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Access to Information and Communication Technologies for Persons with Disabilities

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I. Introduction

Information and Communication Technologies (ICTs) are considered to include products that store, retrieve, send, and receive information electronically in digital form. ICTs “include any communication device or application such as radio, television, cellular phones, computers, satellite systems as well as network hardware and software and associated services.”¹ The usage of ICTs has become prevalent within society in modern times as technological advancements have become integrated with a variety of aspects of everyday life. However, while there has been a surge in usage of ICTs, it has occurred without a similar upkeep in accessible products that provide equal enjoyment and usage to persons with disabilities. Accessibility to ICTs for persons with disabilities is critical as ICTs “can serve as critical enablers that allow persons with disabilities to realize full and effective opportunities to participate, on the basis of equality, in all aspects of society and development.”²

Efforts to increase access of ICTs for persons with disabilities has generally been excused as absent due to the high cost of assistive technology and a lack of policies implemented to address issues with ICT access. According to an article by the International Telecommunication Union, “[o]nly 36 percent of countries have a definition of accessibility which includes ICT or electronic media in their laws of regulations compliant with the definition of accessibility in the Convention on the Rights of Persons with Disabilities (“CRPD”) Article 9.”³ The Convention on

¹ Division for Social Policy Development (DSPD) & Department of Economic and Social Affairs (DESA), *Toolkit on Disability for Africa, Information and Communication Technology (ICT) and Disability*, United Nations (2016),

<https://www.un.org/esa/socdev/documents/disability/Toolkit/ICTandDisability.pdf>

² *Id.* at 3.

³ International Telecommunication Union, *The ICT Opportunity for a Disability-Inclusive Development Framework*, International Telecommunication Union (September 2013), https://www.itu.int/en/action/accessibility/Documents/The%20ICT%20Opportunity%20for%20a%20Disability_Inclusive%20Development%20Framework.pd

the Rights of Persons with Disabilities Article 9, Section 1 provides that “[t]o enable persons with disabilities to live independently and participate fully in all aspects of life, States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others...to information and communications, including information and communications technologies and systems.”⁴ Furthermore, Section 2(g) of the Article states that “State Parties shall also take appropriate measures: To promote access for persons with disabilities to new information and communications technologies and systems, including the internet.”⁵

Additionally, Article 21 of the Convention states that “State Parties shall...provid[e] information intended for the general public to persons with disabilities in accessible formats and technologies appropriate to different kinds of disabilities in a timely manner and without additional cost.”⁶

This report will discuss violations of the rights of persons with disabilities as well as the violation of other human rights that come as a result of insufficient access to ICTs and conclude with recommendations for the Human Rights Council.

II. Effects on the Rights of Persons with Disabilities of Access to ICTs

According to the World Health Organization (“WHO”), around 15% of the world’s population live with disabilities, that is approximately 1 billion people.⁷ In a society where ICTs are becoming a more prevalent requirement for people to participate, a lack of sufficient access for persons with disabilities continues to leave them behind as their needs to participate are not accounted for. “Persons with disabilities are more likely to experience adverse socio-economic

⁴ UN General Assembly, Convention on the Rights of Persons with Disabilities: resolution / adopted by the General Assembly, 24 January 2007, A/RES/61/106, available at: <https://www.refworld.org/docid/45f973632.html> [accessed 11 February 2020].

⁵ *Id.*

⁶ *Id.*

⁷ World Health Organization, *World Report on Disability*, World Health Organization (2011), https://www.who.int/disabilities/world_report/2011/report.pdf

outcomes than persons without disabilities, such as lack of access to information, less education, poorer health outcomes, lower levels of employment, and higher poverty rates.”⁸ Many individuals with disabilities face hardships in terms of employment, education, health, and violence. With a continually emerging use of ICTs comes an increase in these hardships for persons with disabilities, the likelihood of a person with a disability to face such socioeconomic disadvantages is increased when they are unable to access ICTs as it widens “the extent to which they are excluded from the social and political potential of the digital society.”⁹

