



Driving the Digital Inclusion of Persons with Disabilities:

Policy considerations for low- and middle-income countries

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GSMA Assistive Tech

The GSMA Assistive Tech programme works to drive greater access and use of mobile technologies for persons with disabilities in emerging markets and maximise opportunities for social and economic inclusion. The programme works with the mobile industry and key disability and development stakeholders to address the digital inclusion gap of persons with disabilities, identify innovation opportunities and highlight the value of mobile-enabled assistive technologies. The programme is supported by the UK Foreign, Commonwealth & Development Office (FCDO).

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Terminology

The terminology used to describe persons with disabilities can be complex and geography dependent. For example, in the United States, person-first language is preferred, such as “persons with disabilities”, which puts the focus on individuals rather than their disability, bringing individuals to the forefront in a respectful way. In the UK, identity-first language is preferred, and the term “disabled people” is often used to reflect the identity and autonomy of a person, as being disabled is integral to their identity.

This report, which is aimed at a global audience, aligns with United Nations terminology and uses person-first language when referring to persons with or without disabilities. It also follows the Social Model of Disability,¹ in which disability is defined by the systemic, attitudinal or environmental barriers a person experiences rather than a condition or an impairment.

Other terms used in this report include:

Access	The potential for an individual to use a mobile phone (regardless of ownership, through borrowing or renting) and mobile services, such as mobile internet.
Accessibility	The design of products, content, services and environments with the aim to enable persons with disabilities to access them on an equal basis with others and participate fully in all aspects of life.
Assistive technologies (ATs)	An umbrella term for assistive products, services and related systems developed for people to maintain or improve functioning and live independent lives, thereby promoting well-being. ATs include ² wheelchairs, hearing aids, glasses and prostheses as well as assistive information and communication technology such as mobile phones.
Mobile disability gap/ gender and disability gap	Refers to how less likely one group (Group 1) is to own a mobile phone/use mobile internet/perform a use case on mobile than another group (Group 2). This gap is calculated for gender and/or disability throughout this report to evaluate differences in mobile ownership and usage of services. The formula is:

$$\begin{array}{c}
 \text{♿ } \% \text{ Group 1 mobile owners/users} \quad - \quad \text{♿ } \% \text{ Group 2 mobile owners/users} \\
 \hline
 \text{♿ } \% \text{ Group 1 mobile owners/users}
 \end{array}$$

The **disability gap** refers to the differences between persons with and without disabilities regardless of gender.

The **gender and disability gap** considers both gender and disability and refers to the gap between men without disabilities and women with disabilities.



Organisation of Persons with Disabilities (OPD)	A representative organisation or group of persons with disabilities, which is led, directed and governed by persons with disabilities.
Person with disabilities	A person who reports any acute difficulty (“a lot of difficulty”) or complete inability (“cannot do at all”) to perform one or more of the functional domains of the Washington Group Short Set of Disability Questions.
Person without disabilities	A person who does not report any acute difficulty (“a lot of difficulty”) or complete inability (“cannot do at all”) to perform the functional domains of the Washington Group Short Set of Questions.
Usability	The design of products, devices and services to be effective, efficient and satisfying. This may include general aspects that impact everyone and do not disproportionately impact persons with disabilities.
Washington Group Short Set of Questions³	A set of questions designed to identify persons with disabilities in a survey or census. Respondents answer questions and report difficulties experienced in six functional domains: seeing, hearing, walking, cognition, self-care and communication.





Executive summary

More than half of the world's population now use mobile internet and can reap its transformative socio-economic benefits. Mobile continues to be the primary, and in some cases only, way most people access the internet in low- and middle-income countries (LMICs). Digital platforms and mobile phones can be powerful assistive tools for inclusion and participation because of their built-in features and assistive technology (AT) applications, providing persons with disabilities access to critical information, services and opportunities. This is even more critical in the wake of the COVID-19 pandemic, which disproportionately affected persons with disabilities and shone a light on the world's growing reliance on connectivity.

More than a billion people around the world have a disability, but persons with disabilities are significantly less likely to own a mobile phone and use mobile internet than non-disabled persons across LMICs. This means they are not able to realise the benefits and opportunities that mobile and mobile internet can provide. The mobile disability gap further entrenches the exclusion of persons with disabilities, especially women

with disabilities, in a world where information and interactions are increasingly digitised.

Persons with disabilities experience many challenges to digital inclusion, which stem from the systemic barriers they face in their everyday lives – barriers related to access, accessibility and usability of digital devices and services, the affordability of smartphones and mobile data, the knowledge and skills required to use mobile and digital services, the availability of relevant content and services and safety and security when using mobile phones.

Policymakers and regulators have an important role to play in fostering an inclusive and accessible digital environment and addressing the mobile disability gap, especially in geographies where mobile is sometimes the only way to access digital services. By adopting a collaborative and more people-centric approach that focusses on the unique lived experiences of persons with disabilities, policymakers will be better equipped to tackle the barriers they face to awareness, adoption and usage of mobile internet.

Drawing on insights from recent research on the mobile disability gap and the current policy landscape for the digital inclusion of persons with disabilities in LMICs, this report provides a framework for action to increase digital inclusion for persons with disabilities. This framework includes four main areas of action:

1. **Understanding the context of digital inclusion for persons with disabilities by gathering data and evidence.**

Develop a robust understanding of the context in which national or sub-national policies are implemented, including deeper knowledge of the lived experiences, needs and requirements of persons with disabilities. This requires collecting and publishing granular and reliable data in accordance with international guidelines, such as the Washington Group Short Set of Questions, and supporting qualitative research to quantify the digital divide and identify barriers to digital inclusion. Conducting regular and inclusive monitoring and impact evaluations, including effective feedback loops to support iterative policymaking, is essential to assess the effectiveness of policies and adapt digital inclusion strategies.

2. **Integrating a disability-inclusion perspective into relevant policies.**

Ensure that disability inclusion is integrated effectively in all relevant policies, and involve organisations of persons with disabilities (OPDs) and individuals in the policy process to better understand the unique lived experiences of persons with disabilities, following good practices around universal design and the “nothing about us without us” principle.

3. **Addressing the barriers to digital inclusion.**

To accelerate mobile internet adoption, policies should focus on the practical challenges that persons with disabilities face in adopting and using mobile devices and services, including:

- **Access, accessibility and usability:** Persons with disabilities may lack access to mobile networks and enablers, such as access to electricity, agents and formal IDs. In addition, devices, content and services are not always accessible or easy to use.
- **Affordability:** Persons with disabilities often cannot afford mobile devices, data plans or other services.
- **Knowledge and skills:** There is a lack of understanding of mobile and its benefits among persons with disabilities and the accessibility features available, as well as a lack of digital skills and literacy to use mobile internet services.
- **Relevance:** There is a lack of relevant content, mobile products and services that meet the needs and capabilities of persons with disabilities.
- **Safety and security:** Concerns about the negative aspects and risks of mobile and the internet, such as harassment, theft, fraud and security, can limit mobile internet adoption and use.

4. **Working together and sharing good practices and lessons.**

Addressing the mobile disability gap requires collaboration by all stakeholders in the ecosystem. It is also important to amplify messages about the benefits of digital inclusion, to document and share what works, including lessons learned, to support national and international efforts to accelerate digital inclusion for persons with disabilities.

It is hoped that this report will be a useful resource for policymakers interested in addressing the mobile disability gap and ensuring that persons with disabilities have an equal opportunity to reap the benefits of connectivity.

Summary of key policy recommendations

Area of action		Policy recommendations
Understanding the context of digital inclusion for persons with disabilities		<ul style="list-style-type: none"> • Adopt a data-driven and evidence-based approach for inclusive policymaking; • Support research on the mobile disability gap; and • Establish strong monitoring and evaluation feedback loops.
Integrating a disability-inclusion perspective into all relevant policies		<ul style="list-style-type: none"> • Take a holistic approach to ensure disability inclusion considerations are reflected across all relevant policies; • Include the views and voices of the disability community early in the policy journey; and • Bring stakeholders together through accessible engagement platforms.
Addressing the barriers to digital inclusion	Access, accessibility and usability	<ul style="list-style-type: none"> • Support and promote access to mobile internet for persons with disabilities; • Develop awareness of accessibility terms, concepts and approaches, with support from global stakeholders and OPDs; • Recognise the importance and central role of mobile devices for internet access for persons with disabilities; • Support the development and adoption of global accessibility standards; • Consider leveraging Universal Service Funds (USFs) to target persons with disabilities; and • Ensure inclusive and transparent registration processes for mobile and digital services.
	Affordability	<ul style="list-style-type: none"> • Create programmes to incentivise the development of internet-enabled handsets with accessibility features; • Focus on making internet-enabled handsets and data more affordable for persons with disabilities; and • Support the identification of mobile users with disabilities to provide targeted subsidies.
	Knowledge and skills	<ul style="list-style-type: none"> • Raise awareness of the range of digital skills needed for persons with disabilities to adopt and use mobile internet; • Provide clear evidence of the benefits of digital upskilling for persons with disabilities; • Engage with a wide variety of stakeholders to support the implementation of digital skills training; and • Ensure persons with disabilities are supported in digital skills interventions.
	Relevant content and services	<ul style="list-style-type: none"> • Ensure digital services are accessible in local languages; • Promote the production of content and services aimed specifically at persons with disabilities; • Support education and training of digital accessibility professionals; and • Support businesses and start-ups to develop inclusive solutions with, and for, persons with disabilities.
	Safety and Security	<ul style="list-style-type: none"> • Raise awareness of mobile-related safety and security among persons with disabilities to encourage the development of solutions that mitigate these risks; • Support persons with disabilities to protect personal information, recognise fraud and improve data management; and • Support the design and use of device safety features for persons with disabilities.
Working together and sharing good practices and lessons		<ul style="list-style-type: none"> • Amplify the positive impact of digital inclusion for persons with disabilities; • Increase awareness within government and the broader stakeholder ecosystem of the importance of taking action to address the mobile disability gap; • Take a whole ecosystem approach by drawing on the diverse capabilities within the ecosystem and through effective stakeholder coordination; and • Document the experience and share lessons learned.

Introduction

Globally, the number of connected people is rapidly increasing, but persons with disabilities are being left behind.

Connectivity plays a pivotal role in daily life, and more than half of the world's population are now using mobile internet.⁴ The ability to connect across the distance that separates us was never more critical than during the COVID-19 pandemic when connectivity played an essential role in keeping people in touch and accessing services and care that saved lives and supported livelihoods. By enabling access to the platforms and channels that allow us to exchange, participate and collaborate, mobile connectivity empowers individuals and communities with unprecedented access to opportunities, life-enhancing services and timely information.

Mobile is the primary, and sometimes only, way most people access the internet in LMICs, which are home to more than three-quarters of the world's connected population. Network coverage continues to grow – 94 per cent of the global population is now covered by a mobile broadband network⁵ – which has had a strong socio-economic impact in LMICs, including a reduction in poverty levels.⁶ Still, 43 per cent of the world's population are not using mobile internet despite living in an area covered

by mobile broadband. This highlights the importance of addressing the barriers to mobile internet adoption and use, both to ensure that people can reap the benefits of mobile internet and to avoid exacerbating the inequalities faced by those who are unconnected.

Persons with disabilities represent an important part of the unconnected population. About one in seven persons, or more than a billion people around the world,⁷ identify as someone with a disability (see Box 1, “What is disability?”). They represent the world's largest minority and have a history of stigmatisation, discrimination and exclusion from basic services, such as education, employment and health care.⁸ Since persons with disabilities generally have more healthcare and/or support needs, they were disproportionately affected by the COVID-19 pandemic.⁹ Exclusion and discrimination are even more acute for women and girls with disabilities.¹⁰ Amongst other challenges, social and cultural norms related to gender can lead to greater exclusion from healthcare services and education.

In 1988, Mary Pat Radabaugh, Director of the IBM National Support Center for Persons with Disabilities, said, “*For most people technology makes things easier. For persons with disabilities however, technology makes things possible.*” Mobile can empower persons with disabilities and provide them with access to critical

information, services and opportunities, such as access to education, employment and livelihood opportunities that can deliver significant socio-economic and commercial benefits for persons with disabilities, their families, governments and businesses.

For persons with disabilities, an increasingly digital world can offer many opportunities for emancipation and participation, but the bridges and platforms connecting them to the global community remain out of reach for most. This is especially true for those living in LMICs, who experience systemic barriers to inclusion that

are compounded by the lack of accessibility of digital devices and services.

It is essential to bridge the digital divide currently experienced by persons with disabilities, to address their barriers to using mobile internet and to create a digital environment that is inclusive and accessible for all users. Policymakers and regulators have an important role to play. By adopting a people-centric and collaborative approach, they can help tackle the barriers to awareness, adoption and use of mobile internet that persons with disabilities currently face.

Box 1: What is disability?

Disability is part of the human experience. Almost everyone will experience disability at some point in their life, either temporarily or permanently. However, disability can be complex to discuss given its diverse and dynamic nature and the distinctly personal characteristics of persons with disabilities.

