 Great East Japan Earthquake was two to four times higher than those without disabilities.²¹

The unequal access to disaster risk reduction support for persons with disabilities in the region is magnified by the fact that Asia and the Pacific is the most natural disaster-prone region in the world. Residents of this region are four times more likely to experience natural disasters than those in Africa, and 25 times more likely than those in Europe. On the whole, 41 per cent of all natural disasters that occurred globally between 2004 and 2013 were in the Asia and the Pacific.²² Furthermore, all seven of the world's cities identified as being at 'extreme risk' of disaster are in the region.²³

19 ESCAP (2015b).

20 ESCAP (2016a).

21 ESCAP (2016b).

22 ESCAP (2014d).

23 Asian Development Bank (2013).



Figure 6: A trained member of Ward Disaster Management Committee is facilitating a courtyard meeting to increase awareness of community people on Gender-inclusive and Disability-inclusive Disaster Risk Reduction in Bangladesh. (Photo by Shumon Ahmed/Artwise/BMZ/CDD)

Deficient access to information dissemination infrastructure poses challenges to ensuring accessibility of information to persons with disabilities. One example of this in the region is the lack of access to internet. Numerous initiatives across Asia and the Pacific have solidified standards and promoted accessible features in websites and mobile application development, yet there are many barriers to access online information for persons with disabilities. In total, only around a third of all people in the region had access to the internet at the end of 2014, as compared with three quarters of Europeans.²⁴ Moreover, while disability-disaggregated data on internet access is unavailable, it is fair to

assume that persons with disabilities in Asia and the Pacific are less likely to have access to the internet, in line with their wider socioeconomic marginalization.

Tackling these inequalities of accessibility requires a multi-stakeholder effort, and begins with strong legal and policy frameworks. National laws and regulations should reflect principles and recommendations contained in international and regional frameworks such as those outlined in the introduction, and should be implemented nation-wide. When a government is a State Party to the CRPD, it is obliged to harmonize its content

²⁴ ITU (2014).

with domestic laws and regulations. For example, the CRPD delineates that the lack of provision of reasonable accommodation is a form of discrimination against persons with disabilities. National laws should therefore integrate this thinking into their non-discrimination laws, and continuously monitor their enforcement. Furthermore, laws and regulations in totality should be comprehensive enough to cover issues and technical aspects of the accessible built environment, public transportation, information, communication and technologies, and products and services. This supports the imperative of mainstreaming disability inclusion across all political, economic and social sectors at legal, policy and on-the-ground levels. It is within such a legal and policy context that meaningful efforts to address unequal access and to bring accessible products and services to persons with disabilities can be successful.

Within the legal and policy frameworks, governments should engage civil society and private entities as leaders in implementing initiatives to tackle inequalities of accessibility. Disabled peoples organizations (DPOs) – defined by greater than 50 per cent of the decision-making body of the organization being persons with disabilities – constitute an important sector of civil

society in their ability to advocate for and implement disability support initiatives with stronger benefits to the end user. Disability-focused civil society organizations and DPOs complement Government data and broad-based assessments by providing a community-level perspective on accessibility needs of persons with disabilities and disability-inclusive development as a whole.

Private sector entities similarly have insight into growing market demands for certain products and services, and have the ability to integrate accessibility features that can make products and services more universally applicable. Cooperation between civil society and the private sector supports the creation of adaptable and replicable products and services that enhance accessibility. Engaging persons with disabilities throughout all stages of design, development and deployment (whether through DPOs or on an individual basis) ensures effectiveness of the accessible products and services. This in turn can reduce costs and serve wider markets from the onset.²⁵ Private sector entities can benefit from integrating accessibility measures into their internal functioning, thereby enabling persons with disabilities to be employed and opening up potential for growth and economic gains,²⁶ as demonstrated in the practices.

25 WHO and the World Bank (2011).

26 Ibid.

Chapter IV

Good practices for promoting accessibility in Asia and the Pacific

To translate the value of legal and policy-level actions focused on promoting accessibility into a reality, and demonstrate the value of a multi-stakeholder approach to implementation, there are number of factors of success that should be considered. These were identified as recurring strengths seen across good practices of accessibility that were presented at the two aforementioned workshops conducted by the Government of China and ESCAP, and thus form the structure for the presentation of the good practices this publication.

The factors of success are by no means the only determinants of success in promoting accessibility, nor must they all be achieved in order to enhance accessibility. Rather, they can be used as a basic checklist to equip policymakers with an understanding of how to promote accessible products and services and make lasting improvements in the lives

of persons with disabilities in Asia and the Pacific.

The success factors that will be highlighted in the examples below are the following:

- A. Professionalizing human assistance
- B. Certifying products and services
- C. Making products and services readily available
- D. Creating supportive financing frameworks
- E. Engaging the private sector
- F. Monitoring and evaluation through access audits

Though many of the innovative practices represent various factors of success, each practice is featured only once; associated with the factor it best exemplifies. A summary table of all practices outlined in this publication can be found in *Annex II*.



Figure 7: ESCAP-CDPF Workshop on Accessible Knowledge, Information and Communication for Persons with Disabilities in Asia and the Pacific held in Shanghai, China, in December 2015. (Photo by China Disabled Persons' Federation)

Relevant methods, tools and technical details related to accessibility products and services are provided alongside the innovative practices.

A. Professionalizing human assistance

Alternative forms of communication such as sign languages, tactile forms of communication used by persons with deafblindness, and general communication assistance for persons with intellectual and psychosocial disabilities, are all forms of human assistance that support the full and effective participation of persons with disabilities. In many cases, assistance personnel voluntarily support persons with disabilities, despite the often complicated and highly skilled nature of

their work. The lack of formal certification of their services and the resulting lack of financial compensation contribute to a diminished quality, supply and availability of human assistance to effectively support persons with disabilities.

The solution to this is professionalizing human assistance. The CRPD states that all efforts should be made to provide “forms of live assistance and intermediaries, including guides, readers and professional sign language interpreters” to ensure that persons with

different disabilities are able to communicate with others and access important knowledge and information.²⁷ Training and licensing of interpreters, guides and facilitators is an important part of ensuring that means of communication meet certain minimum standards. Certification further supports the establishment of human assistance as formal profession, which provides a measure of the increased quality of such services.

A shortage of qualified sign language interpreters available in Hong Kong,

Sign language is a form of communication typically used by persons with hearing and/or speech disabilities, which uses hand gestures along with body language to convey letters, words, concepts and ideas. Sign language itself is not a single language, but rather refers to various organic languages found across the world that have unique linguistic and grammatical features.

ESCAP (2015a).

27 United Nations (2006).

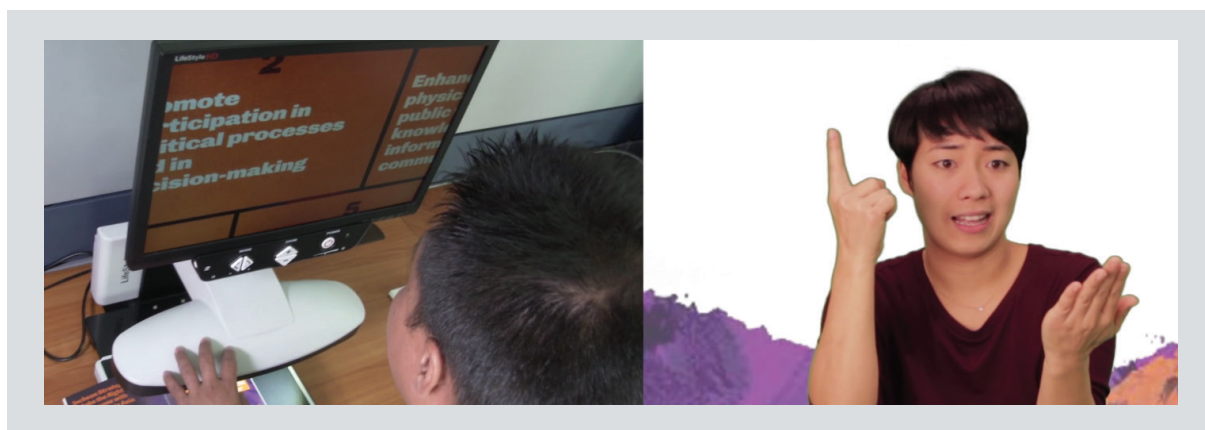


Figure 8: A sign language interpreter provides information to viewers with hearing disabilities, in an informational video about accessibility devices available in the ESCAP Accessibility Centre. (Screenshot from ESCAP Accessibility Centre)

China, prompted the establishment of a sign language interpretation accreditation programme, to evaluate sign language interpreters and build a pool of qualified candidates to provide such services. To do so, the Hong Kong Joint Council for Persons with Disabilities first conducted an open assessment of sign language interpreters based on their skill in legal terminology, oral interpretation, sign interpretation, and dual-direction interpretation. Following this, the Joint Council developed the Certificate Course on Professional Sign Language Interpretation, through which participants had to complete five training sessions to improve their skills.

There have been approximately 120 participants in this course each year. Successful participants receive a certification similar to that of many post-secondary certification courses, ranked within the Qualifications Framework under the Hong Kong Council for Accreditation of Academic and Vocational Qualifications (HKCAAVQ). This accredited course not only supports participants

in qualification for future endeavours as professional sign language interpreters, but also as a result ensures that high-quality sign language interpretation services are available to persons with hearing disabilities in the judicial sector of Hong Kong, along with various other public sectors that the initiative seeks to support.