The 2018 Disability and Development Report by the United Nations’ Department of Economic and Social Affairs included information that indicated that the percentage of persons with disabilities using the internet is typically lower than that of persons without disabilities.¹⁰ An example of this is Guyana, where approximately 50% of persons without disabilities use the internet as compared to approximately 15% of persons with disabilities.¹¹ Further examples include Belize where approximately 30% of persons without disabilities use the internet as compared to approximately 15% of persons with disabilities and Barbados where approximately 40% of persons without disabilities use the internet, compared to approximately 20% of people with disabilities.¹² The study, which collected evidence from 13 developing countries, also

⁸ CIPESA Writer, *Governments and Donors Urged to Advance ICT Access for Persons with Disabilities*, Collaboration on ICT Policy for East and Southern Africa (CIPESA) (October 28, 2019), <https://cipesa.org/2019/10/governments-and-donors-urged-to-advance-ict-access-for-persons-with-disabilities/>

⁹ *Id.*

¹⁰ Department of Economic and Social Affairs, *Disability and Development Report*, United Nations (2019), <https://social.un.org/publications/UN-Flagship-Report-Disability-Final.pdf>

¹¹ *Id.* at 113.

¹² *Id.*

shows an average use of approximately 21% versus approximately 34% for persons with disabilities and persons without disabilities, respectively.¹³

Additional data provided in the same report shows that in countries such as Nepal, the gap between the percentage of households that have Internet access with or without persons with disabilities is quite large. In Nepal, approximately 2% of households with persons with disabilities have internet access, an astonishingly low percent especially when compared to the approximate 10% for households without persons with disabilities.¹⁴ The study of 26 countries shows a significant gap between internet access available to households with persons with disabilities and with persons without disabilities in various other countries.¹⁵ This gap is above five percentage points in nine of the 26 countries.¹⁶ The significant difference between both groups in access to the internet is a result of “unaffordability of the Internet, unaffordability and inaccessibility of the devices on which to access the internet (e.g. computers or smartphones) and lower ICT skills among persons with disabilities.”¹⁷

Considering the increased influence and prevalence that ICTs have on persons with disabilities and their success in achieving “disability equality,” it is important that relevant studies “explore how digital inclusion of disability may help PWDs to better integrate into society.”¹⁸ ICTs may help persons with disabilities fully integrate into society through various ways such as economics, culture, and politics. ICTs “increase the information access of PWDs,”

¹³ *Id.*

¹⁴ *Id.* at 175.

¹⁵ *Id.* at 173-4.

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ Zhongxuan Lin, Liu Yang, & Zhi’an Zhang, *To include, or not to include, that is the question: Disability digital inclusion and exclusion in China*, Sage Journals (May 18, 2018), <https://journals.sagepub.com/doi/10.1177/1461444818774866>.

“permit PWDs to hide or remove disabling aspects of themselves through use of online pseudonyms...which may help them to overcome barriers of stereotype and prejudice,” and “enable PWDs to increase social interaction, establish interpersonal relationship, and develop online communities and identities.”¹⁹ A study focused on ICT access to persons with disabilities in China highlights how “traditional studies on ICTs have overlooked, or at least marginalized, the experiences of people with disabilities.”²⁰

China is a country with an estimated population of 85 million persons with disabilities.²¹ In 2015, Chinese Premier Li Keqiang initiated the “Internet Plus” action plan that focused on access to ICTs by persons with disabilities.²² It proposed an “Information Construction Scheme” in the “Thirteenth Five-year Plan (2016–2020)” for ICTs to be utilized in the areas of rehabilitation, education, employment, poverty alleviation, social support, and social security.²³ Various big ICT companies have implemented plans for expanding the accessibility to ICTs for persons with disabilities. For example, Alibaba issued their plan and initiative for persons with disabilities having access to ICTs, which resulted in more than 2.3 million persons with disabilities shopping on Alibaba’s Taobao in 2016.²⁴

One issue in particular that has constantly come up in the discussion of ICT access for persons with disabilities is their high cost due to specialized designs. Various scholars and non-governmental organizations (“NGO”) have advocated for the development and implementation of universal designs for all ICTs that can account for all types of people. Universal designs

¹⁹ *Id.* at 4439.