According to the WHO International Classification of Functioning (ICF), Disability & Health,¹¹ disability and functioning are the outcomes of interactions between health conditions and contextual factors. These include external environmental factors (e.g. social attitudes, legal and social structures, natural and built environment, products and technology) and internal personal factors (e.g. gender, age, coping styles, social background, education, profession, past and current experiences, motivation and self-esteem), all of which can influence how a person participates in society.¹²

Disability covers a spectrum of effects and needs, and some disabilities are hidden. The WHO classifies disability according to three dimensions:¹³

- **Impairment** – in a person's body structure or function, or mental functioning; examples of impairments include loss of a limb, loss of vision or memory loss;
- **Activity limitation** – such as difficulty seeing, hearing, walking or problem solving;
- **Participation restrictions** – in normal daily activities, such as working, engaging in social or recreational activities and obtaining health care and preventive services.

Persons with disabilities are at risk of exclusion at every step of the mobile internet user journey.

Although digital platforms and mobile phones can be powerful assistive tools for inclusion and

participation because of their built-in features and applications, persons with disabilities experience greater exclusion than persons without disabilities when it comes to owning and using mobile phones. Digital exclusion is especially prevalent for women with disabilities, as detailed in Box 2.

Figure 1

Mobile internet user journey



GSMA analysis¹⁴ shows that the disability gap typically widens at each stage of the mobile internet user journey (from ownership to awareness of mobile internet, mobile internet adoption and regular use of mobile internet). For example, in Kenya, where persons with disabilities are 11 per cent less likely to own a mobile phone than persons without disabilities, they are also 36 per cent less likely to be aware of mobile internet and 85 per cent less likely to use mobile internet. In other words, disability becomes a significant determining factor in digital exclusion, in combination with other issues, such as discrimination and social norms.

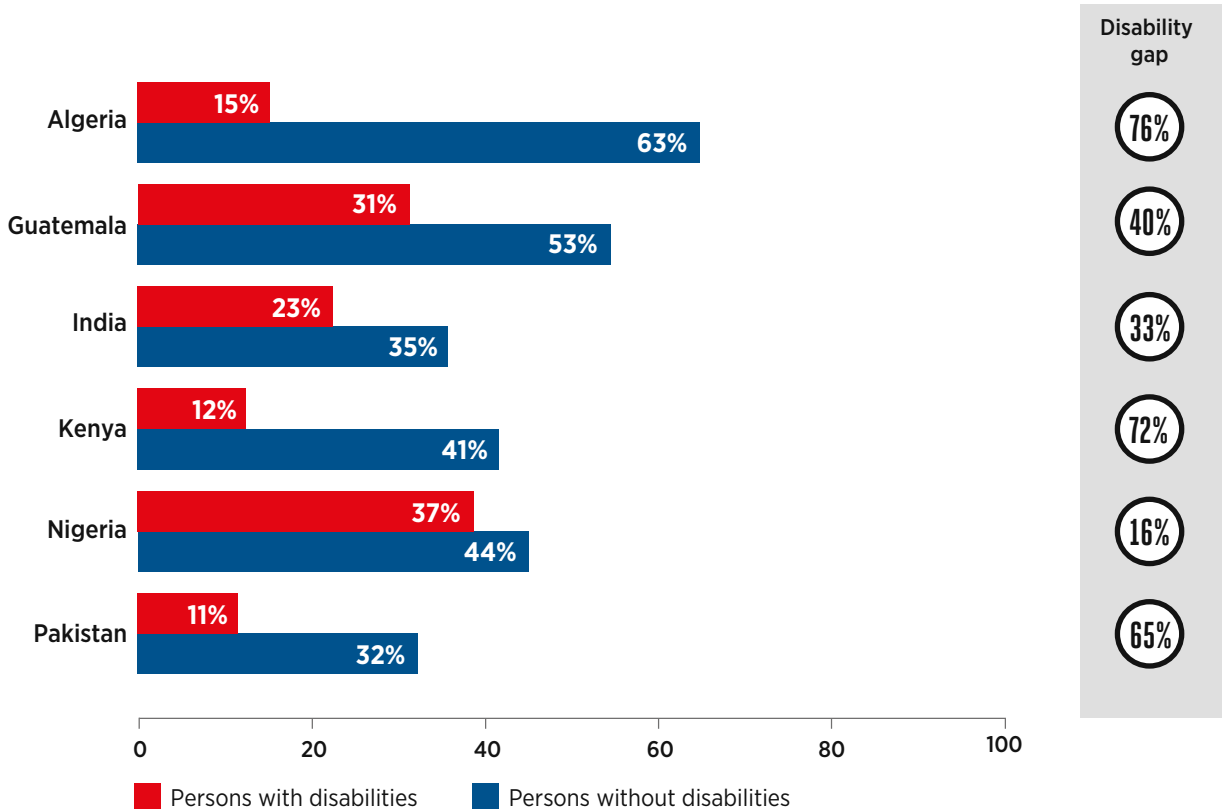
At the start of their user journey, persons with disabilities have disproportionately lower levels of mobile ownership. This disability gap in mobile ownership¹⁵ varies significantly by country.

For example, in Bangladesh, persons with disabilities are 55 per cent less likely to own a mobile phone than persons without disabilities, while in Kenya and Pakistan, the gap is 11 per cent.¹⁶ In contrast, the smartphone ownership gap is even wider, reaching 72 per cent in Kenya and 65 per cent in Pakistan.¹⁷ Bridging the smartphone ownership gap is vital to digital inclusion as smartphones are especially relevant and useful for persons with disabilities. By clustering multiple accessibility features into one device, such as screen readers, voice control or captioning, a smartphone enhances a user's mobile internet navigation experience. Smartphones also enhance access to services like mobile money, as traditional text-based channels are largely inaccessible to those with visual impairments,¹⁸ putting them at risk of financial exclusion.

Figure 2

The disability gap in smartphone ownership

Percentage of total population



Source: GSMA. (2021) The Mobile Disability Gap Report 2021.





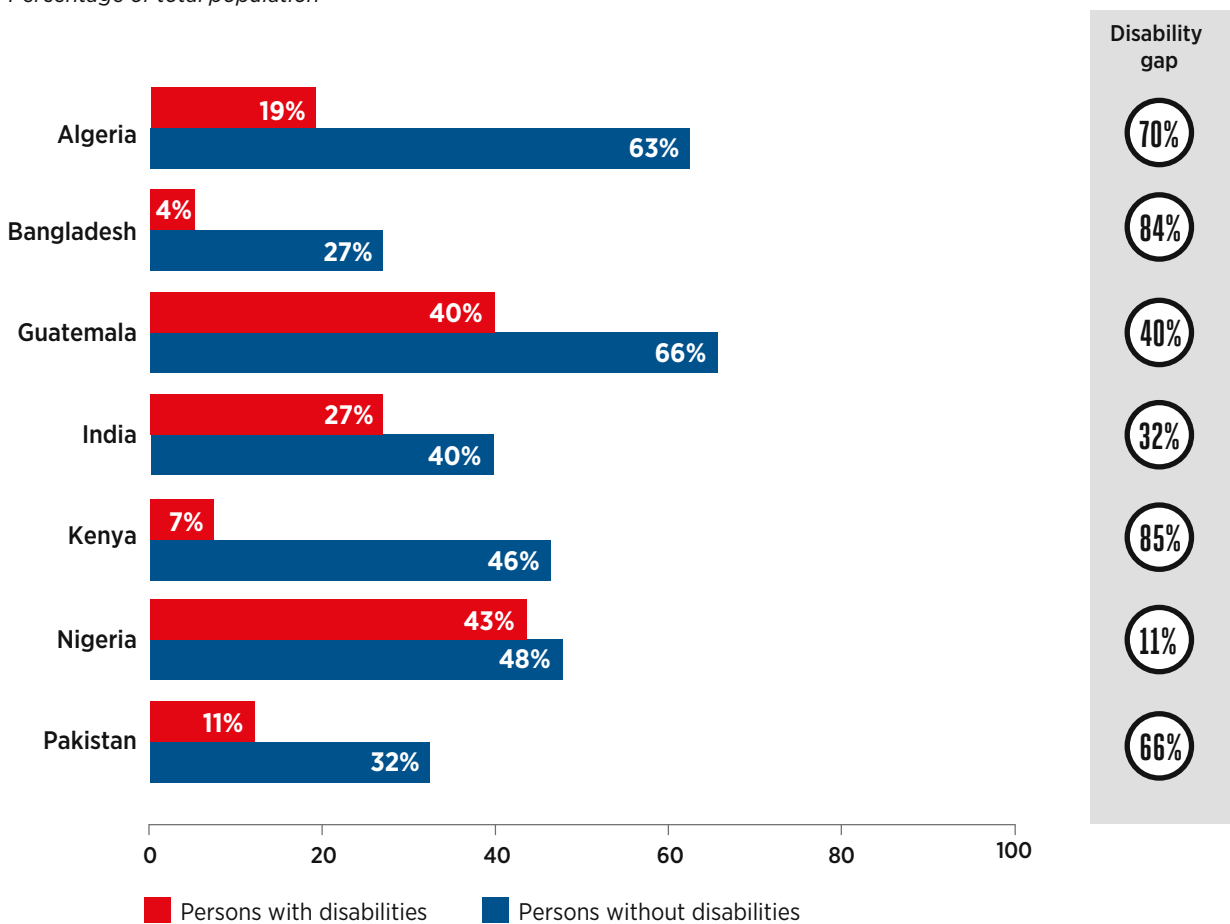
Awareness of mobile internet is a critical step in mobile internet use, but persons with disabilities are less likely to be aware of mobile internet than persons without disabilities.¹⁹ As a result, mobile internet use is significantly lower among persons with disabilities than persons without disabilities (see Figure 3).

The disability gap in mobile internet use is as high as 85 per cent in Kenya while in Nigeria it is 11 per cent.²⁰ However, once a person with disabilities starts using mobile internet, they use internet services at a similar level, or in some cases even more, than a person without disabilities.²¹

Figure 3

The disability gap in mobile internet use for persons with and without disabilities

Percentage of total population



Source: GSMA Consumer Survey 2020

Box 2: The digital exclusion of women with disabilities²²

Research on digital inclusion for women with disabilities is almost non-existent. It is critical to conduct quantitative and qualitative analyses of women's current mobile access and use, as well as their specific barriers to inclusion. A recent analysis conducted by the GSMA in seven LMICs²³ confirmed that the gender gap for digital inclusion is amplified at the intersection with disability, and more needs to be done to ensure women with disabilities are targeted and included in public and private sector initiatives.

Women with disabilities experience digital exclusion at every step of their mobile user journey:

- Women with disabilities had the lowest rate of mobile ownership in all the research countries except Kenya;
- Women with disabilities consistently had the lowest levels of smartphone ownership in every country, except in Bangladesh where they are on par with men with disabilities;
- Women with disabilities had the lowest usage levels of mobile internet across all groups researched; and
- The gender and disability ownership gaps are wider in countries with strong social norms. For example, the smartphone ownership gap between men without disabilities and women with disabilities is widest in India, Pakistan and Bangladesh (88 per cent, 80 per cent and 77 per cent, respectively).








Understanding the barriers to digital inclusion for persons with disabilities.

Persons with disabilities face several interrelated barriers that prevent them from accessing and using mobile-enabled products and services (see Table 1). Key barriers include a lack of literacy and digital skills, lack of awareness of mobile internet and accessibility features and

the cost of a handset²⁴ (i.e. internet-enabled handsets and especially smartphones). Action is needed to address the barriers of persons with disabilities and meet their needs. These barriers are also experienced by persons without disabilities, but persons with disabilities tend to experience them more acutely, in part because of social, economic and cultural factors that create, for example, disparities in education and income.

Table 1

Key barriers to mobile internet adoption and use				
Access, accessibility and usability	Affordability	Knowledge and skills	Relevance	Safety and security
				
Lack of access to networks and enablers, such as electricity, agents and formal IDs; and devices, content and services are not accessible or easy to use	Ability to afford devices, data plans or other service fees	Lack of digital skills and literacy, as well as lack of awareness and understanding of mobile and its benefits and how to use accessibility features	Lack of relevant content, products and services that meet the needs and capabilities of persons with disabilities	Concerns about the negative aspects and risks of mobile and the internet, such as harassment, theft, fraud, security and accessible data management

Leaving no one behind

Disability inclusion is not only a social and human rights issue, but also an economic one because it can have substantial benefits for individuals, families and societies.²⁵ When developing and implementing digital inclusion policies, it is important to include persons with disabilities and their allies in the policymaking process and address the unique usage barriers they face. Adopting a “leave no one behind” approach and understanding the needs and lived experiences of persons with disabilities

will strengthen policy outcomes as well as the development of inclusive and accessible digital products and services.

Using a mixed method of desk-based research and key stakeholder interviews (see Methodology in the Appendix), this report provides insights into the current policy landscape and good practices for the digital inclusion of persons with disabilities in LMICs. It also highlights key considerations to improve policymaking and implement inclusive policies for accessible ICT more effectively.