In Japan, there is a government-led programme that provides interpreter-guides to persons with deafblindness, an especially marginalized group of persons with disabilities. Persons with deafblindness are often wrongly considered to have multiple disabilities, i.e. both visual and hearing disabilities. In reality, being deafblind brings with it different challenges than those faced by persons with either visual disabilities or

Interpreter-guides for persons with deafblindness use a range of methods to communicate with and assist persons with deafblindness, who have varying degrees and combinations of vision and hearing abilities. These methods include: low-vision sign; tactile sign; braille, writing; Finger Braille; print on palm; speech; PC translation, and finger spelling.



Figure 9: A deafblind person communicates with an interpreter guide through a tactile sign language. (Photo by Ministry of Social Development and Human Security, Government of Thailand)

hearing disabilities, and therefore requires different forms of support. This requires a certain level of personalization on the part of interpreter-guides when providing communication support.

With a population of nearly 14,000 persons with deafblindness, numerous interpreter-guides are recruited and trained across Japan. Interpreter-guides are trained with specific skills to meet the needs of individuals with deafblindness, who register at local offices for support. Once training is complete, interpreter-guides are dispatched through these offices.

Close to 1,000 persons with deafblindness reported having used the interpreter-guide dispatch service as of April 2014, and in a survey users reported having increased opportunities to communicate,

grasp information, and higher capacity to undertake outings as a result of using the service. The success prompted an expansion of the programme to Uzbekistan in 2013, where persons with deafblindness have also reported increased opportunities for outings and social interactions thanks to the services provided by the interpreter-guides.

Another example of supporting the communication of persons with disabilities and professionalizing human assistance comes from People First New Zealand Inc. – Ngā Tāngata Tuatahi in New Zealand, who train and deploy meeting assistants to support persons with intellectual/learning disabilities in meetings, conferences and at other events. Persons with intellectual/learning disabilities may need assistance in comprehending the content and background of conversations in public and private settings. The role of a so-called meeting assistant is to interpret proceedings to the person with intellectual/learning disabilities and facilitate the person's participation and communication. This may be by paraphrasing into simpler language what has been said in the meeting, or asking clarifying questions on behalf of the persons requiring assistance.

The support provided by a meeting assistant is not a substitute for other measures of accessibility for persons with learning disabilities, such as providing written information in accessible formats and maintaining a manageable pace in the meeting. Instead, meeting assistants complement such measures and encourage the full and effective participation of persons with intellectual/learning disabilities. Similarly, the role of a meeting assistant is not that of a general disability support person, but rather to act to ensure persons with disabilities can participate in political decisions and policymaking.

Since its inception, the provision of meeting assistants by People First New Zealand Inc.

has become mainstreamed into the planning process of meetings, conferences and events, as organizers have started to include them into budgetary and logistical plans when persons with intellectual/learning disabilities are in attendance. This ensures that financial and logistical barriers do not prevent persons with intellectual/learning disabilities from receiving high-quality and reliable support in a formal meeting setting.

Along with facilitating communication, human assistance can be used to enhance understanding of persons with disabilities in a classroom setting. PEPNet Peer Captioners System in Japan recruits, hires, and trains university students to provide live captioning services in classes in which students with hearing disabilities are enrolled, supporting them to learn equally alongside their peers.

Run by the Postsecondary Education Programs Network of Japan and Tsukuba University of Technology, the programme

Captioning refers to the use of the text format of audio content presented in multi-media, generally for persons with hearing disabilities or for those who cannot easily understand spoken language. Although commonly used in television and web content, captioning can also be done in live format for in-person interactions such as classrooms and meetings. To be accessible, captioning should be synchronized with the video and audio, as well as equivalent to the content presented.

WebAIM (2013).

was born out of both a need for support for students with hearing disabilities, and a lack of professional captioners available to provide it. The PEPNet Peer Captioners System capitalizes on the expertise of a professional captioner to lead training sessions for the peer captioners. By employing a training model that develops the abilities of peer captioners, the result is high-quality captioning at a more affordable rate for the university. This model demonstrates the value (both financial and skill-based) of investing in professional support in accessibility initiatives that rely on skill-based services.

As a result, more trained captioners are available to meet the needs of students with hearing disabilities, and the skill and ability to engage them in mainstream learning become more widespread. Currently more than 100 universities across Japan employ between 10 to 30 captioners each, putting the number of trained peer captioners available to support students with hearing disabilities in the thousands. In addition, this programme allows students with hearing disabilities to become better integrated into the classroom environment and within the student body as a whole.

In Fiji, the University of the South Pacific has adopted a 'Disability Inclusiveness



Figure 10: A meeting assistant communicates with a person with learning disabilities. (Photo by People First New Zealand Inc. - Ngā Tāngata Tuatahi)

Policy'. In place since 2013, the policy draws on both the CRPD and the Incheon Strategy for guidance. The university's Disability Resource Centre, which is responsible for overseeing reasonable accommodations and other aspects of the Policy's implementation, began with just 13 students in 2013. Increasing numbers over the years cover a more diverse range of disabilities including students with psychosocial, learning, physical and sensory disabilities. The Centre provides a range of personal services to students with disabilities, identifying their support needs, arranging assessments, and coordinating the provision of specialist support and equipment. It organizes special coordination meetings for students with academic staff at the beginning of each semester where reasonable accommodation and other needs are discussed. The Centre assigns each deaf student with a sign language interpreter, who accompanies the student to all lectures, tutorials and remedial classes. It also runs sign language classes including free walk in classes for university staff. Support for blind or visually impaired students includes access to university computers fitted with screen reader software and the application of other assistive technology to personal laptops. Since 2013, the Centre has also run a student volunteer buddy system which has successfully trained volunteer students to accompany and support students with all types of disabilities on campus.

The programme is making an important contribution to improving the access of Pacific Islanders with disabilities to a quality university level education and is helping to build a culture of inclusive and accessible learning. Its success is highlighted by the academic achievements of a growing number of students, most recently the graduation of seven (mainly deaf and blind) students in March 2016, including one postgraduate; work placements; and the rising number of enrolments, currently 32.



Figure 11: Real time captioning displayed on a screen at a meeting. (Photo by China Disabled Persons' Federation)

Certifying human assistance and creating effective training and deployment systems for interpretation and assistance supports the professionalization of human assistance. As demonstrated in these practices, this assistance has the potential to be applied across government processes, educational settings, and daily life. This has a significant impact on the extent to which persons with disabilities can participate in and contribute to decision making in their communities, and thereby fulfil their basic human rights. Furthermore, the human interaction involved in these accessibility services bridges gaps between persons with disabilities and the general public, and promotes greater understanding of disability issues and inclusion of this particularly marginalized group.

B. Certifying products and services

The certification of a product or service assures its quality for the end user by way of studying, testing, evaluating and finally recognizing its positive contributions to completing a task. In this regard, a certified 'accessible' product or service is beneficial to both the end user in terms of enhanced

functionality, as well as to the stakeholders who benefit from the increased visibility and awareness through the public recognition of their accessible products and services.

Certification allows a larger number of persons with disabilities to access these services from the start. In contrast to retrofitting and adapting existing tools, applying the concept of universal design and integrating accessibility features at the onset of the design process creates an environment in which persons with disabilities will benefit from innovations alongside the general population.

As the web has become the primary platform for information dissemination, ensuring certain standards of accessibility is essential for guaranteeing that persons with disabilities have access to the information. The World Wide Web Consortium (W3C) develops Web Content Accessibility Guidelines (WCAG) in an effort to establish a global standard for web accessibility. The latest version of these guidelines is WCAG 2.0.

Web accessibility and WCAG guidelines encompass various aspects of web design and functionality to break down barriers faced by persons with disabilities in accessing online materials. For example,

WCAG 2.0 offers specific criteria to measure the accessibility of websites, by ensuring that different aspects, including their structure, text, images and sounds, are presented in ways that are accessible to users with different disabilities. It provides web designers with four key accessibility principles: perceivable, operable, understandable and robust.

W3C (2012)

persons with visual disabilities may require the use of a screen reader to access written information on a device such as a computer, tablet, or smartphone, which converts text into synthesized speech. Creating a website that is compliant with WCAG 2.0 criteria allows screen readers to accurately convey the information on the screen via audio output.²⁸ Though the guidelines themselves are not mandatory for websites on the internet globally, conformance to WCAG 2.0 allows a broader number of users to access the site and improves general functionality for all users, and some governments in Asia and the Pacific have used the guidelines as a basis for their own web accessibility policies.

The Office of the Government Information Officer (OGCIO) in Hong Kong, China, has worked since 2012 to provide free assessment and consultation to companies, organizations and branches of the government seeking to meet Level AA of the WCAG 2.0 standards online. In addition, the OGCIO has run a series of seminars and workshops that highlight to companies, organizations and branches of the government, the benefits of complying with web accessibility standards. In total, more than 7,000 stakeholders have attended these events. This assessment and consultation encourages enhancing the accessibility features of online materials to meet established standards by demonstrating the added value that web accessibility brings to search engine optimization, expanded customer bases that would include persons with disabilities and older persons, and corporate social responsibility goals.

²⁸ W3C (2012).

The OGCIO's web accessibility portal has received more than 4.2 million page views and 350,000 downloads of accessibility resources since its launch in 2011. Furthermore, at the end of the third round of seminars workshops in April 2015, the number of websites made accessible increased by more than three times that of the first round, demonstrating the continuing beneficial effect of this initiative in promoting a fully accessible web environment.