²⁰ *Id.* at 4437.

²¹ *Id.* at 4440.

²² *Supra* note 19 at 4440.

²³ *Id.* at 4441.

²⁴ *Id.*

would lead to lower costs for ICTs for persons with disabilities because it would eliminate the specialized features that typically raise the price of ICTs, especially when they target a narrower group of consumers. Another example of developments in China is the General Eye and Low Vision Centre which has a centralized system that purchases bulk supplies of high-quality low-vision devices at an affordable price.²⁵ This is a prime example of mass production helping to lower costs of ICTs as it is less costly to produce products that use universal design principles.²⁶

Additional examples of ICT access developments in other countries include a project focused on improving payphone access for person with disabilities in Sri Lanka as well as the creation of a system to evaluate and correct access problems on web sites in Japan, set up by the Ministry of Internal Affairs and Communications.²⁷ Also in Japan, “a civil service magazine runs an ‘e-city competition, and different municipalities strive to excel in information and communication categories that include criteria for accessibility.’”²⁸ In the United Kingdom, a grocery supplier has incorporated an accessible website as a part of its online service that it developed with the help of the Royal Institute of Blind People and a panel of visually impaired shoppers.²⁹

In addition to the internet, another ICT that has grown in its use and dependency within society is the mobile phone. Considering modern advances in technology that allow for applications to be accessible within seconds within a person’s hand almost anywhere at any time, it is fairly easy to see the vital role the mobile phone plays in social inclusion as an ICT. While access to mobile phones can help improve participation by persons with disabilities in all aspects

²⁵ *Supra* note 7, at 192.

²⁶ *Id.* at 118.

²⁷ *Id.* at 190.

²⁸ *Id.* at 187.

²⁹ *Id.* at 192.

of society, “similar to Internet ownership, households with persons with disabilities are less likely to own a mobile phone.”³⁰ A study of 36 countries showed that 53% of households with persons with disabilities own a mobile phone compared to 60% of households without persons with disabilities, and 11 of those countries had a gap of over 10 percentage points.³¹ For example, in Uruguay, the percentages between households with persons with disabilities and households without persons with disabilities that own a mobile phone are approximately 75% and 85%, respectively.³² Additional countries with a similar gap between these groups include Indonesia, Mexico, Kenya, Lesotho, Jordan, and Chile.³³ Furthermore, while such studies show statistics per household, the unfortunate reality is that persons with disabilities are less likely to own a mobile phone (or any ICT) as an individual, and likely unable to use it in said households at least at the same level that persons in the household without a disability are able to.³⁴

Access to ICTs such as mobile devices and desktop computers is essential because they “increasingly offer functionalities that facilitate communication and information access for persons with disabilities.”³⁵ Persons with disabilities can receive information through use of “[f]eatures such as text-to-speech and voice recognition, ability to change contrast and colour schemes, touch and gesture input, and screen magnification, which in the past required specialized standalone software and hardware” but no longer require.³⁶

³⁰ *Supra* note 10, at 177.

³¹ *Id.*

³² *Id.* at 179.

³³ *Id.*

³⁴ *Id.* at 177.

³⁵ *Id.* at 182.

³⁶ *Id.*

In China, one of the largest mobile providers offers a special SIM card to users with disabilities at a discounted price.³⁷ The same company also provides users with a visual impairment access to an audio version to its news service.³⁸ Services provided by private entities such as an audio version to its service are vital as they are features that promote accessibility. Such features play an important role when it comes to web pages, as they allow for accessibility by more individuals, including persons with disabilities, and “reduce the need for costlier specialized assistive technologies.”³⁹ For example, some websites use “bigger fonts or particular color combinations,” “captions in audio or video content,” and features that allow navigation without the need for a pointing device such as a mouse.⁴⁰ Unfortunately, most websites do not provide such accessibility enhancing features, including government webpages.