Tackling the mobile disability gap through inclusive policymaking

Paving the way for an inclusive policymaking journey

Several global frameworks address the inclusion of persons with disabilities.²⁶ The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) provides a human rights foundation for existing policies and programmes. Article 9 and Article 21 include commitments on digital inclusion, universal design and accessibility, which the vast majority of countries, including most LMICs in Sub-Saharan Africa and South and Southeast Asia have ratified.²⁷ Digital accessibility is also recognised as a key priority in several other global commitments related to inclusion, such as the Transforming the World 2030 Agenda,²⁸ the Sustainable Development Goals (SDGs) and the UN Disability Inclusion Strategy.²⁹

Despite these global priorities, many countries still lack inclusive policies for the digital inclusion of persons with disabilities (see Box 3). Translating the UNCRPD into effective national policy has presented challenges, given the pace and complexity of digital transformation. Digitally inclusive policymaking therefore needs to be approached as a journey. Some countries have not yet begun their journey, while others have achieved extensive progress. In these leading countries, governments have not only developed individual policies, but also supported the creation of whole policy ecosystems supported by engaged and committed stakeholders with a rich understanding of the complexities and benefits of digitally inclusive policy design and implementation (see Box 4).

Box 3:**Overview of disability digital inclusion policies in LMICs**

A global scan of policies in 28 LMICs³⁰ showed large disparities in how extensively policies address barriers to digital inclusion for persons with disabilities. The search found that relevant policies were spread across a wide range of policy domains, from ICT, education and skills to communications regulations, cybersecurity, data protection and national disability policy.

Of the 78 policy documents reviewed, 40 contained direct references to the digital inclusion of persons with disabilities, either in terms of the accessibility of ICTs or access to mobile devices. The rest either made indirect references to digital or information services for persons with disabilities, which could be

inferred to provide digital inclusion, or no direct references at all. For disability policies and other policies relevant to addressing barriers to digital inclusion, only 15 of the 28 countries had policy wording that either directly or indirectly included references to digital inclusion for persons with disabilities.

The national disability policies that strongly referenced mobile and digital were almost all authored within the last five years. Overall, most of the policies promoting digital inclusion for persons with disabilities were clustered in just a few countries: Brazil, India, Kenya, Qatar and South Africa.

Countries that were reviewed

- Bangladesh
- Bolivia
- Brazil
- Ethiopia
- Ghana
- India
- Indonesia
- Jordan
- Kenya
- Libya
- Malaysia
- Myanmar
- Nigeria
- Pakistan
- Philippines
- Qatar
- Rwanda
- Senegal
- Sierra Leone
- South Africa
- Sri Lanka
- Tanzania
- Thailand
- Tunisia
- Turkey
- Uganda
- Vietnam
- Zambia

Box 4: Overview of key disability stakeholders

To implement the digital inclusion objectives of the UNCRPD, a range of stakeholders need to be involved. The following is a high-level list of key stakeholders, from multilateral institutions that provide tools for inclusive policymaking on ICT accessibility, to non-profits and civil society organisations that support policymaking, monitoring and advocacy activities, and private sector stakeholders that provide accessible and inclusive digital solutions.

Multilateral stakeholders:

- The **UN Secretariat for the Convention on the Rights of Persons with Disabilities (SCRPD)/DESA**³¹ is the focal point for disability in the UN system. It is the UN body responsible for the UNCRPD, and digital inclusion is an important strand of their mandate to promote the disability rights agenda in a broader international development framework.
- The **International Telecommunication Union (ITU)** has taken the lead on policy formulation for ICT accessibility³² by providing model policy tools to guide the process. The Model ICT Accessibility Policy report³³ published in 2014 sets out a model code of conduct for mobile communications accessibility for persons with disabilities.
- The **G20 Smart Cities Alliance**³⁴ promotes best practices in policy and has developed a policy roadmap focusing on cities, including model policy on ICT accessibility.

Non-profit and civil society organisations:

- **G3ict**³⁵ promotes awareness of the UNCRPD ICT accessibility requirements, effective public policies, private sector initiatives and accessibility standards. They support advocates and policymakers with capacity building programmes, policy development tools and benchmarking (such as the biannual DARE Index) and share good practices and innovation in accessible and ATs.
- The **International Disability Alliance (IDA)**³⁶ brings together more than 1,100 organisations of persons with disabilities (OPDs) and their families from across eight global and six regional networks, advocating for more inclusive environments.

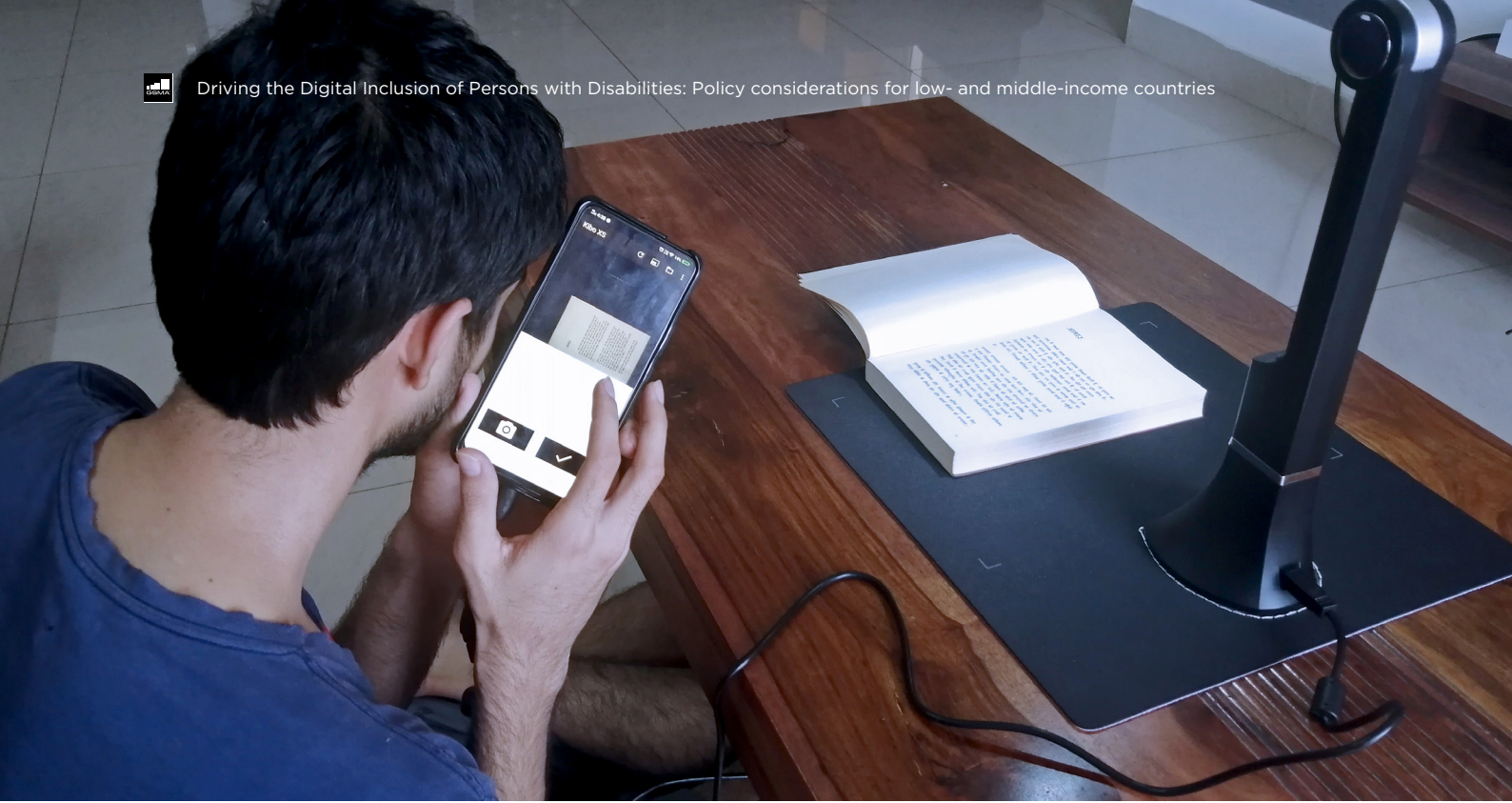
- The **Collaboration on International ICT Policy in East and Southern Africa (CIPESA)** focuses on facilitating the use of ICTs in support of development and poverty reduction, including digital inclusion for persons with disabilities.

Cohorts/initiatives focusing on innovation and AT:

- The **Global Alliance on Accessible Technologies and Environments (GAATES)**³⁷ promotes accessibility and universal design for cities, including digital and smart city solutions.
- The **Mobile & Wireless Forum (MWF)** established the Global Accessibility Reporting Initiative (GARI)³⁸ to provide information on the accessibility features of more than 1,500 mobile devices.
- The **Global Disability Innovation Hub (GDI Hub)**³⁹ works with partners to address the failure in market development, distribution, access and use of AT. It also leads the AT2030 programme, which aims to improve access to AT for all.⁴⁰

Private sector organisations:

- Mobile operators can influence and drive an accessible digital ecosystem by adopting inclusive practices, including providing more accessible digital devices and services, as well as improving the digital literacy of mobile users with disabilities.
- Digital technology companies can innovate and influence the development of products or guidelines to be more inclusive and accessible globally.
- Start-ups and local social enterprises can develop digital solutions to address the local needs and requirements of persons with disabilities, as well as provide capacity building and digital skills training to their users.



Defining a framework for action to improve the digital inclusion of persons with disabilities

The Broadband Commission for Sustainable Development Working Group on the Digital Gender Divide,⁴¹ established in 2017, focused on addressing the significant gender digital divide and the barriers preventing women from accessing and reaping the benefits of ICTs and broadband. This report follows the same approach, focusing on the needs and requirements of the disability community to provide guidance on addressing the mobile disability gap and the barriers to digital inclusion for persons with disabilities.

This guidance is based on four overarching areas of action:

- **Understanding the context of digital inclusion for persons with disabilities by gathering data and evidence.** Policymaking to advance digital inclusion of persons with disabilities should be data driven and evidence based, with policy priorities based on a country's local context and level of digital development.
- **Integrating a disability perspective into relevant policies.** Disability inclusion should be integrated effectively across all relevant policies and involve OPDs and individuals to better understand the unique lived experiences of persons with disabilities. These experiences and perspectives should be reflected in a broad range of policies and follow both good practices in universal design and the “nothing about us without us” principle.
- **Addressing the barriers to digital inclusion.** Policies should focus on the barriers persons with disabilities face to digital inclusion, including those related to access, accessibility and usability; affordability; knowledge and skills; relevant content and services; and safety and security.
- **Working together and sharing good practices and lessons.** A holistic approach requires ensuring digital inclusion initiatives are supported by all stakeholders, facilitate collaboration between all participants in the digital ecosystem and share expertise and experiences.

Figure 4

Areas of action to increasing digital inclusion for persons with disabilities

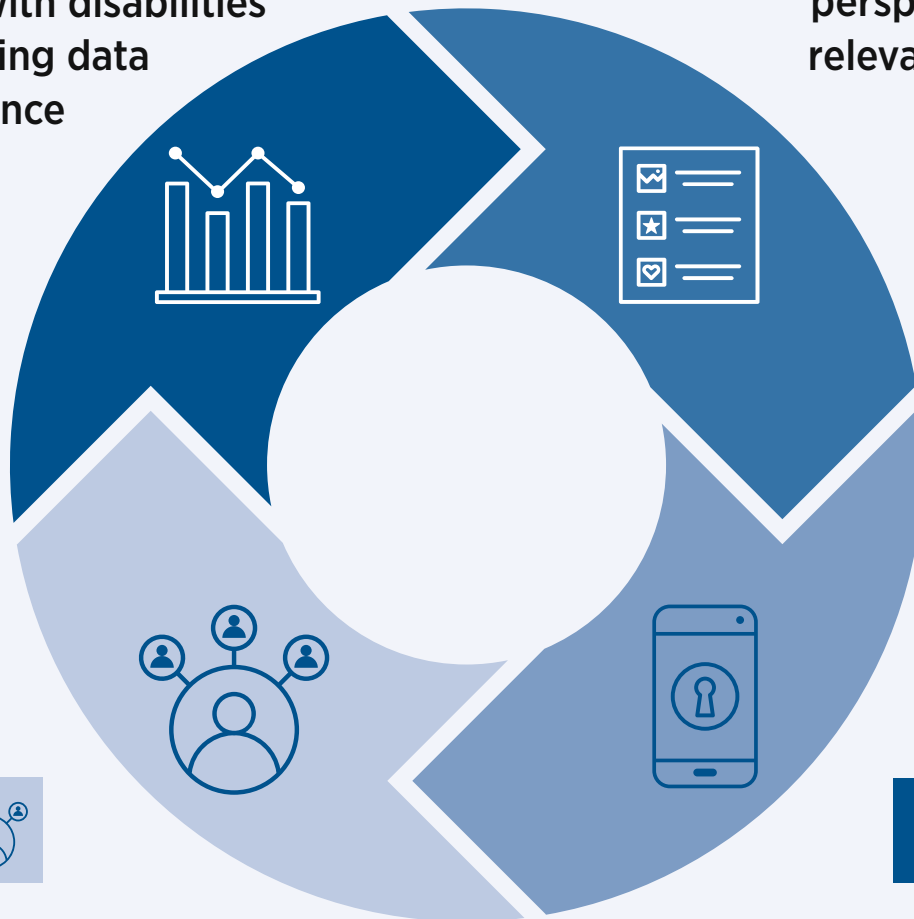
This framework aims to provide a robust basis for increasing digital inclusion for persons with disabilities.