Accessibility has not previously been a consideration for website development in Vanuatu, however, the recently published 'Right to Information (RTI) Web Accessibility Guidelines' is an attempt by the Government to address this. The Guidelines are a tool for local website developers and web content managers to comply with international standards of the World Wide Web Consortium's WCAG. Supported by the International Telecommunications Union and with funding from the Australian Government, the Guidelines are a product of the Government's national RTI Policy adopted in 2013 and its ICT Universal Access Policy launched in 2014, which recognizes the importance of addressing the limited access to internet services enjoyed by persons with disabilities. Under the ICT policy, the government has committed to achieving 98 per cent population coverage with narrow and broadband access by 2018.

The Republic of Korea's 'Anti-Discrimination and Remedy for Disabled Persons' Act in 2007 set out the legal requirements for accessibility of information provided to the public, noting that "national and local governments shall seek out necessary support, including the development and distribution of tools to help access to and use of information

network and telecommunication devices that recognize the characteristics of persons with disabilities".²⁹ Three authentication agencies were established to certify the accessibility of government and public organization websites to support their adherence to the legal requirements: Korea Institute of Web Accessibility Certification Evaluation; Web Watch; and Korea Web Accessibility Certification Center. The comprehensive certification process has multiple steps that involve self-evaluation, expert evaluation and user evaluation. As of September 2014, more than 2,240 websites were certified, demonstrating the added value both in terms of quality and quantity of accessible websites with enforcement mechanisms to ensure compliance.

Supplementary to internet access, telecommunication technologies comprise a major means of information dissemination. The rise of accessibility features in telecommunication products and services has experienced two distinct waves of revolutionary change in recent years, first with the advent of mobile phones, and second with the introduction of smart phones and tablets. The availability of short messaging services (SMS) with mobile phones instantly opened up a new form of distance communication for persons with hearing and intellectual disabilities. The addition of cameras to mainstream mobile phones similarly created new possibilities for persons with hearing disabilities to have real-time video conversations using sign language.

The Government of the Republic of Korea also established a set of standards for the development of mobile applications, to ensure accessibility for persons with various

29 Government of Republic of Korea, Ministry of Government Legislation (2011).

Smart phones and tablets offer an additional layer of functionality, which has created new opportunities for persons with different disabilities. The devices themselves contain variety of accessibility features, including built-in screen readers that convert text and other content into audible speech, screen magnifiers that allow visual content including text to be enlarged, and adjustable colour schemes that allow users with colour-blindness and those with visual impairments to view content more clearly.

Media Access Australia (2012).

disabilities. The 2012 Mobile Application Accessibility guidelines 1.0 outline specific accessibility requirements of mobile applications. In 2015, the Government released the Mobile Application Accessibility guidelines 2.0, which provides updates to the standards and enacted various measures to further support the goal of ensuring mobile application accessibility. The new version sets out 18 specific features, and marks a shift on the part of policymakers toward further engaging the private sector in supporting mobile application accessibility. The Republic of Korea notes that this is the first national level mobile application standardization of its kind in the world. Alongside policymaking, the Republic of Korea has undertaken surveying, scoring, consultation, training and education to enhance mobile application accessibility in the country. As an early proponent of mobile application accessibility, the policy-level action of the Republic of Korea is a strong example of regulating mobile applications – a new major medium of information dissemination – and encouraging mobile

application developers to incorporate the principles of accessibility in the design process.

While the certification of websites and mobile applications seeks to ensure that new media formats are developed with accessibility at the forefront, examining more traditional formats of information dissemination is equally important in certifying accessible products and services.

One such example is requiring television broadcasters to integrate subtitling into programming as a baseline accessibility standard to support the effective dissemination of information.

The Hong Kong Office of the Communications Authority (OFCA) in Hong Kong, China, started requiring Chinese and English language subtitling on broadcasts of informational programmes on domestic free television in 2003. Since then, the legal requirements of subtitling have been incrementally expanded to encompass a broader range of programming throughout a greater proportion of broadcasts. The success of the enforcement of subtitling is based in the licensing processes that television broadcasters must undergo before

Subtitling refers the text representation of what an audio track is broadcasting that is generally displayed at the bottom of the screen. It may be modified by users to enable easy visibility, and in some cases is rewritten to make it as easy as possible to understand.

Bachmeier, C., (2014).

putting programming on air. In this model, subtitling requirements are progressively enhanced and enforced with each licensing renewal, which occurs for all broadcasters on a regular basis. If a broadcaster does not meet the baseline requirements, their programming is not aired, thus functioning both to ensure that viewers are provided information in an accessible format, and to encourage broadcasters to integrate the provision of subtitles as a norm in the process of developing new television programming. The success is reflected in the required hours of subtitled programming, growing from a minimum of 56 hours each week in December 2003 to a minimum of 189 hours each week in December 2015.

Certification of human assistance, websites, mobile applications and media subtitling are just a few examples of products and services that require oversight to ensure that baseline standards of accessibility are upheld. However, this is only the first step in meeting the rights of persons with disabilities, as the accessible features of such products and services can only serve their purpose once they made readily available to users.

C. Making products and services readily available

In addition to certifying accessibility features, guaranteeing that all those in need are provided with accessible products and services requires coordinated development capabilities, a strong network

EPUB, short for electronic publication, is a format that includes and is compatible with accessibility features for readers with print disabilities, including navigational capacities; text and audio synchronization, also known as media overlays; and high-quality synthetic speech – all of which contribute to a higher quality of information. The higher quality information allows for a greater richness of meaning to be conveyed to a wider readership. The most recent EPUB format is EPUB 3.0.

International Digital Publishing Forum (2016)

for dissemination, and capacity for future replication. One particular sector that exemplifies this process across Asia and the Pacific is that of accessible written materials.

Books, documents and other written materials allow people to engage with knowledge, ideas and information. However, for persons who are blind, visually impaired, or otherwise print disabled, ordinary forms of printed text generally cannot be accessed. Furthermore, persons with intellectual disabilities find some styles of writing too difficult to comprehend.

Recent technological developments have facilitated the creation of electronic written materials in formats that offer various functionalities to combat challenges faced by persons with disabilities and the general public in accessing them, such as electronic books that can be accessed on computers and mobile devices (e-books). However, despite this, only around five per cent of electronic books published every year in developed countries are made available in accessible formats. This means that even for people who have access to assistive devices and technologies, the vast majority of books

remain inaccessible. The scarcity of reading materials available in accessible formats is described as the digital famine.³⁰

To ensure that all people have equal access to written materials, it is important that the formats in which content is published continue to adhere to the established norms and guidelines of universal accessibility. Similarly, the proliferation of affordable devices that can access the internet and various media (e.g. smartphones and tablets) has enabled producers to more easily disseminate accessible text and learning materials. However, the effective dissemination of the accessible written materials remains critical for such accessible devices to serve their purpose.

The practices below from across the region demonstrate how written materials can be created in quality-assured and accessible formats, and distributed effectively using strong networks and centralized platforms to reach those in need, all the while ensuring the future replication of this process.

The creation and distribution of an e-book called “Inclusive Design for iBooks Author” is an initiative based out of Australia, which seeks to facilitate the learning of students with visual and hearing disabilities, and those with varied learning abilities. This initiative aligns and synthesizes proven accessible design strategies and standards (such as EPUB 3.0 and WCAG 2.0 to Non-Web Information and Communication guidelines)

to create a single interactive template.

“Inclusive Design for iBooks Author” is itself available in EPUB format, and as a template that includes various accessible design standards, it enables experienced and tech-savvy educators to easily understand accessible features of textbooks, and tailor accessible textbooks for intended groups of pupils with disabilities. In this regard, the book both facilitates the creation of new materials, and demonstrates the ease of dissemination, being downloadable for free online.³¹ The “Inclusive Design for iBooks Author” book has been used in 96 schools across Asia and the Pacific, and a total of 179 globally.

An **easy to understand** version is more than a translation using basic language; it focuses on conveying the main content in a clear and simple manner, sometimes including pictures to illustrate the key issues.

UK Department of Health (2010).

Beyond the publishing format, “Inclusive Design for iBooks Author” also demonstrates the value of providing content in ‘easy to understand’ format, to enable all learners and readers to effectively absorb the information. Making official and important public documents available in easy to understand format can facilitate the increased participation of persons in society, indiscriminate of language ability

30 Garrish, M. (2012).

31 Alchin, G. (2015).

or other ability. In the context of disability-inclusive development for example, the Incheon Strategy to “Make the Right Real” for Persons with Disabilities in Asia and the Pacific is available in easy to understand format, allowing persons with disabilities to understand their role in promoting their rights and have their say in decisions focused on disability and accessibility in the region.³²

In addition to training educators to create accessible written materials, the conversion of the existing materials into accessible formats allows students with disabilities to participate in classroom learning alongside their peers. There are a few examples from the region where the dynamic fonts, colour contrast, audio support and flexibility of the

DAISY is a platform that allows books and written materials to be read in different ways, including with large-size fonts, with easy-to-see colour contrasts, audibly and via Braille displays.

Braille is a tactile reading system that offers persons with visual disabilities the means to acquire language, become literate and access knowledge.

DAISY Consortium (2015).

DAISY platform (short for Digital Accessible Information System) are employed as a baseline standard for the conversion of educational text into an accessible format at an institutional level.