A study of the government portals of the 193 member states of the United Nations shows that “fonts and colours...can be reconfigured in only 32 percent of countries,” content on the webpage can be read aloud in only 7% of those countries, and only 4% provide videos with sign language of the content.⁴¹ In terms of national portals, 35% of countries had features that require use of a pointer and approximately 63% had graphical elements lacking descriptive text.

A study of four developing countries showed that “use of radio and TV tends to be lower among persons with disabilities, but the gaps...are narrower than those observed for the Internet.”⁴² In the Maldives on the other hand, the gap between both groups is within 1% for both radio and TV.⁴³ Another issue that limits accessibility to specific features and ICTs is language.

³⁷ *Supra* note 7, at 192.

³⁸ *Id.*

³⁹ *Supra* note 10, at 182.

⁴⁰ *Id.* at 183.

⁴¹ *Id.*

⁴² *Id.* at 178.

⁴³ *Id.* at 180.

An example of this is in India where “there are 22 official languages, yet most applications only exist in Hindi.”⁴⁴

The ICT industry is fast-growing and “worth some \$3.5 trillion worldwide.”⁴⁵ As modern society continues to become more integrated with ICT usage for everyday tasks, it is important to recognize the effects on the groups of individuals that are being excluded from participating in society in a manner equal to those who are included. Persons with disabilities throughout the world consistently find themselves unable to participate in society as full citizens because they are regularly not afforded the same opportunities as persons without disabilities when it comes to ICT access. There is a variety of different ICTs ranging from mobile phones to the Internet, however they have all statistically shown that in all cases persons with disabilities are less likely to own and use them in comparison to persons without disabilities due to various factors such as unavailability of ICTs that work with their disability and the high costs usually attached to existing products due to their specialized designs. In addition to inadequate access to ICTs being a violation of the rights of persons with disabilities, there are other human rights that are likely violated in conjunction.

III. Effects on Other Human Rights of Inadequate Access to ICTs for Persons with Disabilities

While inadequate access to ICTs for persons with disabilities is clearly a violation of the CRPD, there are other human rights and treaties that are subject to being violated as well. These rights include: the right to education, the right to work, and cultural rights.

⁴⁴ *Id.* at 184.

⁴⁵ *Supra* note 7, at 183.

Articles 13 and 14 of the International Covenant on Economic, Social, and Cultural Rights (ICESCR) guarantees individuals the right to education and the right to exercise it.⁴⁶ The effect of a lack of access to ICTs is very prevalent in academia. An essential component to inclusive development in society is access and knowledge to ICTs. In some countries, programs targeted at increasing access for people with disabilities covers all individuals, while others focus particularly on children’s access. When students with disabilities are not provided with the appropriate ICTs to be able to effectively engage in class, they face long-term effects that stay with them beyond the classroom. Beyond access, “[w]hen teachers lack the required competencies, it is very difficult to use these technologies for setting inclusive classrooms open to participation of persons with disabilities.”⁴⁷

“Doctors describe children with severe disabilities as genies trapped in a bottle – cognitively they are quite intelligent and able to learn like many other children their age, but their bodies won’t let them communicate.”⁴⁸ Access to the appropriate ICTs for a person with a disability can allow them to participate in a “distance education” where they are able to “continue living at home while they are studying, which is economical and often socially advantageous.”⁴⁹ For deaf and blind individuals, “learning sign language and Braille are fundamental parts of intellectual development as they are integral to acquiring language and

⁴⁶ UN General Assembly, International Covenant on Economic, Social and Cultural Rights, 16 December 1966, United Nations, Treaty Series, vol. 993, p. 3, available at: <https://www.refworld.org/docid/3ae6b36c0.html> [accessed 11 February 2020].

⁴⁷ *Supra* note 1, at 22.

⁴⁸ Ali, Muhammad, *Connecting People with Disabilities: ICT Opportunities for All*, Munich Personal RePEc Archive (May 2008), https://mpra.ub.uni-muenchen.de/17204/1/Connecting_People_With_Disabilities_ICT_Opportunities_for_All-----By_Muhammad_Ali_Shuja.pdf.

