

## Barriers to Access in a Connected World

By Nirmita Narasimhan

Imagine a world in which there are phones but you cannot communicate, there are televisions but you cannot watch or hear any of the programmes, there are millions of books, but you cannot read even one of them. Imagine that you were to go into a supermarket but couldn't buy anything because you couldn't find what you wanted, or find out the price, that you went to an ATM machine, but couldn't withdraw money, that you went to a website of an airline, but couldn't buy your tickets because you couldn't view the options on the menu bar, a world where you alone are denied access to all information and entertainment like watching movies, going to museums and other places of public interest. It shouldn't be very difficult to imagine this, because this is exactly the world we live in today. This is the reality faced by over a million persons living with disabilities around the world.

Today the number of persons with disabilities is increasing, compounded by the decrease in mortality rates and the increase in the number of diseases. Over 90% of persons with disabilities live in developing countries and have little or in many cases, no access to basic human rights of education, food and shelter, employment, independent living and access to information.

It is to address this situation that the United Nations Convention on the Rights of Persons with Disabilities ('Convention') came into force in May 2008, marking a watershed in the disability rights movement. One of the unique features of the Convention is that for the first time equal importance was accorded to the right to access information and Information and Communication Technologies (ICT) bringing it on par with transportation and physical environment. It placed a clear obligation on the states parties to ensure that all websites and ICT services as well as information both in the public domain and with respect to cultural materials such as books, movies etc should be made available to persons with disabilities in accessible formats, at the same time and no extra cost. The convention requires that countries should amend their laws to incorporate flexibilities which will enable persons with disabilities to enjoy their human rights and



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fundamental freedoms.

### Technology a fundamental enabler for Accessibility

The Information Society has opened up several avenues for persons with disabilities to participate and live independently. Through the use of assistive technologies, persons with disabilities can access computers, study, work, book tickets and travel, pay taxes, shop, transact business, use social media and work. For instance, blind persons can access computers using a screen reader<sup>1</sup> on computers or mobile phones, enabling them to send messages, make calls, listen to books, navigate the route and use the internet like other people; deaf persons can carry on a conversation through relay or text messaging and listen to audio using hearing aids; autistic persons can use symbols or pictures on their mobile phones to communicate their needs to persons around them. Hence, the range of platforms and media available today, offer tremendous opportunities for participation and inclusion.

### Challenges to Inclusion

The general lack of awareness amongst policy makers and the public, resulting in widespread social stigma and insensitive attitudinal barriers associated with disability, often negates the



advantages provided by technology. Attitudinal change is fundamental to making the world a more inclusive place.

In addition to social attitudes and awareness, several other challenges which hamper the ability of persons with disabilities to harness the power of assistive technology, are discussed briefly below.

One major challenge is **inaccessible technology**. Technology may be inaccessible due to a multiplicity of reasons, such as the unavailability of suitable software in a given region<sup>2</sup> or prohibitive pricing. In the absence of equally appropriate open source solutions, persons with disabilities cannot afford assistive technology. For instance, a screen reader which costs upwards of \$1000 for a single user license is unaffordable for a person with disability in most countries.

Another barrier is the **inaccessibility of web sites**. The failure to adhere to universally accepted Web Content Access Guidelines (WCAG) formulated by the World Wide Web Consortium (W3C) renders web sites unfit for use by persons using assistive technology. The guidelines lay down very simple instructions such as ensuring that images are accompanied by alternative text attributes which enable screen readers to read out the description of the image to the listener and providing alternate formats where anything on a web site is

inaccessible. Many countries today such as USA, UK and Canada have made it mandatory for all public web sites to conform to these guidelines. However, there are still several countries which do not have any such policies in place.

The **lack of accessible content** also poses a significant challenge. There is a severe shortage of content in formats such as electronic text, Braille, audio etc which can be accessed by assistive technology. This may occur either due to technological (content created in inaccessible format)<sup>3</sup> or legal reasons (copyright laws prevent content from being rendered in accessible formats). The latter issue is the subject matter of treaty deliberations at the World Intellectual Property Organization. Today barely 5% of all published materials in developed countries and 0.5% in developing countries are available to persons with disabilities who are not able to read printed materials in accessible formats such as electronic text, Braille, audio etc. Organizations serving the blind have to constantly obtain permission from copyright holders for each book that they want to convert, which is not always forthcoming. In some countries, this is simplified by the inclusion of a fair use provision (exception) in their copyright laws, which essentially does away with the requirement of having to obtain permission in cases of conversion and distribution for the disabled.

Developing countries are the most severely hit since they neither have the legal provisions permitting conversion in their country nor the resources and funding to undertake conversion, and are unable to borrow books from libraries for the blind in other countries. This has resulted in a huge book famine for persons with blindness and other print disabilities around the world, preventing them from exercising their human rights of education, access to information, social and cultural participation and independent living.

Training is a very crucial aspect of ensuring effective and rapid adoption of technology by persons with disabilities, since they need to orient and familiarize





themselves with the technology in order to be able to use it effectively. It is imperative that adequate resources are channeled towards capacity building and training activities and that governments, DPOs and industry work together to identify appropriate implementation strategies.

### The Road Ahead

To surmount all the challenges to accessibility and achieve universal inclusion, we need to achieve a solution through a mix of policy formulations and practical interventions in which all stakeholders participate i.e. by following both a top down and bottoms up approach. Incorporating accessibility and universal design principles uniformly across all services and products will ensure accessibility not only to the disabled, but also to the other categories of users who are unable to access such as elderly and illiterate persons, linguistic minorities and those with limited bandwidth. It will also reduce the long term cost and effort associated with retrofitting things to make them more accessible at a future date.

DPOs<sup>4</sup> around the world are also trying to work with industry to leverage the businesses in making products, which are universally inclusive and develop solutions that are more widely available in the market, rather than created exclusively for a niche community. Considering that persons requiring accessible products constitute nearly half

of the world's population (including seniors, illiterate persons and other categories), there are clearly huge market opportunities for business houses to follow. A good case in point is that of NTT Docomo in Japan which increased its market to over 70% after it surveyed the demographics of elderly and disabled persons and brought out a new line called Raku Raku phones. Within three years, this line sold over 15 million handsets since even persons without disabilities found accessibility features like high colour contrast, large icons and digits etc more comfortable to use.

Accessibility is an imperative to achieve a truly inclusive and participatory society and every individual, corporation, organization and government has a crucial role to play in nurturing it. Any effort, whether it is making one's website accessible and ensuring that all information published is accessible to persons using assistive technologies or participating in awareness raising, capacity building, creating employment opportunities for the disabled, supporting advocacy activities or on ground projects of DPOs such as conversion of books, is significant and brings us nearer to achieving our vision - an inclusive world.

- 1 A software which will read out what appears on the screen.
- 2 For example, in India text to speech software is not available for all the 25 official Indian languages but is only available for English and a few other languages, which results in the exclusion of a large proportion of the population.
- 3 For instance, instead of creating a proper PDF document, if one converts a scanned image of a document (instead of text) to PDF, it will not be readable by a screen reader.
- 4 Disabled Persons Organizations



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