DAISY’s ability to convert text to Braille is particularly useful as Braille can now be read, written, and printed using digital technologies such as Braille note-takers,

embossers, Braille printers and refreshable Braille displays. The DAISY Consortium’s ‘Transforming Braille’ project is currently working to promote wider access to Braille in developing countries by pioneering a new, affordable and simple form of Braille display technology.³³ Furthermore, DAISY allows readers to navigate the content of written materials using the functions of DAISY player hardware, computers with DAISY software, mobile phones and MP3 players. The ability to quickly navigate through texts to arrive at specific sections is particularly important when reading reference books and study materials such as journals.

The Bangladesh Prime Minister’s Office, in collaboration with Young Power in Social Action (YPSA) launched an initiative in 2013 to support students with visual impairments, print disabilities, learning disabilities and information disadvantaged groups. Now carried out by the National Curriculum and Textbook Board (NCTB) and the Department of Social Services (DSS), the initiative converts textbooks for students between grades 1 to 10 into

DAISY full text and full audio multi-media digital talking book format. The DAISY standard books are then uploaded to an online repository called Jatiyo e-Tathyakosh (National e-Content Repository), from which students across the country gain access to their course materials in a format that can be converted to meet their specific learning needs. In total, it is estimated that

32 ESCAP (2014c).

33 DAISY Consortium (2015).



Figure 12: A blind student receiving multi-media DAISY text books from Her Excellency Sheikh Hasina, Prime Minister of Bangladesh, in 2013. (Photo by Access to Information (a2i) Programme, Bangladesh Prime Minister's Office)

100,000 students with visual disabilities, print disabilities, learning disabilities and other disadvantaged groups gained access to written materials through this programme. Considering the relatively low literacy rate in Bangladesh of 58 per cent,³⁴ provision of written materials in flexible formats such as DAISY serves to greatly enhance access to information for many.

The Indian states of Bihar and Madhya Pradesh also utilize DAISY for creating accessible e-books to meet the needs of students with disabilities, as non-profit organizations and the state-owned textbook publishing boards convert existing

textbooks to DAISY format. As of June 2015, 180 textbooks were converted. The positive impacts of converting textbooks to this standard electronic format prompted state publishers to create digital versions of new textbooks in accessible formats alongside print versions, and provide them online to students with disabilities at the same time that traditional print formats of textbooks become available. In addition to the centralized development of written materials, many students receive DAISY players or mobile phones free of charge from the state governments, which provide to access these electronic books. The success of this initiative in Bihar and Madhya Pradesh is being expanded to serve persons with disabilities in the Indian states of Punjab and Uttar Pradesh.

Japan too has leveraged the accessibility features of DAISY as a means for persons with disabilities to access written materials, converting textbooks for elementary and junior high school students into DAISY format. To do so, the Japanese Society for Rehabilitation of Persons with Disabilities (JSRPD), which led the project leveraged the assistance of more than 140 volunteers to more effectively and affordably convert the textbooks. As of December 2015, 384 DAISY standard textbooks were converted, all of which are made available on an online repository from which they can be downloaded. With regard to the legal and policy context that facilitates this conversion process, Japan's 2008 Barrier-Free Textbooks Act and the amendment of the Copyright Law are legislative examples of a top-down first step toward its normalising and standardising the creation of accessible written materials.

34 UNICEF (2013).

The standard of DAISY format for making written materials accessible goes beyond the context of formal education and libraries, as it also serves in promoting disability-inclusive disaster risk reduction. The lack of accessible ICT services on disaster risk reduction is a critical factor in explaining the disproportionate exposure of persons with disabilities to the destructive impacts of disasters. Persons with hearing disabilities are unable to receive early warning signals and evacuation alarms that are only transmitted audibly. Persons with visual, hearing, intellectual and psychosocial disabilities are often not provided with adequate communication and emotional support before, during and after times of disaster. Moreover, projects designed to prepare communities to take risk-informed decisions in times of disaster are too often not inclusive of the needs of persons with disabilities. Indeed, one survey of persons with disabilities across 137 countries found that only 14 per cent had participated in the disaster risk reduction programmes that were in place in their communities. Only 20 per cent of respondents felt that they would be able to evacuate without difficulty in times of disaster.³⁵

One example of a local initiative to ensure persons with disabilities are included in disaster preparedness comes from Japan. A group home for persons with psychosocial disabilities called Bethel's House partnered with the Assistive Technology Development Organization (ATDO) to create the "How to

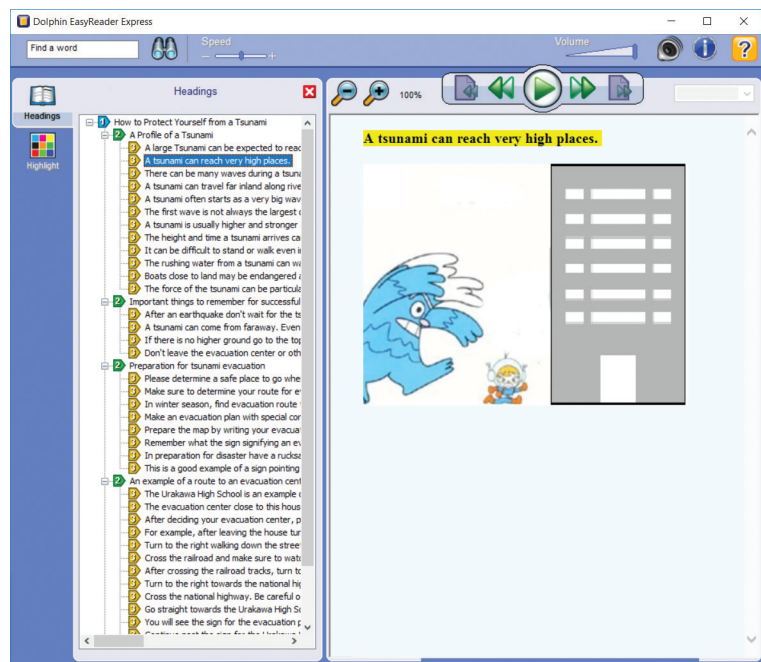


Figure 13: A DAISY format book on tsunami preparedness for persons with psychosocial disabilities. (Screenshot of 'How to Protect Yourself from a Tsunami' DAISY book)

protect yourself from a Tsunami”³⁶ DAISY format book, as part of a tsunami evacuation training programme. The training programme uses the DAISY book as the basis for engaging its residents in disaster awareness. Bethel's House saw a need to build the technical knowledge, evacuation capabilities, and disaster readiness of its residents given its location in Urakawa Town on the coast, a particularly earthquake and tsunami-prone region. The programme was put to the test in March 2011, and proved successful as residents were able to evacuate the home according to their training.

This success drew interest from the local government, prompting the town authorities, including police department and fire brigade to review the potential for replication of the training programme. Subsequently, neighbouring towns

35 UNISDR (2014).

36 ATDO (2012).

expressed interest in the accessible training programme, demonstrating how accessible written materials can be scaled out to serve broader audiences. Particularly given the disproportionate risk that disasters pose to persons with disabilities, this programme demonstrates how the effective development and use of accessible products and services not only provides support in accessing valuable information, but also contributes to saving lives in disaster situations.

At the core of making accessible products and services available is the concept of innovation, which leverages new technologies to meet emerging needs. The creation and distribution of accessible written materials is just one example of a sector of accessible products and services for which innovation has increased both the demand and availability of accessible products and services to meet the needs of persons with disabilities. Complementary to the development and distribution of accessible products and services is the innovative financing of the development of accessible products and services to ensure that accessibility support is available and affordable.

D. Creating supportive financing frameworks

The challenges associated with financing development are not unique to disability-inclusive development. However, the universal benefits of accessibility products and services to the public at large put the importance of their financing on equal footing as many other public services. Particularly considering the role of accessibility measures in ensuring the universal effectiveness of public infrastructure and services, these measures should similarly be financed by public means. Along these lines, establishing



Figure 14: A video relay service facilitating communication between those who hear and do not hear through a sign language interpreter on a smartphone. (Screenshot from informational video by Thai Telecommunications Relay Service)

a sustainable financing framework to support disability-inclusive development allows for varied accessibility initiatives that support persons with disabilities to take shape. While such a framework cannot be prescribed in a singular format to meet the needs of all countries, the implementation of tools such as the Universal Service Fund can be widely applied in different contexts.

Universal Service Funds (USFs) are an example of providing accessibility publicly, operating as financing tools funded by contributions from telecommunications companies that enable quality telecommunication services at an affordable rate. The concept of universal service policy began in the early twentieth century in the United States of America to provide telecommunications services to all households in the country. As technology developed and telecommunications moved beyond the basic telephone, so too has the scope of universal service, which in many

regions now includes mobile communications.³⁷

Thailand's National Broadcasting and Telecommunications Commission (NBTC) has Universal Service Obligations (USOs) that by definition mandate minimum standards of quality and affordable pricing of telecommunications. It is through the USO that the USFs operate. The USO collects a percentage of annual gross revenue from telecommunications providers, and the USFs support various projects focused on availability, accessibility and affordability of service across the country.

In line with the creation and distribution of accessible written materials, the TAB2Read initiative in Thailand utilizes such funding to provide persons with visual impairments and print disabilities greater access to information. Created by the Thailand Association of the Blind, TAB2Read leverages the proliferation of mobile technology and the financial support of the USFs to bring accessible written materials, both educational and others, into the hands of users with disabilities free of charge. The funding allows TAB2Read to distribute DAISY, EPUB and other online content through phones, web browser and mobile applications. Built upon the previous success of TAB-1414, a telephone service that provided audio versions of written

Video relay services involve translation between sign language and speech, thus allowing persons with hearing disabilities to communicate in real-time.