⁴⁹ *Id.* at 8.

reading and writing skills.”⁵⁰ “ICTs should not be seen as a substitute for that, but as another layer of communication and inclusion” that can supplement their traditional teachings while ensuring that they are fully engaged in society.⁵¹ Expert assessment regarding the contribution of ICTs to improving person with disabilities’ access to social and economic activities shows that there are various ICTs that positively contribute to a PWD’s primary, secondary, tertiary, professional, and lifelong education.⁵² Without adequate access to ICTs, people with disabilities “are disenfranchised and are denied equal access to education, culture and everyday services” which then limits their ability to participate in the labor market and in turn be independent.⁵³ In Kenya, a nonprofit organization called inABLE “works with children in rural Africa to help provide blind and visually impaired students with tools and training to pursue their capabilities, regardless of disability or circumstances.”⁵⁴

A survey by the United Nations in 2005 of 114 countries revealed that “65% had not started any educational programmes” for disabled persons, revealing a dire need for implementation.⁵⁵ In 1994, China adopted The Regulations on the Education of Persons with Disabilities which worked to “ensure the rights of persons with disabilities to education and aim to develop persons with disabilities-related educational projects.”⁵⁶ While the country has since

⁵⁰ *Supra* note 3, at 35.

⁵¹ *Id.*

⁵² *Id.* at 7.

⁵³ *Id.* at 10.

⁵⁴ The World Bank, *ICT Use to Help Educate the Blind in Africa: Lessons from inABLE*, The World Bank (January 2017), <https://www.worldbank.org/en/topic/edutech/brief/using-ict-to-help-educate-blind-children-in-kenya-lessons-from-inable>.

⁵⁵ *Supra* note 7 at 172.

⁵⁶ Zhou, Haibin, *Decent Work for People with Disabilities: Inclusion of People with Disabilities in China*, International Labour Organization (January 2013), https://www.ilo.org/wcmsp5/groups/public/@ed_emp/@ifp_skills/documents/publication/wcms_112380.pdf.

released revised regulations on education for persons with disabilities, Maya Wang with the NGO Human Rights Watch states that “they still fall short in critical areas.”⁵⁷ Premier Keqiang stated in a State Council meeting regarding the regulations that they “emphasize guaranteeing compulsory education to persons with disabilities, broadening vocational education, and especially preventing all kinds of discrimination during school admissions.”⁵⁸ China has made modest strides in implementing laws regarding education for persons with disabilities as it continues to work towards improving. Educational programmes are vital in ensuring that there is awareness of a need for accessibility especially for persons with disabilities and “should be targeted to all those involved in enforcing accessibility laws and standards – including people with disabilities, design educators and professionals, [etc.]”⁵⁹

The right to work is recognized and protected by the International Covenant on Economic, Social and Cultural Rights as well as the International Covenant on Civil and Political Rights.⁶⁰ Persons with disabilities often face difficulty entering the work force due to a lack of the necessary and proper knowledge typically desired of candidates for positions as a result of inadequate access to ICTs throughout their life. Additionally, for some individuals with disabilities, the effects of a lack of access to appropriate ICTs can inhibit their success directly in a workplace environment. In countries such as Chile and Sri Lanka, 8-18% of adults do not use,

⁵⁷ Lai, Catherine, *China’s New Rules on Education for People with Disabilities Still Fall Short, Says NGO*, Hong Kong Free Press, <https://www.hongkongfp.com/2017/02/25/chinas-new-rules-education-people-disabilities-still-fall-short-says-ngo/>.

⁵⁸ *Id.*

⁵⁹ *Supra* note 7 at 177.