1
Understanding the context of digital inclusion for persons with disabilities by gathering data and evidence



2
Integrating a disability inclusion perspective into relevant policies



4
Working together and sharing good practices and lessons



3
Addressing the barriers to digital inclusion



1. Understanding the context of digital inclusion for persons with disabilities

A robust understanding of the context in which national or sub-national policies are implemented, including having a deeper knowledge of the lived experiences, needs and requirements of persons with disabilities, is critical to informing policies that can support greater digital inclusion for persons with disabilities. However, disability-disaggregated data on mobile and internet access and use is limited. As a result, the digital inclusion of persons with disabilities, and the social and environmental factors that lead to their exclusion, are not well understood.⁴² This global lack of data is even more pronounced for women with disabilities, who are largely excluded at most levels of society.

1.1 Adopt a data-driven and evidence-based approach for inclusive policymaking

Governments should collect, analyse and track disability-disaggregated data related to mobile and mobile internet access and use.

National statistics offices and UN agencies should support and coordinate efforts to ensure disability data is disaggregated in all national data collection exercises, including by gender.⁴³ Because disability covers a spectrum of impairments, it is also imperative that data is disaggregated by type of impairments, in accordance with international guidelines and standards, to inform inclusive and agile policymaking. The widely used Washington Group (WG) Short Set of Questions⁴⁴ is a standardised methodology that enables internationally comparable data collection and provides a baseline for implementing the SDGs and the UNCRPD.

Capacity for more effective and reliable data collection, as well as training on inclusive data collection methodologies, should be increased, as they are vital to targeted policy action. To support data collection efforts, the International Disability Alliance, the International Disability and Development Consortium and the Stakeholder Group of Persons with Disabilities, in consultation with UN agencies, have identified

32 critically important indicators that should be disaggregated by disability to generate data about persons with disabilities worldwide.⁴⁵ The Disability Data Advocacy Working Group⁴⁶ also provides a global platform for information exchange, learning and dialogue, sharing of good practices and collaboration on disability data collection, disaggregation and analysis.

Strengthening data collection efforts can also support governments to meet their commitments to collect and disaggregate data by disability for all national indicators as part of the UNCRPD,⁴⁷ and report against relevant international indicators, such as the SDGs (Goal 9.C on access to ICT⁴⁸) and ITU accessibility mandates and resolutions (e.g. ITU Target 2.9 on enabling environments ensuring accessible telecommunications/ICTs for persons with disabilities⁴⁹).

Countries with more extensive disability inclusion policies usually demonstrate greater awareness of the barriers to digital inclusion experienced by persons with disabilities. For example, the Government of India, which has collected data about persons with disabilities across the country for the national Unique Disability ID scheme, gained significant insights into the inequality experienced by persons with disabilities and helped create an integrated, pan-Indian system to facilitate the issuance of national IDs and disability certificates to access government schemes and benefits.⁵⁰

1.2 Support research on the mobile disability gap

Governments should support research to better understand the requirements, circumstances and views of persons with disabilities, and the barriers limiting mobile and mobile internet access and use. This includes collecting both quantitative and qualitative data to understand the mobile disability gap and the lived experience of persons with disabilities, and to inform policies that address this gap and meet their diverse needs.

When collecting data on persons with disabilities who are already connected, mobile technologies and platforms should be considered for large electronic surveys on disability, both nationally and sub-nationally. Electronic data collection may allow statistics agencies to include hard-to-reach population groups such as persons with disabilities more easily, and online questionnaires may facilitate the process of reading a questionnaire by including large fonts or voice recognition tools.⁵¹ Accessibility and usability should guide the development of online questionnaires, which should adhere to recognised and accepted guidelines, such as the Web Content Accessibility Guidelines (WCAG).⁵²

Analysing data collected by other stakeholders can also provide valuable insights. For instance, the Leonard Cheshire Disability Data Portal,⁵³ in conjunction with the latest analysis from the Washington Group on Disability Statistics and the UN Statistics Division (UNSD),⁵⁴ provide a growing body of disability data that can be easily accessed and analysed, including access to ICTs, when available. G3ict's global Digital Accessibility Rights Evaluation (DARE) Index⁵⁵ also provides a benchmarking tool for policymakers, governments, civil society and international organisations to trace country progress in making ICTs accessible for all and to assess the digital inclusion gap between persons with and without disabilities.

1.3 Establish strong monitoring and evaluation feedback loops

Conducting regular, inclusive and impartial impact evaluations is essential to assess the effectiveness of policies and adapt digital inclusion strategies accordingly. This evidence should be made available to all relevant stakeholders as it helps to ensure transparent decision making and resource allocation. Part of this should be supporting the development of effective policy monitoring and evaluation (M&E) tools that include effective feedback loops to support iterative policymaking and implementation support. Policy and disability specialists can help to evaluate policy implementation.

Countries such as South Africa and Qatar are two of the most advanced countries in disability-inclusive policymaking and have clear monitoring frameworks to assess the efficiency of their policies. In South Africa, the South African ICT Chamber of Disability, under the National ICT Forum, is a permanent multistakeholder body with a mandate that includes supporting the mainstreaming of disability inclusion into all ICT policy, as well as ongoing monitoring, informal evaluation and updating of existing policy in response to feedback. In Qatar, MADA (Assistive Technology & Accessibility Centre) has instituted roundtables to bring together OPDs to regularly discuss the effectiveness of policy implementation mechanisms, identify gaps and opportunities for improvement.



2. Integrating a disability inclusion perspective in all relevant policies

Policies that explicitly address the requirements and barriers to mobile digital inclusion for persons with disabilities are needed to increase digital inclusion and reach persons with disabilities with mobile-enabled products and services. Key to this is a participatory and holistic approach to policy and regulation guided by a principle stemming from disability right movements: “Nothing about us, without us”. This approach emphasises the importance of genuine, non-tokenistic involvement of persons with disabilities in policymaking. Ideally, this should be part of a joined-up strategy to address disability inclusion in a wide range of policies.

2.1 Take a holistic approach to ensure disability inclusion considerations are reflected across all relevant policies

There is a need for a holistic and logical model policy framework that explicitly considers and addresses the diverse requirements of persons with disabilities (as defined by ITU⁵⁶). Such a framework would consider the impact of mobile technologies and services for persons

with disabilities, and the need for a whole-of-government approach, to create an enabling environment for mobile digital services across all sectors.

The journey to mobile digital inclusion begins by translating international disability inclusion policy into overarching national disability policies or strategies to confirm or establish the national rights of persons with disabilities. These policies need to be supported by sectoral policies, regulations and programmes that support inclusive technology adoption and address the barriers persons with disabilities face. Broadband and ICT policies should therefore include a focus on disability inclusion while disability policies should recognise the importance of mobile and the internet as enabling tools for the inclusion of persons with disabilities. As digital solutions cut across all sectors, support for digital inclusion needs to be mainstreamed across all sectoral policies, for example, education policies, programmes and digital transformation initiatives. Finally, given the rapid evolution of digital technologies and solutions, a process is needed to update and improve policies and programmes to ensure all citizens continue to reap the benefits.

2.2 Include the views and voices of the disability community early in the policy journey

The involvement of persons with disabilities throughout the policymaking and implementation process is key to ensuring that disability issues are on the agendas of policymakers and that all relevant stakeholder voices are heard. Including OPDs, persons with disabilities (across the range of impairments and gender) and subject experts from the outset enables policymakers to incorporate user needs and support iterative and innovative approaches to policy and programme design. This is particularly important as it is common in the early stages of the policy journey to encounter resistance to new ways of working. Including a variety of perspectives early on also avoids the significant time and cost implications associated with “retrofitting” disability inclusion requirements into existing policy.

Actively involving OPDs in policymaking helps to raise awareness of the digital inclusion opportunity and to promote the use of inclusive practices, such as user-centred design. As one interviewee noted: *“We’ve seen a lot of policy evolve organically as a result of bringing policymakers together with persons with disabilities. You hear their needs, about the gaps, you think about them, and then you develop good solutions together.”* To facilitate that process, the creation of a database with more information on relevant OPDs and experts, facilitating technologies and leaders who also have disabilities or are parents of persons with disabilities, could help to make the policy process more inclusive.



2.3 Bring stakeholders together through accessible engagement platforms

Integrating disability perspectives should be part of multistakeholder engagement platforms and working groups to ensure all stakeholders are aware of the needs and requirements of the disability community. User-centred co-design that involves persons with disabilities is the

most effective way to ensure that policy design is effective, public consultations and convening platforms are accessible and everyone can actively contribute to the definition and implementation of policies. As technology evolves rapidly, policies, standards or solutions that worked yesterday are no guarantee of future effectiveness. The regular convening of stakeholders ensures a proactive and agile approach to inclusion.

Examples of inclusive approaches to policy development:

- In **Kenya**, the constitution requires that **working groups** be convened to support all policy development. This helps ensure that the right stakeholders, including OPDs and mobile operators, can support policy design. In the case of the **National ICT Policy**, implementation actions were embedded in the policy itself, and this process also allowed for stakeholder involvement in the design of implementation strategies.
- **Qatar** has a variety of mechanisms to ensure multistakeholder collaboration in the design and implementation of policy. **MADA, a public-private partnership (PPP)** that brings together a range of stakeholders in the disability space, plays a key convening role. Early in the country's disability policy journey, a series of working groups were established to identify the needs of persons with disabilities, bringing together representatives of OPDs, governments and businesses over a two-year period to identify the initiatives needed to support digital inclusion.
- **South Africa** has several long-standing multistakeholder forums involved in the design and implementation of digital inclusion policy. The **Chamber of Disability**, a permanent multistakeholder body, includes OPDs, specialists from the disability community, business and government stakeholders. In parallel, the **National Economic and Labour Council** provides a standing multistakeholder forum to review all policy that includes the disability community. **ICASA**, which regulates the telecoms sector, has a standing consumer working group of representatives from a range of persons with disabilities, and the technical committee of the **South African Bureau of Standards** also includes members of the disability community to ensure inclusive co-design of standards. One example of an inclusive approach was the Disability Consultative Forum in 2015 and 2016, during which ICASA brought together leading mobile operators and OPDs to provide inputs to the draft of the updated Code for Persons with Disabilities, to ensure persons with disabilities have access to electronic communication and broadcasting services in South Africa.





3. Addressing the barriers to digital inclusion

To accelerate mobile internet adoption, policies should focus on the practical challenges that persons with disabilities face to adopting and using mobile devices and services. Policies and strategies should address key barriers to digital inclusion, including those related to access, accessibility and usability; affordability; relevant content and services; knowledge and skills; and

safety and security. They should recognise that the mobile disability gap is driven by a complex set of social, economic and cultural barriers that vary by gender, and should address the structural issues underpinning disparities in adoption and use, such as differences in income and education and issues of discrimination and social norms.

3.1 Access, accessibility and usability

Where mobile broadband networks are available, a range of factors related to access prevent people from connecting to mobile internet. This includes poor access to distribution channels to obtain a handset or data bundles, lack of formal identification to register for a mobile account or limited access to electricity to recharge handsets, to name a few.⁵⁷ While these access barriers also apply to persons without disabilities, the impact can be exacerbated for persons with disabilities due to the limited accessibility of infrastructure, the usability of handsets, online content and mobile services.

3.1.1 Support and promote access to mobile internet for persons with disabilities

Of the five barriers analysed in this study, policy relating to accessibility is the most developed, both in terms of the maturity of the policy tools being used, and the adoption of a range of accessibility policy across domains to promote digital inclusion for all. For countries early in the digital inclusion journey, national disability policies play a key role in supporting and promoting accessibility of mobile communications, content and services.

Although many countries have yet to acknowledge the importance of digital inclusion in their national disability policies, this should be an area of focus.

Alongside disability policies, implementation strategies are key to advancing digital inclusion for all. Kenya has embedded implementation tasks in the national disability policy, with initiatives including training and access to ICTs for youth with disabilities, and requiring

internet service providers (ISPs) to ensure internet services are accessible. South Africa's White Paper on the Rights of Persons with Disabilities (see Box 5) sets out the challenges of digital inclusion and a range of actions to address them, including the promotion of mobile and web accessibility, universal design, design standards and equal access to digital technologies and platforms.

Box 5: South Africa White Paper on the Rights of Persons with Disabilities (2015)

The importance of ICTs for persons with disabilities lies in their unique ability to provide access to different services, transform existing services and create greater demand for access to information and knowledge. Internet services have the greatest potential to promote digital inclusion for persons with disabilities, followed closely by mobile handsets, which are the second most-valued technology in terms of their contribution for persons with disabilities. In particular, the use of mobile handsets is instrumental in enabling persons with disabilities to live independently.