Text relay services allow persons who are deaf and deafblind, as well as those with speech and hearing disabilities to communicate using text and input and output.

Speech-to-speech relay supports persons with intellectual disabilities and speech disabilities to communicate on the phone through a communication facilitator.

Captioned speech relay services, meanwhile, provide real-time text captions on voice calls, to support persons with hearing disabilities.

European Telecommunications Standards Institute (2015)

materials to users who called in, TAB2Read reported that more than 7,000 books were downloaded and 11,000 opened between March and November 2015, and proudly hosts more than 2,000 unique books in its repository.

Another important initiative from Thailand that utilizes the USO is a video relay service, which offers translation by an intermediary person using voice, text or video, to allow conversation between persons with different modes of communication, using mobile, smart or landline phones. Thai Telecommunications Relay Service (TTRS), an initiative by NBTC and other partners, supports persons with disabilities with limited ability to communicate, through a multi-platform service. TTRS connects users with trained relay officers through video on the free mobile application downloadable on

37 Srinuan, C. (2014).

a mobile device, or at a public video relay service kiosk. At the end of 2015, 150 public kiosks were in operation, with 24 relay officers providing service to callers. TTRS also provides text message support, speech enhancement support and emergency service support. The number of calls to TTRS grew from 45,726 in 2012 to 115,481 in 2015. In total, there were 374,929 uses of the TTRS services by 2015, demonstrating both the demand for and success of how USF financing can be invested in public infrastructure and services, such as kiosks, and support personal telecommunications, through the mobile application.

USFs are by no means the only form of financing that promotes accessibility for persons with disabilities. The creation of USFs, however, establishes a sustainable financial environment for accessibility practices, and can act as a strong launching pad from which innovative and supportive products and services can take shape.

While telecommunication companies can play a large role in financing accessibility projects, as demonstrated in the practices outlined above, such entities and the profit-driven sector as whole can provide more than only financial support for accessibility measures for persons with disabilities. Engaging the for-profit and private sector entities as actors in disability-inclusive development rather than only financiers allows for more dynamic, innovative and widespread development methods and outcomes that benefit persons with disabilities.

E. Engaging the private sector

The CRPD calls on States Parties to take measures on accessibility not only for government-owned facilities and services, but also to promote accessibility measures in the private sector. For an activity as commonplace as banking, for example, the integration of accessibility features into the functioning of financial institutions in the public sphere is a strong model of how engaging the private sector in accessibility measures can facilitate the ease with which persons with disabilities interact with their environment.

An example of this is the provision of accessible banking services across India. Led by the Reserve Bank of India and with support from the Indian Banks' Association, the Government of India, and other stakeholders in the country, directives were issued to public and private banks in India to provide both physical and ICT accessibility features to support persons with disabilities in conducting their personal finances. The directives called for retrofitting existing ATMs with ramps and incorporating accessible ramp design into all future ATMs to facilitate access for those with mobility disabilities. They also required that one third of ATMs be 'talking ATMs' with Braille keypads to allow persons with visual disabilities to handle standard ATM-based financial transactions independently.³⁸ Banks were asked to coordinate amongst themselves to ensure that distribution of talking ATMs were placed so as to serve all localities,³⁹ with a later scaled up directive to retrofit all and ensure that any new ATMs included these accessibility features.⁴⁰ Union

38 Reserve Bank of India (2009).

39 Ibid.

40 Reserve Bank of India (2014).

Bank of India, one of the major banks to take steps to support accessibility in banking, features a list of talking ATMs found across the country, which as of 31 March 2016 stood at 1,662.⁴¹

While the provision of accessible banking services has clear and direct benefits to persons with disabilities, the engagement of for-profit and private sector entities in the promotion of accessibility also benefits the stakeholders as it broadens their consumer base. This has large potential when considering the 650 million persons with disabilities in the region who may have otherwise been excluded from the market.

In addition to directives to include accessibility, there is strong value in industry leaders promoting inclusion of accessible features with a view for others to follow suit. Furthermore, looking beyond the necessities of daily life and seeking to provide greater fulfilment is an important and somewhat overlooked aspect of the rights of persons with disabilities. As outlined in Article 30 of the CRPD, persons with disabilities have the right to participate in cultural, leisure and recreational activities on an equal basis with others.

Hong Kong Disneyland offers a range of services to its guests with disabilities, all of which seek to create an environment in which persons with disabilities can partake in recreational activities alongside all other guests. The park's approach of 'mainstream' access in the design and operation reflects the concept of universal design. It also provides a 'Guidebook for Guests with Disabilities' available in print and online, providing a wide range of optional, free, accessible services. In addition to conventional features such as universally designed bathrooms, Hong Kong



Figure 15: A guidebook for guests with disabilities available online by Disneyland Hong Kong. (© Disney, Disneyland Hong Kong)

Disneyland provides accessible transport, tactile maps, wheelchair rentals, sign language interpretation, written aids, and Braille guide books. Furthermore, they have

41 Union Bank of India (2014).

an open-door policy for any service animals to be in the park. Hong Kong Disneyland's integration of such accessibility measures is only one example of how private enterprises can enhance participation of persons with disabilities in leisure activities as outlined in the CRPD.

The involvement of the private sector in promoting accessibility in the above two examples demonstrates the value of such cooperation in enhancing daily life and promoting enjoyment and fulfilment in the lives of persons with disabilities. Cooperation, however, should only be the starting point. From both a financial perspective and with a view to support the rights of persons with disabilities, prioritization of creating accessible products and services is a logical next step for the private sector.

A consulting firm, in cooperation with a disability organization in China has demonstrated the valuable outcomes of prioritizing developing accessible products and services by creating software that allows persons with disabilities to work in call centres. Qishi Consulting Centre and One Plus One Disability Group called on the expertise of persons with visual disabilities with an IT background to develop software to meet the specific needs of persons with visual disabilities. It allows persons with disabilities to easily navigate computer-based processing systems while speaking with customers. Potential employees are trained to use the software, and evaluated on their ability to effectively and correctly process and respond to customer requests. This initiative has multiple benefits. Firstly, it opens up a new sector of work for persons with visual disabilities in China, who have often been confined to very specific job roles.



Figure 16: A person with visual disabilities using screen reading software while working in a call centre in China. (Photo by Qishi Consulting Centre and One Plus One Disability Group)

Secondly, the development of the software retrofits the existing and often inaccessible systems used in call centres, thus allowing persons with visual disabilities to work equally alongside other employees. Thirdly, the training provides persons with disabilities with valuable skills that they could then use to secure lasting and fulfilling employment in the future.

In 2015, the employment rate of working-age persons with disabilities in Asia and the Pacific varied from just above one third to less than one fifth,⁴² and those between the ages of 19 and 40 were almost twice as likely to live in poverty as their counterparts without disabilities.⁴³ Practices such as developing accessible software for call centres demonstrate the value of engaging the private sector in developing accessible products and services to generate employment for persons with disabilities. This has great potential for broader positive economic outcomes, as research shows that GDP could increase by between one to seven per cent if persons with disabilities

42 ESCAP (2016a).

43 Ibid.

are included in the labour market and paid on equal basis with those without disabilities.⁴⁴ Particularly considering the increased barriers that will be faced by Asia-Pacific's rapidly ageing population given their associated impairments, a shift toward private entities and companies pioneering new accessible products and services will be vital in upholding the rights of persons with disabilities and ensuring continued economic development in the region.

F. Monitoring and evaluation through access audits

Building on the certification, financing, partnership and implementation of accessibility-focused initiatives, follow-up is also vital, as the needs of persons with disabilities can change quickly given the rapid developments in technology that influence our virtual and physical environments. Therefore, employing strong systems of monitoring and evaluation is a necessary step in supporting the long-term success of accessibility products and services. Monitoring and evaluation refers to the continual assessment and review of the quality of an initiative to ensure that the standards and baseline requirements

are maintained. While monitoring and evaluation methods are diverse, there are certain examples that should be noted with regard to accessibility.

Conducting an access audit is a strong method of monitoring and evaluating progress on accessibility initiatives. Incheon Strategy Goal 3 emphasizes that “access audits are an important means of ensuring accessibility and must cover all stages of the process of planning, design, construction, maintenance, and monitoring and evaluation.” An access audit can be divided into three methods: checklist audit, walk-through, and user consultation. The checklist audit checks that listed items and aspects adhere to relevant standards and/or legislation. The walk-through audit examines the continuity of access by assessing how a user could use and/or move about a space with accessible features, information and services. The user consultation undertakes systematic collection of feedback through consulting users with disabilities to assess the accessibility. These methods can be combined to conduct stringent assessments to ensure that accessibility products and services are supporting persons with disabilities to their full potential.

An accessibility **access audit** assesses the extent and quality of accessibility of the built environment, information and services. An access audit is generally conducted by professional access consultants, who are specialists in accessibility and accredited in their knowledge, and perform systematic assessment and reporting on the accessibility of an environment.

ESCAP (2014a).