⁶⁰ Moeckli et al. *International Human Rights Law*, New York, Oxford University Press, 2018, 243.

but would need assistive products for work, while 29-54% already use assistive products for work, but would need more.⁶¹

The right to culture is recognized through a variety of international documents including the Universal Declaration of Human Rights (“UDHR”). Article 27 of the UDHR guarantees that “everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.”⁶² Article 15 of the ICESCR similarly recognizes this right as well and emphasizes “the steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for the conservation, the development and the diffusion of science and culture.”⁶³ In a period in society where cultural relativism has taken form through social media, adequate ICTs are necessary for persons with disabilities to fully participate in society. Culture takes shape in various other forms as well including linguistic identity, which would greatly benefit from greater access to ICTs. Additionally, access to ICTs would allow persons with disabilities to contribute more of what it means to identify as a person with a disability, allowing for greater discussion and hopefully encouraging society to recognize PWDs more as equal members of society.

IV. Importance of Policy Work

Various State Parties excuse a lack of access to ICTs for persons with disabilities on nonexistent or ineffective policies within their country. While technical and financial resources to implement inclusionary laws are the primary issue in some countries, other countries simply

⁶¹ *Supra* note 10 at 154.

⁶² UN General Assembly, Universal Declaration of Human Rights: Adopted and proclaimed by General Assembly resolution 217 A (III), 10 December 1948, available at: <https://www.refworld.org/pdfid/3ae6b3712c.pdf> [accessed 21 February 2020].

⁶³ *Supra* note 60 at 281.

do not have the necessary conducive policies to further digital inclusion of persons with disabilities. While many countries, including the United States are continually developing policy work to address accessibility of ICTs to persons with disabilities, a primary issue is a lack of execution.

A primary example of this is Kenya, a country with a constitution that “is strong on disability rights, outlawing discrimination on the grounds of disability...and providing that a person with disability shall be entitled to treatment with respect and dignity...and access material and devices including for communications (article 54).”⁶⁴ Kenya also has a 2016 National ICT Policy that outlines “strategies for ‘an accessible ICT environment in the country in order to enable persons with disabilities to take full advantage of ICTs.”⁶⁵ However, such policies have been criticized on the basis that “[w]hile Kenya, Tanzania, and Uganda have enacted various laws and policies to advance the rights of persons with disabilities, including those [for] access to and use of ICT, these have largely remained on paper with key provisions not being implemented.”⁶⁶ While such policy work is good in terms of adhering to treaties that protect the rights of persons with disabilities, failure to execute such laws fails to move people with disabilities out of the realm of digital exclusion.

V. Conclusion and recommendations

⁶⁴ CIPESA Writer, *Placing ICT Access for Persons with Disabilities at the Centre of Internet Rights Debate in Kenya*, Collaboration on ICT Policy for East and Southern Africa (CIPESA) (September 11, 2019), <https://cipesa.org/2019/09/placing-ict-access-for-persons-with-disabilities-at-the-centre-of-internet-rights-debate-in-kenya/>

⁶⁵ *Id.*

⁶⁶ Kimumwe, Paul, *Kenya, Tanzania and Uganda Must Do More to Improve Access to ICT for PWDs*, Eagle Online (December 4, 2019), <https://eagle.co.ug/2019/12/04/kenya-tanzania-and-uganda-must-do-more-to-improve-access-to-ict-for-pwds.html>.

The preamble of the CRPD recognizes the critical role that information plays in ensuring that persons with disabilities fully enjoy the same fundamental freedoms and to the same extent as others. Without developments in policies and technology that are inclusive of persons with disabilities, there is an inability for such individuals to enjoy fundamental freedoms to the same capacity as others, which therefore constitutes a violation.

Disproportionately low access to ICTs for persons with disabilities violates their economic, social, and cultural rights - including the right to education and the right to work. Therefore, States must work towards minimizing these violations by implementing policies and promoting development of ICTs that are inclusive in their design of persons with disabilities.

Human Rights Advocates urges the HRC to urge State Parties to:

- facilitate private entities and mass media to provide accessible means for persons with disabilities to acquire content and information generally accessible to the rest of the public;
- promote the development of new technologies that are cost-efficient and considerate of ability to be used by persons with disabilities;
- increase government funding for research and implementation of new technology to assist persons with disabilities;
- develop policies that directly address this issue - making sure to include persons with disabilities in the conversation; and
- effectively implement developed policies within reasonable time after being created.