Promote access to new ICTs and systems for persons with disabilities

All public and private institutions must promote access to new ICTs and systems, including the internet. This can be done through the design, development, production and distribution of accessible ICTs and systems at an early stage, so that these technologies and systems become available at minimum cost.

Source: South Africa White Paper on the Rights of Persons with Disabilities (2015)⁵⁸

3.1.2 Develop awareness of accessibility terms, concepts and approaches, with support from global stakeholders and OPDs

Understanding what accessibility and usability mean in practical terms is critical. Countries early in the policymaking journey need to develop greater awareness of what these terms mean and the best approaches to develop inclusive and accessible products and services. This can be supported initially by local OPDs, disability experts and stakeholders who have a strong understanding of the local context for disability inclusion and terminology and can help to build capacity and awareness.

Global disability organisations and OPDs can complement local expertise or be a substitute in the absence of local expertise. For example, in Qatar, the MADA Assistive Technology Portal⁵⁹ provides a glossary of terms related to ICT accessibility and AT in the Arabic language. The glossary was developed as a resource for capacity building in ICT services, accessibility and AT in Qatar and beyond. Considered one of the first initiatives to provide such resources in Arabic, MADA's glossary is important for educating professionals, researchers and individuals interested in the basic terms used in these fields.

3.1.3 Recognise the importance of mobile devices for internet access

Given that mobile devices are now the primary access point to the internet for people living in LMICs,⁶⁰ including persons with disabilities, policies should embrace a digital inclusion approach that recognises the central role of mobile. Including persons with disabilities in such digital inclusion and national broadband strategies would help to strengthen focus on the social, economic, technological and usability benefits of accessibility for all.

Kenya's National ICT Policy commits to promoting mobile-first access to ICTs for its citizens and to the full digital inclusion of persons with disabilities (see Box 6). Of all the digital inclusion policies reviewed for this study, it was the most focused on a mobile-first approach to achieving digital inclusion. As one stakeholder noted: *"The government takes cognisance of the global trend of ubiquitous computing which shows that the world is going mobile. People want to access the internet anywhere and at any time. In recognition of this trend, this policy will drive a mobile first approach, ensuring that every Kenyan has reasonable access by focusing on mobile and wireless infrastructure."*⁶¹

Box 6: Kenya's National ICT Policy (2019)

Kenya's National ICT Policy strongly emphasises access and accessibility:

- **Mobile first:** The policy stresses the importance of a mobile-first approach to accessing ICT, internet content and digital support.
- **Full accessibility:** The government is committed to providing an ICT environment fully accessible to persons with disabilities, and has committed to take measures to:
 - Ensure accessibility of ICT services and emergency services for persons with disabilities;
 - Collaboratively review existing legislation and regulations to promote ICT accessibility for persons with disabilities;
 - Promote the design, production and distribution of accessible ICTs;
 - Require public and private entities to render digital content, information and services in accessible and useable formats;
 - Ensure government websites comply with international web accessibility standards;
 - Promote and develop the use of community languages, and other communication formats and technologies accessible to persons with disabilities;
 - Promote research and development for ICT access for persons with disabilities;
 - Provide incentives to providers of accessible technology solutions, including software, hardware and applications; and
 - Take such measures that will lessen the burden of acquisition of accessible technologies and associated devices for persons with disabilities through fiscal means, such as funding acquisitions.

Source: Kenya National ICT Policy (2019)⁶²

3.1.4 Support the development and adoption of global accessibility standards

To effectively promote accessibility, digital inclusion policies need to be supported by the adoption of global standards that define the accessibility of devices, content and services. There is a general lack of awareness of such global standards among stakeholders, which is exacerbated by a lack of available resources and information about them. The accessibility standards that do exist tend not to keep pace with technological changes. To reduce fragmentation and a patchwork of national standards for providers to comply with, information on global accessibility standards should be improved, and those that are adopted nationally should be in line with internationally agreed concepts and principles.

Global accessibility standards also have the potential to improve and streamline public procurement of digital content, products and services. Public procurement processes can be an effective policy tool to promote the accessibility of ICT equipment, software, applications and services purchased by governments,⁶³ with significant ripple effects in the mainstream consumer ICT market. For example, in the US, Section 508 of the Rehabilitation Act governs the federal government purchase of accessible electronic and information technology and, in the European Union, public procurement rules require accessibility as a consideration and the EN 301 549 accessibility standard. If governments switched to accessible-only procurement, it could accelerate demand and create a bigger market for providers of accessible content, products and services.

Countries with extensive digital inclusion policies were found to integrate elements of standardisation for mobile devices and services.

South Africa focuses on the application of universal design standards and principles across digital content and services. India's e-government policy mandates standards for accessibility of government services, supported by an innovative implementation programme. Kenya's National ICT Policy includes the adoption of global web accessibility standards, while in Qatar, MADA supports AT device assessment and innovation programmes.

3.1.5 Consider leveraging Universal Service Funds to target persons with disabilities

Over the past few years, a growing number of countries have expanded their definition of universal service to explicitly cover accessibility to the information society for persons with disabilities through access to mobile services and broadband. A 2014 GSMA study⁶⁴ found that 25 of the 69 countries studied had project-funding capabilities to support access and use of ICTs for persons with disabilities. However, notably in Sub-Saharan Africa, while several funds had articulated a policy that included elements of digital inclusion for persons with disabilities, many of these funds had not translated the policy into specific targets and actions, or had not considered the accessibility and assistance required for persons with disabilities to be included effectively.

In India, the government emphasises that equitable access to ICTs should become part of the legal definition of universal service, and that schemes for persons with disabilities may require a more flexible and collaborative approach than other Universal Service Fund (USF) schemes. In Rwanda, a policy of universal service was formulated as part of the nation's Vision 2020 and the Universal Service and Access Fund has been expanded by law to support access to ICTs for persons with disabilities.⁶⁵



However, it remains unclear how Universal Service and Access Funds have impacted the populations they target⁶⁶ and, when not administered effectively, USFs can be counterproductive since they effectively represent an additional tax on customers, creating additional barriers to affordability. The GSMA recommends that USFs should be targeted, time-bound and managed transparently. They should also be allocated in a competitive and technically neutral way, in consultation with the industry, to target projects with the greatest possible impact, including those focused on internet adoption and use by persons with disabilities.

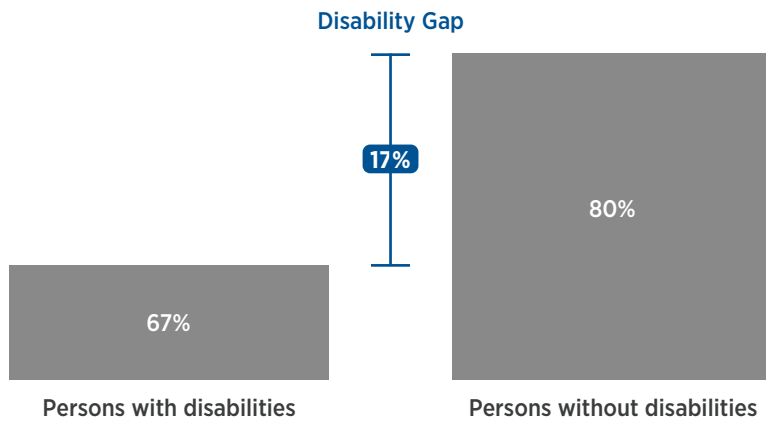
3.1.6 Ensure inclusive and transparent registration processes for mobile and digital services

Proof of identity (ID) is key to being able to register for mobile services in one’s own name and access a range of mobile and financial services.⁶⁷ Persons with disabilities are among those least likely to have formal proof of ID. GSMA research has shown that about one in four SIM card users with disabilities use someone else’s name to use a mobile service, either a family member or a friend⁶⁸ (see figure 5).

Figure 5

Ownership of a SIM card registered in one’s own name, by disability status

Percentage of SIM card using population (aggregate of seven countries)



Among SIM card users in 7 countries:

About 1 in 4 persons with disabilities do not have a SIM card registered in their own name and use someone else’s instead.

Source: GSMA study: Access to mobile services and proof of ID (2021)⁶⁸



Registration processes for mobile services should be inclusive and transparent, which requires balanced SIM registration requirements and consistent application of consumer protection rules across the digital ecosystem.⁷⁰ To prevent excluding persons with disabilities without access to formal ID, the implementation of national identification programmes in markets where SIM registration is mandatory could be prioritised. This could also help service providers, such as mobile operators, that want to target customers with disabilities with specific offerings and services (e.g. to distribute government subsidy programmes), which is difficult due to the common lack of proof of disability.

Governments, in partnership with retail outlets, could support and invest in the provision of safe and accessible facilities for persons with disabilities, as well as the training of agents to support persons with disabilities to register and access mobile services. Another factor explaining the gap in SIM card registration between persons with and without disabilities is related to the physical distance to, and/or inaccessibility of, mobile agent outlets or retail stores to register their SIM card. Policy programmes that promote and support entrepreneurship, including becoming an agent, should include a disability and a gender perspective, so that women with disabilities are also supported to become agents.



3.2 Affordability

Affordability, particularly of smartphones, is a key barrier to digital inclusion for persons with disabilities in LMICs, who tend to have lower incomes and less financial autonomy than persons without disabilities.⁷¹ Affordability refers to the affordability of handsets, data bundles and mobile services.

3.2.1 Create programmes to incentivise the development of internet-enabled handsets with accessibility features

The development, access and distribution of affordable internet-enabled handsets with relevant accessibility features, especially smartphones, should be supported and promoted.⁷² Incentives can include, for example, tax exemptions on mobile devices tailored to the needs of persons with disabilities.⁷³ While there are frameworks for tax breaks for AT in several countries and there are allowances for tax breaks on AT in several disability and ICT policies, this is still an underutilised tool when it comes to digital devices with accessibility features.

Following ITU guidance to curb the affordability barrier, India's Telecom Regulatory Authority's "Recommendations on making ICT accessible for persons with disabilities" recommends that device manufacturers and importers should not limit the availability of the accessibility features available in operating systems. This recommendation aims to ensure that devices with accessibility features are not made artificially expensive, as can sometimes happen when embedded AT is perceived as an "advanced" feature. This policy also requires that every mobile manufacturer of five or more handsets provide at least one handset that satisfies nationally defined accessibility criteria. It also requires mobile service providers to conduct frequent awareness campaigns on the accessibility and affordability of assistive products for persons with disabilities. In Qatar, the Ministry of Transport and Communications' e-accessibility policy requires MADA to provide financial assistance for either free or subsidised access to ATs for persons with disabilities and OPDs.



3.2.2 Focus on making internet-enabled handsets and data more affordable for persons with disabilities

There are various ways in which policies and regulations can make handsets and data bundles more affordable, which would benefit persons with disabilities disproportionately. For example, removing sector-specific taxes and other fees and creating an enabling environment for mobile operators to achieve operational and other cost efficiencies.⁷⁴

Providing special tariffs or subsidies to customers with disabilities to access and use mobile data would also facilitate access to mobile internet. Although such initiatives are still in their infancy, there are examples of policies that aim to introduce reduced tariffs for persons with disabilities, and MNOs are taking the lead on providing special tariffs. For example:

- Vodacom in South Africa offers bespoke airtime bundles based on a customer's disability, such as data and SMS-only packages for deaf customers. Device subsidies that target persons with disabilities can also be considered.
- Ecuador's Organic Law on Disability requires that basic services, including mobile telephony, should be provided to persons with disabilities at a 50 per cent reduction (reductions do not include data).
- The Qatar e-accessibility policy requires *"service providers [to] actively promote the availability of accessible services on offer to their customers and provide updates regarding any service improvements and pricing packages"*.
- In South Africa, policymakers have proposed a suite of tools, including end user subsidies rather than network

extension subsidies, and are creating a digital development fund to support and potentially subsidise access for vulnerable groups, including persons with disability. Providing subsidised access to online government information and services is another example of how South Africa's policies could help increase the digital inclusion of persons with disabilities.