Dr. Jim Harrison of the Cork Centre for Architectural Education in Ireland presented at the workshop hosted by the Government of China and ESCAP in 2014 on the process of access audits. He noted that in addition to access consultants conducting access audits, persons with professional knowledge

44 Ibid.

of design of the built environment, and legislation and principles of inclusive design and accessibility also support the process, along with persons with disabilities, who as the intended end-users are important stakeholders, contributing first-hand assessment of functionality. The basic structure for anyone to follow in conducting a thorough access audit is in the following guiding questions:

- **Why?** – Define the specific purpose of the audit in order to identify the method and content.
- **What?** – Identify the outcomes sought at the end of the audit. This may include compliance with code/legislation, recommendations for modification, revision of standards, development of handbook, and more.
- **Where?** – Define the physical parameters that will be assessed in the audit.
- **When?** – Take into account the time of day, day of week, month of year, and season when conducting the audit, as different times can alter accessibility.
- **Who?** – Identify the stakeholders, including who commissioned the audit and who is conducting the audit.
- **How?** – Plan ahead to ensure the effectiveness of the audit. This may entail a pilot or reconnaissance visit, sketches and maps of the area,

discussions on the audit sheets, review of relevant standards and legislation, requesting permission from owners, assembly of audit team, and gathering equipment.⁴⁵

In Hong Kong, China, access audits are conducted by the Equal Opportunities Commission (EOC), an independent statutory body that provides numerous services in support of persons with disabilities, including web accessibility support as previously described. In 2010, the EOC conducted access audits of 60 sites, assessing the accessibility of around 16 physical features of each site, with some variance of assessment based on the type of site (shopping, housing, car park, etc.). Four separate checklists were developed, which covered physical, operational and attitudinal barriers to accessibility. These checklists were drafted in accordance with proven and existing studies, manuals and information from local sources and abroad. The most recent local guiding document used in designing and conducting this audit was the Design Manual: Barrier Free Access 2008 under the Building Ordinance,⁴⁶ which provides minimum standards to ensure a barrier-free environment. The results of the audits called for numerous improvements to be undertaken, with various government departments, policymakers, and owners and managers of public spaces brought into the retrofitting and redeveloping process to improve accessibility.

Another example of monitoring and evaluation that employs the access audit method can be found in the Philippines. Access audit was first established at an institutional level in the Philippines through

45 ESCAP (2014a).

46 Government of the Hong Kong Special Administrative Region (2008).



Figure 17: Bathroom facilities with accessible features. (Photo by H368k742/Dreamstime.com)

the National Council on Disability Affairs and the Department of Public Works and Highways' (DPWH) Bureau of Design. Currently, the Department of Transportation and Communications (DOTC) Task Force on Accessibility in the Philippines employs access audits as part of its work to establish and inclusive environment for all. The Task Force on Accessibility undertakes a multi-stakeholder approach, which includes persons with disabilities in the audit process, in order to ensure compliance with accessibility requirements. In order to promote awareness of access audits, events were hosted that highlight the importance of taking into consideration the needs of persons with different disabilities, and how to effectively provide accessibility measures for these groups. By promoting and enforcing standards of accessibility across aviation, maritime, road and rail transportation, the Task Force on Accessibility's use of access audit has enhanced accessibility in numerous environments across the country.

Conducting accessibility audits is not yet an established practice in Pacific island countries. Most Pacific countries do not have an accessibility code or guidelines, the main exceptions being Fiji, with its 'National Building Code' from 1990, which includes requirements for persons with disabilities, and Samoa, which has a (non-compulsory) 'Disability Guideline' for the built environment. However, a recent audit has been conducted as part of a research study by partner agencies of the Pacific Region Infrastructure Facility (PRIF) in collaboration with the Pacific

Disability Forum and the Pacific Islands Forum Secretariat. The study assesses the accessibility features of 11 PRIF projects in five countries – Kiribati, Samoa, Solomon Islands, Tonga and Tuvalu.⁴⁷ It provides a snapshot of the extent of accessibility in the transport sectors (aviation, maritime and road) and built environments in the target countries. The audit provides theme-specific overviews, country profiles, and data collected through applying an accessibility checklist to each transport infrastructure. As a result of the audit and the study, comprehensive accessibility guidelines and checklists for each transport sub-sector have also been developed. The audits draw attention to the many barriers to accessibility and connectivity faced by persons with disabilities, and provide practical guidance on how accessibility principles can be incorporated into the design and construction of infrastructure throughout the subregion.

47 Pacific Region Infrastructure Facility (2016).

Although access audits tend to take place in the context of physical accessibility, monitoring and evaluation can also take place in the digital sphere. One such example is evaluation of websites in China, by the China Research Center of Information and Accessibility Technology for Disability. The web evaluation system uses a combination of automated and crowd-sourced human inspection to verify the general accessibility of websites for persons with disabilities. The performance index of accessibility places the website into one of five tiers based on the four accessibility criteria outlined by WGAC 2.0. This evaluation process, which serves to counter the relatively low awareness of web accessibility that existed in 2011, became a performance index for all government websites in China in 2013. Additionally, the China Research Center of Information and Accessibility Technology for Disability hosted

web accessibility training sessions focused on building capacity of organizations in web design and development, in order to meet the performance index requirements. As of 2015, the evaluation process was expanded to cover non-government websites too, with an estimated 1,500 websites evaluated.

With a goal of ensuring that the needs of persons with disabilities are being met, the inclusion of persons with disabilities in the monitoring and review process is important for both the success of the initiative, and for modelling the inclusion that accessible products and services are created to provide. Furthermore, effective monitoring and evaluation ensures not only are existing standards of accessibility upheld, but also that new standards of accessibility are integrated into existing products and services as they become available.

Chapter V

Addressing remaining barriers to inclusion

The marginalization of persons with disabilities in Asia and the Pacific continues to be apparent. Many reasons are cited for this marginalization, including the lack of effective social protection services, the lack of policies to prohibit and enforce non-discrimination, and the existence of negative stereotypes held by the public about persons with disabilities.⁴⁸ Issues such as population ageing, chronic health conditions, road traffic injuries, and conflict, all of which can be found throughout the region, greatly increase the number of persons with disabilities and impacts on their freedom, inclusion and empowerment,⁴⁹ furthering the inequalities of accessibility and opportunity faced by persons with disabilities.

The factors of success outlined above can be considered a checklist from which to launch further initiatives to tackle the inequalities of accessibility, thereby upholding the rights of persons with disabilities and supporting disability-inclusive development across Asia and the Pacific. The good practices in this publication demonstrate multi-sectoral application of accessible products and services across education, publishing, media, government, transportation, leisure, and disaster risk reduction, with the potential to expand beyond this list. Scaling up and out, and replicating the success of these will greatly benefit persons with disabilities, and others who require the support of accessible products and services.

48 WHO and the World Bank (2011).

49 Ibid.

In addition to upholding the rights of persons with disabilities, promoting accessibility benefits society as a whole by providing strong motivating factors for policymakers to prioritize accessibility. Supporting the provision of accessible services for all of citizens leads to economic benefits, such as higher labour force participation and reduced demand on social protection services.

Furthermore, supporting persons with disabilities directly contributes to achieving the SDGs and ensures that one of the most vulnerable groups in society is not left behind. Using the Incheon Strategy targets to guide disability-inclusive development, member States are simultaneously contributing to the direct achievement of targets in five of the SDGs, with another six SDGs implicitly linked to Incheon Strategy implementation.

The emphasis on ICT-related practices in this publication reflects the growing influences of ICT networks on how individuals are educated, new technologies are innovated, business is driven, and communities become more prosperous, resilient and cohesive. This multi-faceted function and importance of the ICT sector holds particularly true for persons with disabilities. Thus, continually

redeveloping standards of accessibility alongside technological advances is a vital process in pre-emptively breaking down barriers, both in the physical and digital worlds.

Engaging all sectors of society, including civil society actors and the private sector allows for a broader range of accessibility initiatives, educating more on the importance of promoting accessibility and also providing access to a more people.

Finally, at the core of the concept of disability-inclusive development is the full and effective participation of persons with disabilities in the development process. The commonly used slogan ‘nothing about us, without us’ reflects the importance of the voice of persons with disabilities. Their inclusion in developing policy, creating standards, and disseminating and conducting reviews of accessible products and services is crucial in tackling existing inequalities, and providing accessibility for all. Against this background, policymakers should make efforts to establish policy environments and frameworks that support accessibility products and services that include and empower persons with disabilities.

Resources

Altman, B., (2011). 'Measuring Environmental Factors in an International Context: A Social System Perspective for an Extended Question Set (draft paper)'. Draft paper of the Washington Group on Disability Statistics (WG) Eleventh Meeting (14-16 November 2011). Available from: http://www.cdc.gov/nchs/data/washington_group/meeting11/measuring_environmental_factors_draft_paper.pdf

Asian Development Bank, (2013). The Rise of Natural Disasters in Asia and the Pacific: Learning from ADB's Experience. Available from: <http://www.adb.org/sites/default/files/evaluation-document/36114/files/rise-natural-disasters-asia-pacific.pdf>

Alchin, G., (2015). 'Inclusive Design for iBooks Author'. Available from: <https://itunes.apple.com/us/book/inclusive-design-for-ibooks/id965622707?mt=11>

ATDO, (2012). 'How to Protect yourself from a Tsunami'. Available from: <http://www.normanet.ne.jp/~atdo/english.html>

Bachmeier, C., (2014). 'Barrier-free access to audiovisual content: A fundamental human right', European Audiovisual Observatory. Available from: http://www.obs.coe.int/documents/205595/7944996/iris+plus+2014-3_en+la.pdf/6212170a-bd35-48e8-99f7-b4b1cba2f1b5

DAISY Consortium, (2015). 'Transforming Braille'. Available from: <http://www.daisy.org/projects/transforming-braille>

ESCAP, (2012). Disability at a Glance 2012: Strengthening the Evidence Base in Asia and the Pacific. Available from: <http://www.unescap.org/resources/disability-glance-2012-strengthening-evidence-base-asia-and-pacific>

ESCAP, (2014a). 'What is an Access Audit?', information document from ESCAP South-South Cooperation Programme on Accessibility for Persons with Disabilities workshop, held 10-19 December 2014, Guangzhou, Macao and Hong Kong, China.

ESCAP, (2014b). 'What is Universal Design?', information document from ESCAP South-South Cooperation Programme on Accessibility for Persons with Disabilities workshop, held 10-19 December 2014, Guangzhou, Macao and Hong Kong, China.

ESCAP, (2014c). Incheon Strategy to Make the Right Real for Persons with Disabilities in Asia and the Pacific (Easy-to-understand version). Available from: <http://www.unescap.org/resources/incheon-strategy-make-right-real-persons-disabilities-asia-and-pacific-easy-understand>

ESCAP, (2014d). Statistical Yearbook for Asia and the Pacific 2014. Available from: <http://www.unescap.org/resources/statistical-yearbook-asia-and-pacific-2014>

ESCAP, (2015a). Disability Inclusive Meetings: An Operational Guide. Available in EPUB, DAISY and PDF formats from: <http://www.unescapsdd.org/publications/disability-inclusive-meetings-operational-guide>

ESCAP, (2015b). Time for Inequality: The Role of Social Protection in Reducing Inequalities in Asia and the Pacific. Available from: <http://www.unescap.org/resources/time-equality-role-social-protection-reducing-inequalities-asia-and-pacific>

ESCAP, (2016a). Disability at a Glance 2015: Strengthening Employment Prospects for Persons with Disabilities in Asia and the Pacific. Available from: <http://www.unescap.org/resources/disability-glance-2015-strengthening-employment-prospects-persons-disabilities-asia-and>

ESCAP, (2016b). Asia Pacific Disaster Report 2015 – Disasters without Borders: Regional Resilience for Sustainable Development. Available from: <http://www.unescap.org/resources/asia-pacific-disaster-report-2015>

ESCAP, (2016c). Make the Right Real: Incheon Strategy strengthening the 2030 Agenda. Available from: <http://www.maketherightreal.net/incheon-strategy-strengthening-2030-agenda>

European Telecommunications Standards Institute, (2015). Human Factors (HF); Requirements for relay services (ETSI ES 202 975 V2.1.1 ETSI Standard). Available from: https://www.etsi.org/deliver/etsi_es/202900_202999/202975/02.01.01_60/es_202975v020101p.pdf

Ferguson, C., (1959). Diglossia. Word, 15, 325–340. Available from: <http://mapage.noos.fr/masdar/Ferguson-Diglossia.pdf>

Garrish, M., (2012). Accessible EPUB3. O'Reilly Media/Tools of Change. Available to download free from: <http://shop.oreilly.com/product/0636920025283.do>

Government of the Hong Kong Special Administrative Region, (2008). 'Design Manual – Barrier Free Access 2008'. Available from: http://www.bd.gov.hk/english/documents/code/e_bfa2008.htm

Government of Republic of Korea, Ministry of Government Legislation (2011). 'Anti-Discrimination Against and Remedies for Persons with Disabilities Act and Enforcement Decree', English translation. Available from: http://www.moleg.go.kr/english/korLawEng;jsessionid=uRmBcyW01swIaqPL6epXvb tjTxnFZP2QSouJFmRTnu0O9kdsGR 4AGV3Mx3asA18.moleg_a2_servlet_engine2? pstSeq=58480&pageIndex=2

International Digital Publishing Forum, (2016). 'EPUB 3.0'. Available from: <http://idpf.org/epub/30>

ITU, (2014). 'ITU releases 2014 ICT figures'. Available from: https://www.itu.int/net/pressoffice/press_releases/2014/23.aspx

Media Access Australia, (2012). 'Digital Technology: Mobile'. Available from: <http://www.mediaaccess.org.au/digital-technology/mobile>

Pacific Region Infrastructure Facility, (2016). 'Improving Accessibility in Transport Infrastructure Projects in the Pacific Islands'. Available from: <http://www.theprif.org/index.php/resources/document-library/147-improving-accessibility-in-transport-infrastructure-projects-in-the-pacific-islands>

Reserve Bank of India, (2009). 'Need for Bank Branches / ATMs to be made accessible to persons with disabilities'. RBI/2008-09/431, 13 April 2009. Available from: <https://www.rbi.org.in/scripts/NotificationUser.aspx?Id=4923&Mode=0>

Reserve Bank of India, (2014). 'Need for Bank Branches / ATMs to be made accessible to persons with disabilities'. RBI/2013-14/598, 21 May 2014. Available from: <https://www.rbi.org.in/scripts/NotificationUser.aspx?Id=8891&Mode=0>

Srinuan, C. (2014). 'Uncertainty of public pay phone in Thailand: Implications for the universal service obligation'. Telecommunications Policy. Available from: <http://www.sciencedirect.com/science/article/pii/S0308596114000706>

UK Department of Health, (2010). 'Making written information easier to understand for people with learning disabilities'. Available from: <http://www.inspiredservices.org.uk/Government%20EasyRead%20Guidance.pdf>

UN Women, (1995). Beijing Declaration and Platform for Action. Available from: <http://beijing20.unwomen.org/en/about>

UNICEF, (2013). Bangladesh: Statistics. Available from: http://www.unicef.org/infobycountry/bangladesh_bangladesh_statistics.html

Union Bank of India, (2014). 'Talking ATMs: ATM Locations'. Available from: http://www.unionbankofindia.co.in/personal_TalkingATMs.aspx

UNISDR, (2014). Living with Disabilities and Disasters. Available from http://www.unisdr.org/2014/iddr/documents/2013DisabilitySurveyReport_030714.pdf

UNISDR, (2015). Sendai Framework for Disaster Risk Reduction 2015-30. Available from: <http://www.unisdr.org/we/inform/publications/43291>

United Nations, (1948). Universal Declaration of Human Rights. Available from: <http://www.un.org/en/universal-declaration-human-rights/>

United Nations, (2006). Convention on the Rights of Persons with Disabilities. Available from: <http://www.un.org/disabilities/convention/conventionfull.shtml>

United Nations, (2015). Transforming our world: the 2030 Agenda for Sustainable Development. Available from: <https://sustainabledevelopment.un.org/post2015/transformingourworld>

United Nations Human Rights, (2014). 'General Comment No 2 – Article 9: Accessibility'. CRPD/C/GC/2, adopted 11 April 2014. Available from: http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRPD/C/GC/2&Lang=en

W3C, (2012). 'Web Content Accessibility Guidelines (WCAG) Overview'. Available from: <http://www.w3.org/WAI/intro/wcag>

WebAIM, (2013). 'Captions, Transcripts, and Audio Descriptions'. Available from: <http://webaim.org/techniques/captions/>

WHO, (2001). International Classification of Functioning, Disability and Health. Geneva: World Health Organization.

WHO and the World Bank, (2011). 'World Report on Disability'. Available from: www.who.int/disabilities/world_report/2011/report.pdf

WIPO, (2013a). Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired or Otherwise Print Disabled. Available from: <http://www.wipo.int/wipolex/en/details.jsp?id=13169>

WIPO, (2013b). 'Summary of the Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired, or Otherwise Print Disabled (MVT)'. Available from: http://www.wipo.int/treaties/en/ip/marrakesh/summary_marrakesh.html

Additional resources on accessibility

AGENDA, (2011a). General Election Network for Disability Access. Available from: <http://www2.agendaasia.org/index.php/about-us>

AGENDA, (2011b). 'Good Practice from around the World'. Available from: <http://www2.agendaasia.org/index.php/election-disability/best-practices>

Freedom Scientific. 'JAWS'. Available from: <http://www.freedomscientific.com/Products/Blindness/JAWS>

Fujii, K., (2013). 'The Great East Japan Earthquake and Disabled Persons – Background to their High Mortality Rate'. Available from: http://www.dinf.ne.jp/doc/english/twg/escap_121031/fujii.html

G3ICT, (2012). 'Web Accessibility Policy Making: An International Perspective' [revised edition]. Available from: http://www.g3ict.org/resource_center/publications_and_reports/p/productcategory_whitepapers/subcat_0/id_150

Ministry of Community and Social Services, Canada, (2009). 'Communication Access for people who have communication disabilities'. Available from: http://www.mcsc.gov.on.ca/en/mcss/programs/accessibility/understanding_accessibility/documents/communication_access_eng.pdf

NVDA, (2015). 'NVDA 2015.3 User Guide'. Available from: <http://www.nvaccess.org/files/nvda/documentation/userGuide.html>