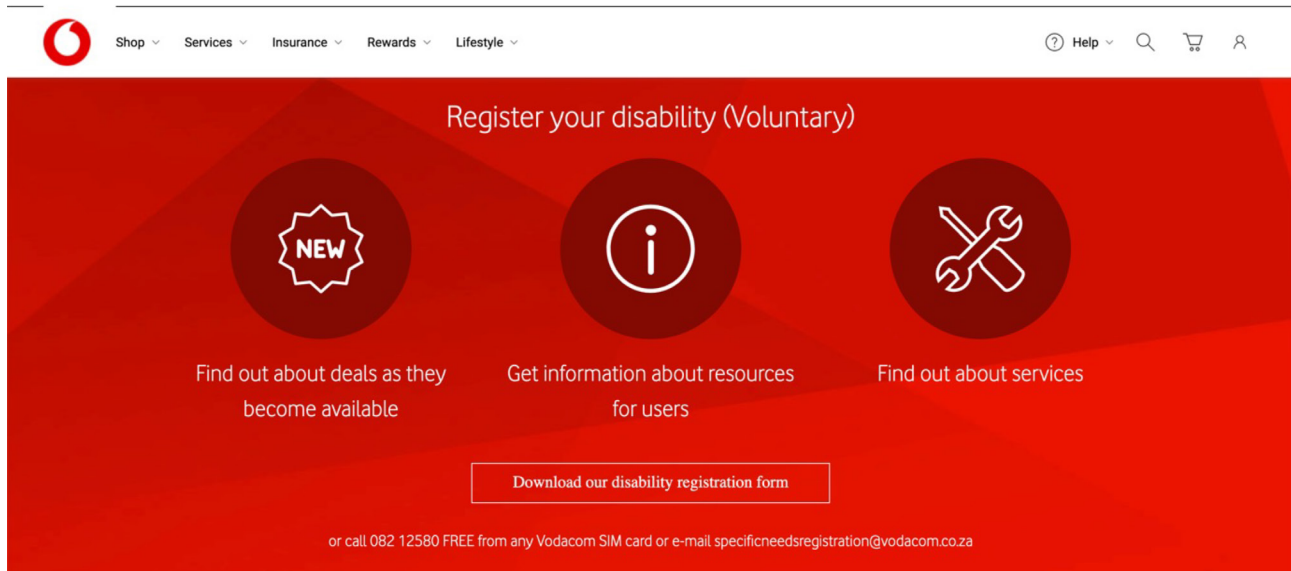
3.2.3 Support the identification of mobile users with disabilities to provide targeted subsidies

Efforts to improve information on persons with disabilities should be strengthened to better understand the customer base that is eligible for subsidies or special tariffs. Providing device subsidies and reduced tariffs is impossible when persons with disabilities are "undocumented" or there is no reliable system of registration or social support for persons with disabilities. The countries where special tariffs were available usually had some form of a national identity system and procedure to register persons with disabilities. Having access to local and national registries of persons with disabilities would further support targeted subsidies from mobile operators, according to mobile subscribers' needs.

To identify customers with disabilities, Vodacom in South Africa has a dedicated webpage where users can download a form to register their disability status and share their specific needs by e-mail (see Figure 6). To mitigate the risk of fraudulent registrations, Vodacom works with OPDs to register customers with disabilities, also involving kiosks to facilitate registrations. Another approach to improve disability data collection was adopted by Safaricom in Kenya, which worked with the Kenyan Union for the Blind (KUB) (see Box 7) to develop an IVR service⁷⁵ for their visually impaired customers.

Figure 6

Vodacom South Africa ICT accessibility/specific needs portal



Source: Vodacom webpage on ICT accessibility and specific needs portal²⁶

Box 7: Safaricom Voice Biometric platform

In 2017, Safaricom conducted an audit of all their products and services to quantify and understand their usage by persons with disabilities. After looking at all the different types of disabilities, they realised that individuals with visual impairment were the most excluded category of users. Safaricom formed a focus group of persons with visual impairment to understand their challenges and gain first-hand experience in how they interact with their mobile money service. By engaging and brainstorming with their customers with visual impairment, Safaricom

realised that their services were not accessible to those customers and that, in fact, they were often paying an additional cost by asking a third party to make a transaction for them. To mitigate these risks and reduce the cost, Safaricom integrated an IVR platform to, first, help customers query the balance of their M-Pesa account, and then they extended the functionalities. Partnering with the KUB was essential to register all persons with visual impairment in the country and enable them to use their IVR platform.

3.3 Knowledge and skills

Although almost every government has a digitisation agenda that includes policies on digital skills development, they often do not include digital skills related to the use of mobile devices and services. Persons with disabilities generally have low levels of digital skills education and training, which are further hindered by lower access to ICTs to attain these skills.⁷⁷ Data from India and Pakistan show that low literacy and skills are the greatest barrier for persons with disabilities who are aware of mobile internet but do not use it.⁷⁸ Inclusive and accessible digital skills training options are rare and, when they do exist, tend to focus on general IT skills, not the basic and necessary mobile skills. Moreover, there can be a tendency for policies on digital skills for persons with disabilities to be too high level and lacking in specificity, but the skills barrier for persons with disabilities is complex.

3.3.1 Raise awareness on the range of digital skills needed for persons with disabilities to adopt and use mobile internet

For persons with disabilities to adopt and use mobile internet, they not only need to overcome the awareness barrier about mobile internet and how they can benefit from it, but also to understand how to use accessibility features that will enhance their user experience. To address the skills divide faced by persons with disabilities, it is essential to have a more precise

understanding of the range of experiences and ability of users with different types and severity of impairments, as well as how they engage in social communities, self-advocate and develop skills. Similarly, local social norms that influence disability roles and expectations, as well as learning preferences, are all important considerations when designing mobile digital skills interventions. It is also important to include families, carers, gatekeepers and OPDs that might play an important support role in the care, independence and autonomy of individuals.

In addition to quantitative research and consultation with the disability community, a framework that maps key digital competencies and proficiency levels could be a valuable way to support the design and assessment of mobile digital skills strategies and activities. The GSMA has developed a sample framework⁷⁹ (see Figure 7) that organisations could use. It is based on six competency areas relevant to mobile digital skills development, adapted from UNESCO's Digital Literacy Global Framework. Although not currently adapted to persons with disabilities, it could nonetheless be used as a guide to assess the proficiency levels of mobile users with disabilities against the proficiency levels necessary for the use cases included in the framework. This includes assessing learners' progress in acquiring these skills and measuring the effectiveness of the mobile digital skills strategy and intervention.

Figure 7

Framework for key digital competency areas

Competency areas	
Set-up and configuration	The ability to set up devices, products and services, configure settings and set preferences to personal needs. Examples include acquiring, understanding and managing a data plan, setting up internet access, downloading and installing or deleting applications, creating accounts and managing device or app settings.
Information management	The ability to articulate information needs, to search or discover new and useful information, content and services, and to evaluate, compare and judge the relevance and trustworthiness of information and its sources.
Digital communication	The ability to interact, communicate, collaborate and participate in society through a variety of digital services. It also includes being able to build a positive digital identity and reputation while being aware and sensitive to others' needs, concerns and cultural diversity.
Digital content creation	The ability to create, edit and share digital content with a particular audience or contribute information to an existing body of knowledge.
Safety and security	This is a cross-cutting competency and includes the ability to protect devices, content and personal information (e.g. the ability to change privacy settings, protect passwords), as well as physical and psychological well-being from potential online harm (including scams, malware, harassment and harmful content).
Problem solving	The ability to identify technical problems with devices or services, and addressing them or recognising the lack of capabilities to do so. It also includes being able to help others develop their digital competence and stay up to date with new developments.

Source: GSMA. (2021). *Developing mobile digital skills in low- and middle-income countries*⁸⁰

3.3.2 Provide clear evidence of the benefits of digital upskilling for persons with disabilities

Digital upskilling is increasingly important given the pace at which society is changing.⁸¹ All stakeholders need to be mobilised to raise awareness of the necessity and benefits of inclusive digital upskilling programmes for the disability community. Such interventions are especially critical for persons with disabilities who are already largely excluded from general education and employment opportunities.

Studies have shown that children with disabilities are five to 10 times more likely to be excluded from school than children without disabilities, and children with learning or communication impairments were consistently among the least likely to attend school, particularly in Africa.⁸² Unemployment among persons with disabilities is as high as 80 per cent in some countries, and employers often assume that persons with disabilities are unable to work.⁸³

In South Africa, the White Paper on the Rights of Persons with Disabilities stresses the importance of ICT training for social progress and the use

of ATs, web services and mobile phones. The India Telecom Regulatory Authority paper, “Recommendations on making ICT accessible for persons with disabilities”, underlines the importance of attitudinal changes in society towards persons with disabilities. It includes effective awareness campaigns on the needs of persons with disabilities, and the importance of ICT for mainstreaming persons with disabilities in society, protecting their rights and supporting them to be productive citizens.

3.3.3 Engage with a wide variety of stakeholders to support the implementation of digital skills training

Private sector players, such as mobile operators and social enterprises, as well as OPDs and non-profit organisations directly connected with the disability community, all have a strong role to play in supporting digital skills building for persons with disabilities. The collaboration of a diverse set of stakeholders, with their respective roles and expertise, could also amplify the impact of skills training initiatives. There is, however, a very limited number of resources publicly available for stakeholders to teach mobile skills, and curricula on developing and using accessible ICTs often need to be developed.⁸⁴ To facilitate digital skills training,

the GSMA has developed the Mobile Internet Skills Training Toolkit (MISTT), which provides an easy-to-follow curriculum designed for mobile operators to support their agents, and includes a module on accessibility features for mobile customers with visual and hearing impairment (see Box 8).

Some governments are becoming more proactive in including persons with disabilities in digital literacy programmes. In Mongolia, UNDP Mongolia’s Accelerator Lab is working with the Communication and Information Technology Authority to develop a national programme on supporting digital skills and education, with a focus on improving digital access and closing the digital literacy gap for vulnerable groups, including persons with disabilities.⁸⁵ In Rwanda, the National Digital Talent Policy aims to increase digital skills and literacy across all levels of society. With financial support from a range of stakeholders (Global Affairs Canada, GIZ, Mozilla, EQUALS Global Partnership), the Ministry of ICT and Innovation, together with non-profit organisation Rwanda DOT, has implemented the Digital Ambassador Program to drive digital adoption and bridge the ICT skills gap. Special recognition was given to Digital Ambassadors with disabilities who served as digital champions and role models to reach more persons with disabilities.

Box 8:**GSMA Mobile Internet Skills Training Toolkit⁸⁶**

To help people with little or no mobile internet skills participate in an increasingly connected world and use mobile internet more safely, the GSMA has developed the Mobile Internet Skills Training Toolkit (MISTT), a set of train-the-trainer resources that can be used by mobile operators, governments, the development community and other interested parties. To date, the toolkit has impacted the lives of more than three million users.

The toolkit consists of 12 lessons that can be adapted to local needs and languages, with modules that cover the basics of the internet (including online safety and data costs) and others that cover some of the most-used applications, such as Facebook, Google, Wikipedia and YouTube. For each module, the toolkit includes training guides for short two- to three-minute sessions when time is limited, and 45- to 60-minute in-depth interactive sessions.

In 2020, the “Accessibility Features” module was added to the toolkit following qualitative research on the mobile disability gap in Kenya and Bangladesh in 2019, which confirmed that digital skills were fundamental to the digital inclusion of persons with disabilities and that information on how to use accessibility features in relation to a user’s impairment was essential. This module gives advice for trainers who want to assist those with visual and hearing impairments, including communicating with customers with disabilities, and how to activate and use features that will improve their user experience. Although designed with mobile operators in mind, the toolkit can be easily used by any organisation seeking to improve their confidence in, and teach the use of, accessibility features for users with visual or hearing impairments. www.gsma.com/mistt



3.3.4 Ensure persons with disabilities are supported in digital skills initiatives

It is important to mainstream digital skills programmes across all levels of education and learning policy to provide lifelong skills support, from primary education to employment skills and adult learning. Persons with disabilities need to be proactively supported in existing digital skills programmes, for example:

- making the right accommodations for accessible physical spaces,
- making training content understandable and accessible in alternative formats,
- training instructors to engage with persons with disabilities and coach their students in mobile skills.

Through its draft National Digital and Future Skills policy, South Africa acknowledges the digital skills divide with respect to disability and identifies the need to expand public access services and provide training for persons with disabilities on the use of accessible ICTs. National stakeholders also recognise there are challenges in including persons with disabilities in mainstream programmes, for example due to the lack of accessible devices and technologies to support training. In Qatar, the National ICT Plan is complemented by the e-accessibility policy, which aims to “develop an ICT skilled population whose members share equal access to technology and services”, including persons with disabilities. The policy sets out clear responsibilities for delivery, tasking MADA with providing professional services to connect persons with disabilities to ICT.

3.4 Relevant content and services

The relevance barrier for persons with disabilities can be especially prevalent as mobile phones are generally not perceived as assistive devices, and locally relevant content, products and services may not meet the needs and preferences of users with disabilities.

3.4.1 Ensure digital services are accessible in local languages

Governments can take the lead in providing relevant services by supporting the localisation of global digital services and platforms into local languages and accelerating the digitalisation of public services, including e-government services, healthcare and education, taking a mobile-first approach. Putting persons with disabilities at the centre of digital government services and across multiple agencies and jurisdictions is also necessary to improve the user experience. Such strategies would improve access, convenience, transparency and quality of life for most underserved people and create significant cost savings to provide public services to everyone.

Digital public services should follow the Web Content Accessibility Guidelines, optimised for mobile devices. Ideally, this could involve the simplification of services for users with low literacy levels or development impairment. Several national disability policies support this by mandating access “via alternative systems or languages most appropriate for inclusion” (Bolivia), or in “preferred languages” or “most appropriate” language (India). Meanwhile, South Africa has implemented the Digital Voices programme, which enabled the creation of digital voice for Android smartphones in four of the country’s 11 national languages.