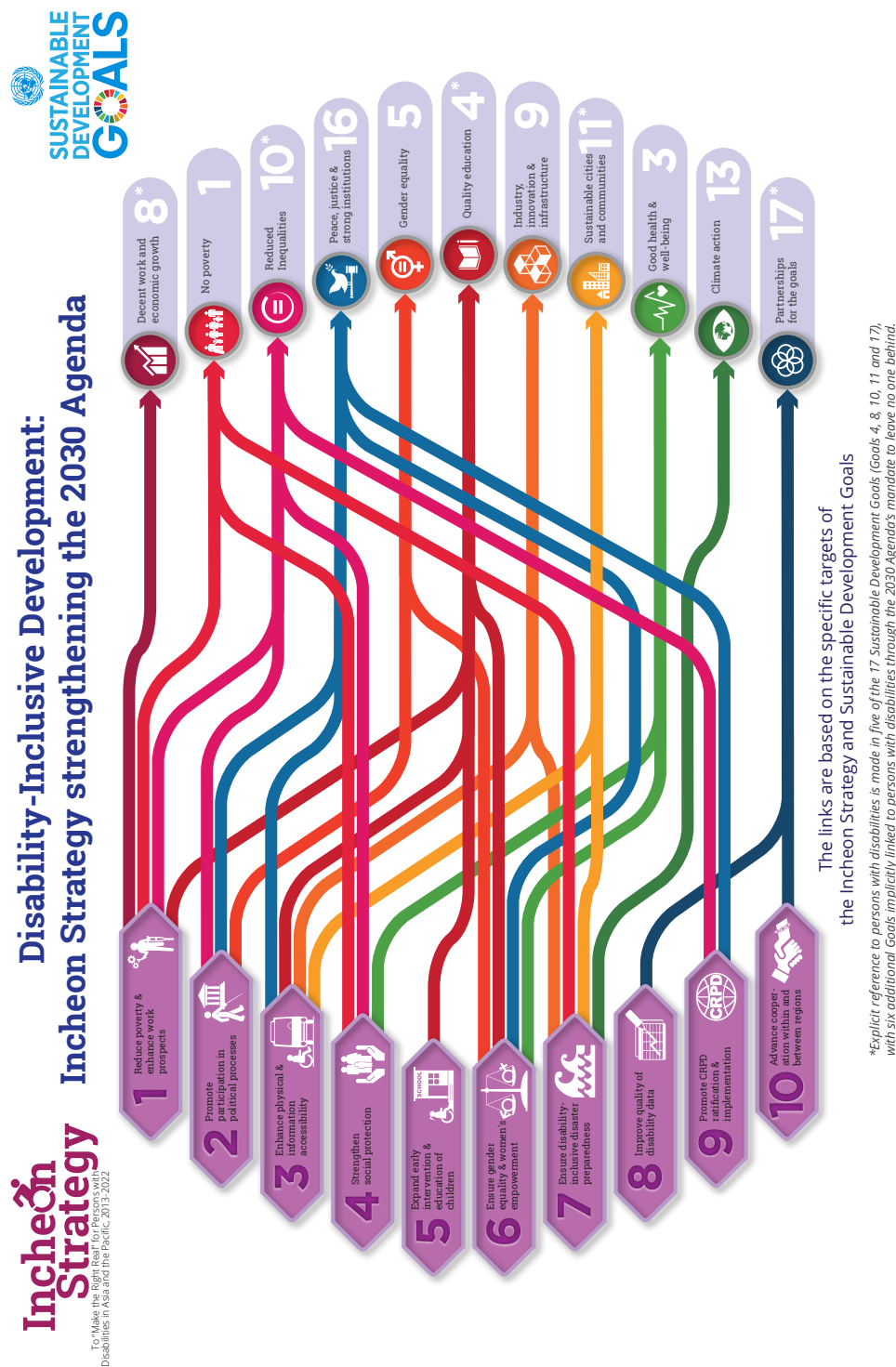
Olaf Looms, P., (2011). 'Making Television Accessible', G3ICT. Available from http://g3ict.org/resource_center/publications_and_reports/p/productcategory_whitepapers/subcat_0/id_192

UNESCO, (2013). UNESCO Global Report: Opening New Avenues for Empowerment — ICTs to Access Information and Knowledge for Persons with Disabilities. Available from: <http://unesdoc.unesco.org/images/0021/002197/219767e.pdf>

W3C, (2015). 'Accessibility'. Available from: <http://www.w3.org/standards/webdesign/accessibility>

Annex I – Graphic: **Disability-Inclusive Development: Incheon Strategy strengthening the 2030 Agenda**

The accessible version and downloadable information pack is available on the Make the Right Real website.⁵⁰



50 ESCAP (2016c).

Annex II – List of details of good practices

Practice (in order presented)	Country	Associated agency/ agencies	Duration	Links to more information
Sign Language Interpretation Accreditation	Hong Kong, China	Hong Kong Joint Council for Persons with Disabilities (in collaboration with other stakeholders)	2005 – present	--
Training and Dispatch Service of Interpreter-Guides	Japan	Japan Federation of the Deafblind (presented at workshop), and other organizations of/for the deafblind and deaf	1991 – present	--
Meeting Assistants	New Zealand	People First New Zealand Inc. – Ngā Tāngata Tuatahi	2014 – present	www.peoplefirst.org.nz
PEPNet-Japan Peer Captioners System	Japan	Postsecondary Education Programs Network of Japan (PEPNet-Japan); Tsukuba University of Technology	2004 – present	www.a.tsukuba-tech.ac.jp/ce/xoops/ (Japanese)
Disability Inclusiveness Policy	Fiji	University of the South Pacific	2013- present	www.usp.ac.fj/index.php?id=13515
Web Accessibility Campaign	Hong Kong, China	Office of the Government Information Officer (OGCIO), Government of the Hong Kong Special Administrative Region	2012 – present	www.ogcio.gov.hk/en/community/web_accessibility/campaign/ www.ogcio.gov.hk/en/community/web_accessibility/recognition_scheme/
Right to Information (RTI) Web Accessibility Guidelines	Vanuatu	Government of the Republic of Vanuatu	2013 – present	https://ogcio.gov.vu/images/RTI_Vanuatu_Accessibility_Guidelines_MF.pdf
Web Accessibility Certification System	Republic of Korea	Korean Disabled People's Development Institute (KODDI); Ministry of Sciences, ICT and Future Planning (MSIP); National Information Society Agency (NIA)	2005 – present	www.webwatch.or.kr (Korean)
Mobile Application Accessibility	Republic of Korea	Ministry of Sciences, ICT and Future Planning (MSIP); National Information Society Agency (NIA)	2011 – present	--

Practice (in order presented)	Country	Associated agency/ agencies	Duration	Links to more information
Subtitling on Domestic Free Television	Hong Kong, China	Office of the Communications Authority (OFCA), Government of the Hong Kong Special Administrative Region	2003 – present	www.coms-auth.hk/en/licensing/broadcasting/tv_programme/domestic_free_television_programme_service/index.html
‘Inclusive Design for iBooks Author’	Australia	Greg Alchin	2015 – present	https://itunes.apple.com/us/book/inclusive-design-for-ibooks/id965622707?mt=11
Production of Accessible Textbooks in Bangladesh	Bangladesh	Access to Information (a2i), Prime Minister’s Office; Young Power in Social Action (YPSA); National Curriculum and Textbook Board (NCTB); Department of Social Services (DSS), Government of Bangladesh	2013 – present	www.infokosh.gov.bd (Bengali) a2i.bluwebz.com/
Capacity Building Activities for Accessible Textbooks in India	India	Accessible Books Consortium; Textbook commissions and SCERTs of Bihar and Madhya Pradesh	2014 – 2015, with expansion from 2016 onward	www.accessiblebooksconsortium.org/capacity_building/en/
Provision of accessible school text books in Japan	Japan	Japanese Society for Rehabilitation of Persons with Disabilities (JSRPD), with cooperation of other non- profit organizations	2008 – present	www.dinf.ne.jp/doc/english/index_e.html
Tsunami Evacuation Training Programme	Japan	Bethel’s House; Urakawa Town; Autonomous Groups in Urakawa Town; National Rehabilitation Center for Persons with Disabilities Research Institute (Japan); Assistive Technology Development Organization (ATDO); DAISY Consortium; Kentucky Autism Training Center; Steven Shore; Mayer Max	2005 – present	www.normanet.ne.jp/~atdo/english.html

Practice (in order presented)	Country	Associated agency/ agencies	Duration	Links to more information
TAB2Read	Thailand	Thailand Association of the Blind; National Broadcasting and Telecommunications Commission (NBTC), Thailand	2004 – 2016	www.tab2read.com (Thai)
Thai Telecom- munication Relay Service (TTRS)	Thailand	National Broadcasting and Telecommunications Commission (NBTC), Thailand	2011 – present	www.ttrs.or.th (Thai)
Accessible ATMs	India	Reserve Bank of India; India Banks' Association	2009 – present	www.talkingatmindia.org
Hong Kong Disneyland	Hong Kong, China	Hong Kong Disneyland	Ongoing	www.hongkongdisneyland.com/guest-services/guests-with-disabilities/
Accessible software for call centres	China	Qishi Consulting Centre; One Plus One Disability Group	2014 – present	--
Equal Opportunities Commission Access Audit	Hong Kong, China	Equal Opportunities Commission (EOC), Government of the Hong Kong Special Administrative Region	1996 – present	www.eoc.org.hk www.eoc.org.hk/EOC/Upload/UserFiles/File/FI_Ass_e.pdf
Task Force on Accessibility Access Audit	Philippines	Department of Transportation and Communications (DOTC) Task Force on Accessibility, Government of the Philippines	2007 – present	www.dotc.gov.ph/index.php/23-dotc-task-force-on-accessibility/33-dotc-task-force-on-accessibility
Accessibility audits in Pacific island states	Kiribati, Samoa, Solomon Islands, Tonga and Tuvalu	Pacific Disability Forum and the Pacific Islands Forum Secretariat		www.theprif.org/components/com_jomcomdev/files/2016/07/27/194-PRIF_Transport_Report_WEB.pdf
Website accessibility evaluation	China	China Research Center of Information and Accessibility Technology for Disability; Zhejiang University (ZJU); China Disabled Persons' Federation (CDPF)	2012 – present	--

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