3.4.2 Promote the production of content and services aimed specifically at persons with disabilities

Disability policies should also promote the production of tailored content and services for persons with disabilities, for example, to improve their social and cultural integration. In addition to promoting access to transport through the availability of accessible trip planning information, South Africa also mandates access to health and safety information for persons with disabilities, and access to emergency and disaster management information. For example, Vodacom offers exclusive channels for deaf and hearing-impaired customers to access emergency services through an emergency service app and a SMS emergency service.⁸⁷ This is in line with the UNCRPD articles, which state that emergency services need to be accessible to persons with disabilities. Globally, several ICT policies promote the delivery of specialist digital services for persons with disabilities, for example, Jordan’s policy that promotes access to information on archaeological sites (of particular importance to its cultural heritage).

3.4.3 Support education and training of digital accessibility professionals

The design of accessible content and services is hampered by a lack of qualified technology development and digital design specialists that are skilled in accessible design. Adopting universal design standards could incentivise early accessible design initiatives, enabling local professionals to develop skills and expertise.

Supporting the education and training of digital accessibility professionals, including women with disabilities, is also needed for the development of digital accessible solutions tailored to the needs of all persons with disabilities.

While India's National Policy on Information Technology does not promote the digital inclusion of persons with disabilities, its National Policy on Universal Electronic Accessibility provides a comprehensive set of policies to promote holistic digital inclusion of persons with disabilities, including campaigns to promote awareness of the benefits of ICT and AT and the teaching of accessibility standards and universal design practices at universities.

3.4.4 Support businesses and start-ups to develop inclusive solutions with and for persons with disabilities

Another way to make relevant local content and services more available is creating an enabling environment for digital businesses that target persons with disabilities to thrive. While entrepreneurs in LMICs face many challenges, including a lack of funding, access to business networks or poor infrastructure, these barriers may be even higher for innovators in the AT space. Recent GSMA research⁸⁸ found that digital AT innovations were still nascent, with only 92 digital AT solutions identified in 67 countries in Sub-Saharan Africa, South and Southeast Asia and the Middle East and North Africa. This is just a fraction of the global digital start-up ecosystem, reflecting a perception that digital AT innovations are only relevant for a small group of users. The AT2030 programme has also developed an open-source map of AT innovators, including software, to improve the visibility of this emerging technology scene.⁸⁹

It is vital that governments support access to funding by creating incentives for local and international investment in local start-ups.

For example, through grants or loans, or by prioritising research and development funds for digital services that target persons with disabilities. Governments can also improve access to networks of investors, incentivise local businesses to partner with or invest in local start-ups or provide business skills training. As in the wider digital start-up ecosystem, mobile operators could also be growth partners, either investing in start-ups or providing incubation space for these businesses to grow. Innovators operating in the AT space can also face complex regulations, processes and bureaucracy. Further research would be required⁹⁰ to understand these complexities and how local governments could make adherence to local regulation and processes less constraining.

In Kenya, the National ICT Policy includes a plan designed to jump-start a self-supporting ecosystem to produce world-class research, technology products and industries. In Qatar, through their innovation programme, MADA encourages innovators to create Arabic solutions for persons with disabilities and the elderly, aiming to increase their availability in the Middle East region through a combination of grant programmes and an accessibility ecosystem.

There is also an increasing opportunity for governments to tap into the emerging ecosystem of digital AT start-ups providing solutions to digital inclusion challenges for persons with disabilities. For example, in South Africa, the leading mobile operators are working with the regulatory authority ICASA on the deployment of a new National Relay Service (NRS helps those with hearing and speech impairment to communicate) that will be supported by all operators in the country. As innovative, mobile-enabled, on-demand sign language interpretation services become more available, mobile operators could partner with these innovative providers to support the implementation of these services (see Box 9).

Box 9:

The GSMA Innovation Fund for Assistive Tech (2021): Supporting innovators to develop inclusive solutions for persons with disabilities⁹¹

With support from the UK Foreign, Commonwealth and Development Office (FCDO), the GSMA and its members, the GSMA Innovation Fund for Assistive Tech was launched in September 2020 to help address the lack of seed funding for innovative ideas to tackle digital inclusion for persons with disabilities. After receiving 350 applications from start-ups and SMEs in 31 countries, four final grantees were selected by an independent panel of experts:

- **DeafTawk**, co-founded by three persons with disabilities, provides an online marketplace for digital sign language interpretation services in Pakistan. DeafTawk is using the grant funds to expand their user base in Pakistan while also enabling new functionality, such as AI bot-enabled sign language interpretation.
- **I-STEM**, co-founded by four men in India with visual impairment, has developed a digital platform to provide document accessibility conversion services and accessible digital learning resources. I-STEM is using the funds to expand and scale MobiAccess, converting their current web portal into a mobile app, leveraging AI to provide accessible conversion services for documents and visual and audio media files, and to build an app accessibility function.
- **Signs Media** launched the Signs TV station in Kenya in 2011, providing programming in English, Swahili and sign language. Signs Media is using the grant funds to develop their assistALL Android app for affordable, on-demand sign language interpretation services and expand their B2B and B2C customer base and network of sign language interpreters.
- **SignAble Communications** has developed an app providing users with on-demand access to Indian Sign Language interpretation services in India. With the GSMA funding, SignAble Communications is expanding their current customer base, trialing new pricing and business models and expanding the functionality of their app.



3.5 Safety and security

Real or perceived risks of mobile device theft, fraud or harm in relation to data security, privacy and internet use, can have a significant impact on the adoption and use of mobile products and services. Such challenges are heightened for persons with disabilities who might face increased risks when using their phone in public places, trying to safeguard information visible on their screen or misidentifying signs of fraudulent digital content when accessibility of a document or service is poor.

3.5.1 Raise awareness of mobile-related safety and security for persons with disabilities to encourage the development of solutions that mitigate these risks

Awareness campaigns should address the lack of awareness about the safety and security risks that persons with disabilities face online, especially fraud. Other potential negative aspects and risks include, online harassment, exposure to explicit content or damage to family reputations. Although international stakeholders, OPDs and mobile operators are aware that persons with disabilities may experience increased risk of fraud, this awareness remains low among persons with disabilities. To help tackle online harassment, policymakers should strengthen measures to protect persons with disabilities, including through legal and policy frameworks that recognise digital forms of harassment, and promote access to mechanisms to achieve justice. Accessible processes should also be put in place to make it easy and safe for persons with disabilities to report online abuse, and to enable quick and effective response to such reports.

Critically, policymakers need to guarantee that all children can develop and be educated in a safe digital environment. This is especially relevant for children with disabilities⁹² who are at higher risk of experiencing abuse of any kind when online, including sexual victimisation, bullying, harassment, exclusion and discrimination based on a child's actual or perceived disability or aspects related to their disability, such as the way they behave or speak. A comprehensive framework should include the development of accessible child helplines for counselling, reporting and support complaint mechanisms, as well as educating children on digital literacy as part of a strategy to ensure they can benefit from technology free from harm. The ITU Guidelines on Child Online Protection⁹³ outlines additional steps that can be taken to protect children with disabilities in a digital world.

3.5.2 Support persons with disabilities to protect personal information, recognise fraud and improve data management

One way to reduce some of the risks of fraud and mismanagement of personal information is for mobile users to nominate someone to help them manage their mobile phone account on their behalf. This is the case in Qatar where the Consumer Protection Policy and e-Government Policy enable mobile customers to be safeguarded from fraud relating to misuse of their accounts by allowing users to delegate authority to trusted parties, for example, when a user's impairment makes it challenging to use e-government services.

When websites and interfaces for reviewing and managing personal data are not easy to locate and accessible, it limits choice and rights to control personal data and privacy. In the policies reviewed for this study, only one instance of disability-inclusive data protection policy was found, although the provisions it offers are critical to the safety and security of persons with disabilities. Kenya's Data Protection Act gives every data subject the right not to be subject to a decision based solely on automated processing, including profiling on the basis of their disability. The Act also allows for a nominated guardian or administrator of a person with a disability to help manage the rights surrounding their personal data. This may be particularly important where data is held or managed through platforms that are not yet fully accessible to persons with disabilities or that use mechanisms that prevent effective communication with persons with disabilities.

3.5.3 Support the design and use of device safety features for persons with disabilities

While many mobile device users may not adequately use the built-in safety features in their device, such as screen locks, passcodes, Wi-Fi security features and data-sharing option menus, the use of these features is even more challenging for persons with disabilities. In some environments where one might buy a phone, many devices come without instructions or have a format that is often inaccessible, either in small print or not in a local language. Phone menus and safety features may not then be fully accessible, and many security features, such as thumbprints or facial recognition, pose significant challenges for persons with mobility or visual impairment. Policies that support access to digital skills training sessions should include clarifying how to use security features to make the use of mobile devices more secure.





4. Working together and sharing good practices and lessons

Addressing the mobile disability gap requires targeted action by many different stakeholders, and cooperation will be crucial in enabling the development and implementation of policies that address the barriers and requirements of persons with disabilities effectively. Amplifying messages about the benefits of digital inclusion, and documenting and sharing lessons and what works, are critical for persons with disabilities to be digitally included. The importance of collaboration extends beyond the digital ecosystem, however, as everyone in society needs to be in a position to support the digital inclusion of persons with disabilities, including leaders who set the tone for inclusion.

4.1 Amplify the positive impact of digital inclusion for persons with disabilities

Although there is a nascent understanding of the benefits of digital inclusion for persons with disabilities, awareness remains low, particularly in LMIC contexts. There is, therefore, a need to amplify the range of social and economic benefits of disability-responsive digital inclusion policies and their impact on persons with

disabilities, including from a gender perspective. OPDs that currently focus on barriers and general exclusion may also have less awareness of the positive messaging around the benefits of digital inclusion and the possibilities of mobile as an enabler of AT. The recognition and promotion of digital inclusion best practices, through innovation workshops and awards schemes, would support mutual learning and leadership to address the digital inclusion gap and highlight its socio-economic and commercial benefits.

4.2 Increase awareness within government and the broader stakeholder ecosystem of the importance of addressing the mobile disability gap

Policymakers need to understand the mobile disability gap, why it is important to support greater digital inclusion for persons with disabilities and the best approaches to develop the right policies. It is important to raise awareness, both within government and the wider stakeholder ecosystem, while recognising that it will take time and effort. In India, sensitisation was noted as key to digital

inclusion, and most of the first two years of the government website accessibility programme were spent sensitising government officials on the rationale for the programme and digital inclusion more broadly. Qatar's MADA agency, meanwhile, has sensitisation as one of its core remits, while South Africa has a long history of engagement and leadership, which accounts for their success in building a culture and awareness of digital inclusion.

For countries early in the digital inclusion policy journey, the more broad-based awareness-raising activities there are, reaching the full range of stakeholders involved in policy design and implementation, the better the outcomes will be. This awareness raising should, ideally, be supported by a range of national and international stakeholders, including international organisations and donors. However, even though disability has increasingly become a priority focus area for many multilateral and bilateral donors, there is still a need to work with international development organisations to improve awareness and capacity.

4.3 Take a whole ecosystem approach

Taking a “whole ecosystem” approach is vital to supporting the digital inclusion of persons with disabilities and reducing fragmentation in existing activities. This includes supporting and encouraging multistakeholder cooperation by:

- **Drawing on the diverse capabilities within the ecosystem to build broad capacity:** This includes civil society organisations, OPDs and innovative companies, which may be able to support traditional actors struggling with the challenge of digital inclusion for persons with disabilities. Closing these capacity gaps and building leadership capacity are vital to building a stronger ecosystem for accessible mobile internet.

- **Coordinating stakeholder engagement effectively:** Stakeholder engagement and coordination mechanisms are needed to reduce fragmented policies and implementation and improve coordination between sectors, agencies and national and sub-national governments.

In Kenya, the national procedures for inclusive policymaking were considered a strong and effective mechanism to drive action; however, the lack of mechanisms for coherent ecosystem engagement resulted in fragmented implementation.

South Africa has a range of ecosystem engagement and review mechanisms that enable effective feedback on policy and implementation. The President's Working Group on Communications Technologies for Persons with Disabilities provides leadership direction; the Chamber for Disability within the National ICT Forum supports engagement and facilitates mainstreaming of disability within the three other chambers of the ICT Forum (social, economic and security); and the Ministry of Women, Youth and Disability manages a range of annual national engagement and thematic engagement mechanisms.

4.4 Document the experience and share lessons learned

The lack of documentary evidence, case studies, evaluations and benchmarking studies of digital inclusion of persons with disabilities in LMICs is an important missing link in the promotion of better policy design and implementation. They are extremely valuable in countries beginning their digital inclusion journey for persons with disabilities, as well as for stakeholders either new to, or leading innovative new approaches to, digitally inclusive policy design for persons with disabilities. In addition to strong monitoring and evaluation feedback loops, there is a need to:

- **Document good practices and lessons learned in policy design and implementation:** There is a deficit of literature on what works and the lessons that have been learned. By analysing the disability digital inclusion policies in place in 28 LMICs, this landscaping study is an attempt to build that knowledge base and

document good practices in the policy design and implementation process. There are opportunities to engage with local and regional experts and OPDs to document local good practices, including in programme design and implementation and monitoring and evaluation.

- **Benchmark alignment with global standards and support awareness of maturity models:** To promote effective uptake of standards and adoption of inclusive policies, it would be beneficial to benchmark policies against global accessibility standards as defined by W3C⁹⁴ for accessibility of web content, digital services, mobile applications, as well as standards for the procurement of accessible digital services.⁹⁵ Maturity models, such as the W3C Accessibility Maturity Model, also provide a framework to establish a robust ICT accessibility programme, and implement and evaluate processes to produce accessible digital products and services for persons with disabilities.



Conclusion






There is a pressing need for all stakeholders in the digital ecosystem, from the public to the private sector, to address the barriers persons with disabilities face in participating in an increasingly connected world. The pace of the digitisation of services and interactions is fast. Without a comprehensive and proactive inclusive approach, that starts with understanding the lived experiences of persons with disabilities, there is a risk of widening the gap in mobile adoption and internet use, leading to further exclusion and disenfranchisement.

Policymakers have a strong role to play in building more inclusive and accessible

digital environments and addressing the barriers to mobile digital inclusion. This review of the policy environment in 28 countries shows that much work remains to ensure the digital inclusion of persons with disabilities. Proposing four areas of action, this report stresses the need for a targeted policy approach driven by evidence and which places persons with disabilities at the centre of digital inclusion interventions. This also means implementing a participatory process involving persons with disabilities and OPDs in the development of policy and regulations, informed by the principle of “Nothing about us, without us”.

By shining a light on the current mobile disability gap and emerging good practices in the digital inclusion of persons with disabilities, this report proposes several recommendations to address current barriers to digital inclusion and support effective policy implementation. Some of the key recommendations include:

KEY RECOMMENDATIONS

				
Raising awareness of the accessibility and usability needs of persons with disabilities across a range of stakeholders	Improving the affordability of smartphones and mobile data services	Raising awareness of the range of skills needed to inform targeted training interventions	Supporting the development of relevant content, as well as the growth of innovative, local, digital AT ecosystems	Providing persons with disabilities with sufficient safeguards and mechanisms to enable a safe and secure online experience.

On this digitally inclusive policy journey, a collaborative approach is critical to achieving equality and equity for persons with disabilities with inclusive and accessible digital products and services that are co-designed with and for all.

Disability allies and leaders are needed to realise these goals, and stakeholders, from the digital ecosystem and beyond, should support and spearhead digitally inclusive interventions to reduce the inequalities faced by persons with disabilities.

Appendix

Methodology

This study was originally conducted by Urban Emerge between December 2020 and February 2021, and used mixed methods of desk research and key stakeholder interviews to validate lessons about the current policy landscape and entry points to improve policymaking and more effective implementation of inclusive policies for the digital inclusion of persons with disabilities.

An initial global scan was undertaken in 28 LMICs in Africa and Asia to identify relevant policies and stakeholders. Countries were selected based on their ranking in the Disability Accessibility Rights Evaluation (DARE) Index, as well as countries with ICT/digital transformation strategies and countries identified by the GSMA based on current engagement with mobile operators. Keyword⁹⁶ and database searches⁹⁷ were used to identify national disability policy documents in each country, as well as policy that addressed mobile digital inclusion. Where national disability policies were found to demonstrate support for UNCRPD digital inclusion rights, additional research was undertaken for the country to locate related policies. For high-performing countries (as identified by the DARE Index) efforts were made to locate ICT policies, digital skills policies, accessibility standards and telecoms regulation, where possible.

This step was followed by deep-dive desk research into four of those countries to further explore the policy landscape.

The selected countries were India, Kenya, Qatar and South Africa. These countries were selected because they demonstrated more advanced policy environments for the digital inclusion of persons with disabilities, including high performance in the DARE Index 2020.⁹⁸

Following a modified version of the Broadband Commission's framework on digital inclusion for gender, an analysis of the results of the global scan of relevant policies provided a more detailed understanding of the current landscape, strengths and weaknesses of digital inclusion-related policy in the target geographies. This was followed by a stronger focus on the analysis of findings from desk research and interviews relating to the four selected countries.

Validation of the research and analysis was carried out via 13 semi-structured interviews with key informants from relevant stakeholders, including two or three in each of the selected countries and five at the global level. These stakeholders were international organisations with a key interest in the digital inclusion of persons with disabilities, MNOs/private sector, national government/ministries/representatives and national OPDs. Experts at the international level, including the ITU, G3ict and The World Bank, were selected to provide insights and lessons learned on the typical barriers to, and opportunities for, the development of policy and practice across a range of LMICs.



Endnotes

1. Social model of disability definition: <https://www.scope.org.uk/about-us/social-model-of-disability/>
2. WHO. (2016). *Improving access to assistive technology*.
3. Washington Group on Disability Statistics: <https://www.washingtongroup-disability.com/question-sets/>
4. GSMA. (2021). *The Mobile Economy 2021*.
5. GSMA. (2021). *The State of Mobile Internet Connectivity 2021*.
6. Ibid.
7. WHO. (n.d.). “Disability”.
8. World Bank. (n.d.). “Disability Inclusion”.
9. UNDESA. (2021). “COVID-19 Outbreak and Persons with Disabilities”.
10. Gender and Disability Working Group. (2017). *The Intersection of Gender and Disability: A Resource for International Development Practitioners*. Gender and Development Network.
11. WHO. (n.d.). “International Classification of Functioning, Disability and Health (ICF)”.
12. WHO. (2002). *Towards a Common Language for Functioning, Disability and Health – ICF*.
13. CDC. (2020). “Disability and Health Overview”.
14. GSMA. (2021). *The Mobile Disability Gap Report 2021*.
15. Mobile ownership is defined as having sole or main use of a SIM card (or a mobile phone that does not require a SIM) and using it at least once a month.
16. Based on the results of the GSMA Consumer Survey conducted in seven LMICs in 2020, among a nationally representative sample of the adult population aged 18 and over. For more information, see: [GSMA. \(2021\). The Mobile Disability Gap Report 2021](#).
17. Ibid.
18. Satari, A. (16 November 2021). “Mobile money can drive the financial inclusion of persons with disabilities in Ghana”. *GSMA Mobile for Development Blog*.
19. Based on the GSMA Consumer Survey conducted in seven LMICs in 2020.
20. Ibid.
21. GSMA. (2022). *Closing the Mobile Disability Gap in Sri Lanka: Insights and Recommendations*.
22. GSMA. (2020). *The Digital Exclusion of Women with Disabilities*.
23. Bangladesh, Brazil, India, Kenya, Mexico, Nigeria, Pakistan and Uganda.
24. GSMA. (2021). *The Mobile Disability Gap Report 2021*.
25. Bond. (2016). *Leaving no one behind: the value for money of disability-inclusive development*.
26. [United Nations Convention on the Rights of Persons with Disabilities \(UNCRPD\)](#).
27. As of January 2022, it has 164 signatories (signatories include countries or regional integration organisations that have signed the Convention).
28. See: <https://sdgs.un.org/2030agenda>
29. [United Nations Disability Inclusion Strategy](#).
30. See the Appendix for more information on methodology.
31. United Nations website on Disability: <https://www.un.org/development/desa/disabilities/>
32. ITU. (6 October 2021). Video: “ICT/digital accessibility: The key to achieving a digitally inclusive world”.
33. ITU. (2014). *Model ICT Accessibility Policy Report*.
34. <https://globalsmartcitiesalliance.org/?p=244>
35. <https://g3ict.org/>
36. <https://www.internationaldisabilityalliance.org/>

37. <http://gaates.org/>
38. <https://www.gari.info/>
39. <https://www.disabilityinnovation.com/>
40. <https://at2030.org/>
41. Working Group on the Digital Gender Divide. (2017). *Recommendations for action: bridging the gender gap in Internet and broadband access and use*. Broadband Commission for Sustainable Development.
42. Leonard Cheshire. (2018). *Disability Data Review: A collation and analysis of disability data from 40 countries*.
43. *Ibid.*
44. <https://www.washingtongroup-disability.com/>
45. CBM. (2020). *Disability Data Advocacy Toolkit*.
46. See: <https://www.internationaldisabilityalliance.org/content/disability-data-advocacy-working-group>
47. CBM. (2020). *Disability Data Advocacy Toolkit*.
48. UNCTAD. (2016). “Target 9.c: Access to ICT”.
49. ITU. (6 October 2021). Video: “ICT/digital accessibility: The key to achieving a digitally inclusive world”.
50. <http://www.swavlambancard.gov.in>
51. UNDESA. (2019). *Guidelines on the use of electronic data collection technologies in population and housing censuses*.
52. W3C [Web Content Accessibility Guidelines \(WCAG\)](#).
53. <https://www.disabilitydataportal.com/>
54. Leonard Cheshire. (2018). *Disability Data Review: A collation and analysis of disability data from 40 countries*.
55. G3ict [Digital Accessibility Rights Evaluation \(DARE\) Index](#).
56. ITU. (2014). *Model ICT Accessibility Policy Report*.
57. For more information on the access barriers, see: *GSMA. (2021). Accelerating Mobile Internet Adoption*.
58. South Africa [White Paper on the Rights of Persons with Disabilities](#).
59. <https://madaportal.org/>
60. GSMA. (2020). *The State of Mobile Internet Connectivity 2020*.
61. See: [The Kenya Gazette](#), 7 August 2020.
62. Ministry of Information, Communications and Technology, Kenya. (November 2019). “National Information, Communications and Technology (ICT) Policy”.
63. G3ICT. (2015). *CRPD Implementation: Promoting Global Digital Inclusion through ICT Procurement Policies & Accessibility Standards*.
64. GSMA. (2014). *Sub-Saharan Africa: Universal Service Fund Study*.
65. ITU. (2021). *Study Group 1 Question 5: Telecommunications/ICTs for rural and remote areas*.
66. UNESCAP. (2017). *The impact of universal service funds on fixed-broadband deployment and internet adoption in Asia Pacific*.
67. GSMA. (2021). [Access to Mobile Services and Proof of Identity 2021](#).
68. *Ibid.*
69. *Ibid.*
70. GSMA. (2021). *Accelerating mobile internet adoption: Policy considerations to bridge the digital divide in low- and middle-income countries*.
71. GSMA. (2021). *The Mobile Disability Gap Report 2021*.
72. GSMA. (2021). *Accelerating mobile internet adoption: Policy considerations to bridge the digital divide in low- and middle-income countries*.
73. CIPESA. (2020). *Access Denied: How Telecom Operators in Africa are Failing Persons with Disabilities*.
74. GSMA. (2021). *Accelerating mobile internet adoption: Policy considerations to bridge the digital divide in low- and middle-income countries*.
75. See: Jitambulische.
76. Vodacom. (n.d.). “[ICT Accessibility / Specific Needs](#)”.



77. ILO and Fundacion ONCE. (2020). *An inclusive digital economy for people with disabilities*.
78. GSMA. (2021). *The Mobile Disability Gap Report 2021*.
79. GSMA. (2021). *Developing mobile digital skills in low- and middle-income countries*.
80. Ibid.
81. ILO & Fundacion ONCE 2020 – An inclusive digital economy for people with disabilities <http://www.businessanddisability.org/wp-content/uploads/2021/02/inclusiveDigitalEconomy.pdf>
82. Kuper, H. et al. (2014). *The impact of disability on the lives of children*.
83. UNDESA. (n.d.). “[Factsheet on Persons with Disabilities](#)”.
84. ITU. (2021). *Digital Skills Toolkit*.
85. UNDP Mongolia Accelerator Lab. (23 April 2021). “[Bridging the Digital Divide in Mongolia](#)”. *UNDP Mongolia Blog*.
86. GSMA Mobile Internet Skills Training Toolkit (MISTT).
87. <https://now.vodacom.co.za/article/vodacom-launches-emergency-sms-for-deaf-customers>
88. GSMA. (2020). *Opportunities for digital assistive technology innovations in Africa and Asia*.
89. See: <https://at2030.org/at-innovators/map>
90. AT2030 Innovation Insights. (n.d.). *Assistive Tech Impact Fund, the story so far: Insights from the first cohort of AT ventures*.
91. Viljoen, K. (16 August 2021). “[Announcing the GSMA Innovation Fund for Assistive Tech Grantees](#)”. GSMA Mobile for Development Blog.
92. ITU Guidelines for Child Online Protection: <https://www.itu-cop-guidelines.com/>
93. Ibid.
94. W3C Accessibility Standards Overview: <https://www.w3.org/WAI/standards-guidelines/>
95. ITU. (2019). *Draft Standards in the Procurement of Accessible ICT Products and Services*.
96. The keyword search included: national, disability, policy, persons, strategy, inclusion, ICTs, digital, assistive technology, mobile, internet and accessibility
97. UNDESA. (n.d.). “[Disability Strategies and Action Plans by Country/Area](#)”.
98. G3ict [Digital Accessibility Rights Evaluation \(DARE\) Index](#).

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