Towards an Inclusive India with eAccessibility

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Abstract: "Accessibility is a measure of the extent to which a product or service can be used by a person with a disability as effectively as it can be used by a person without that disability." If a blind person can use all the functions of an ATM machine just as easily as a sighted person, then that machine can be said to be fully accessible to blind people. However, a person in a wheelchair might find the same ATM machine difficult or impossible to use. It would then be described as *"inaccessible to a person in a wheelchair"*.

In some cases, it may be possible but very difficult for some people to use the Computer, or it may be possible to use some of its functions but not all of them. The Computer could then be described as *"partially accessible"*. The exact description would depend on the extent of the problems experienced by the different types of users. The Web is fundamentally designed to work for all people, whatever their hardware, software, language, culture, location, or physical or mental ability. When the Web meets this goal, it is accessible to people with a diverse range of hearing, movement, sight, and cognitive ability.
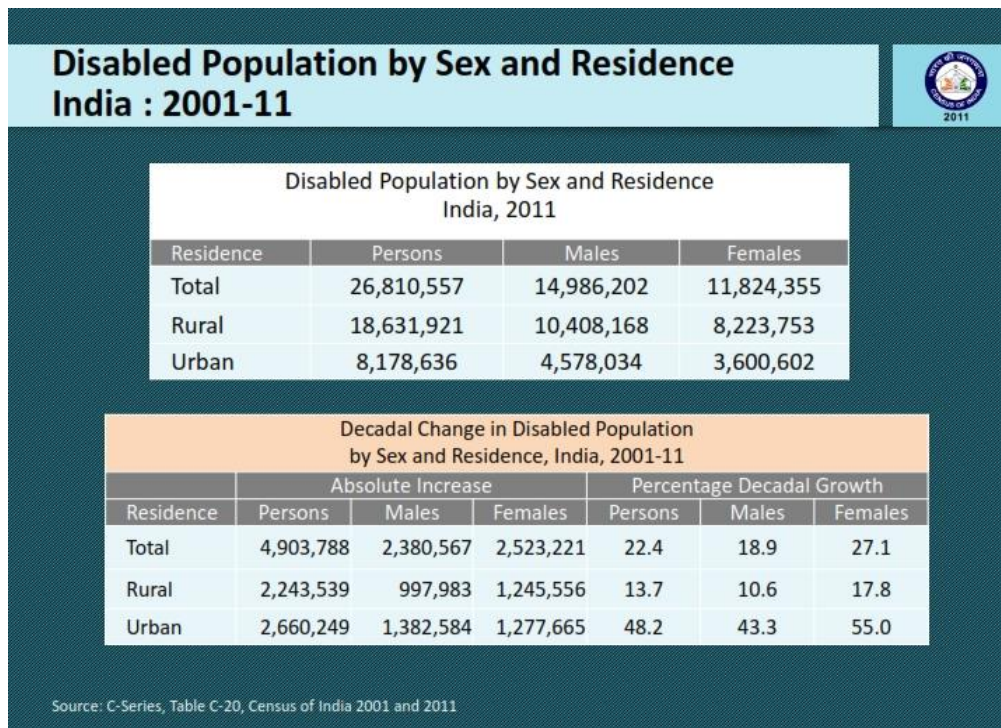
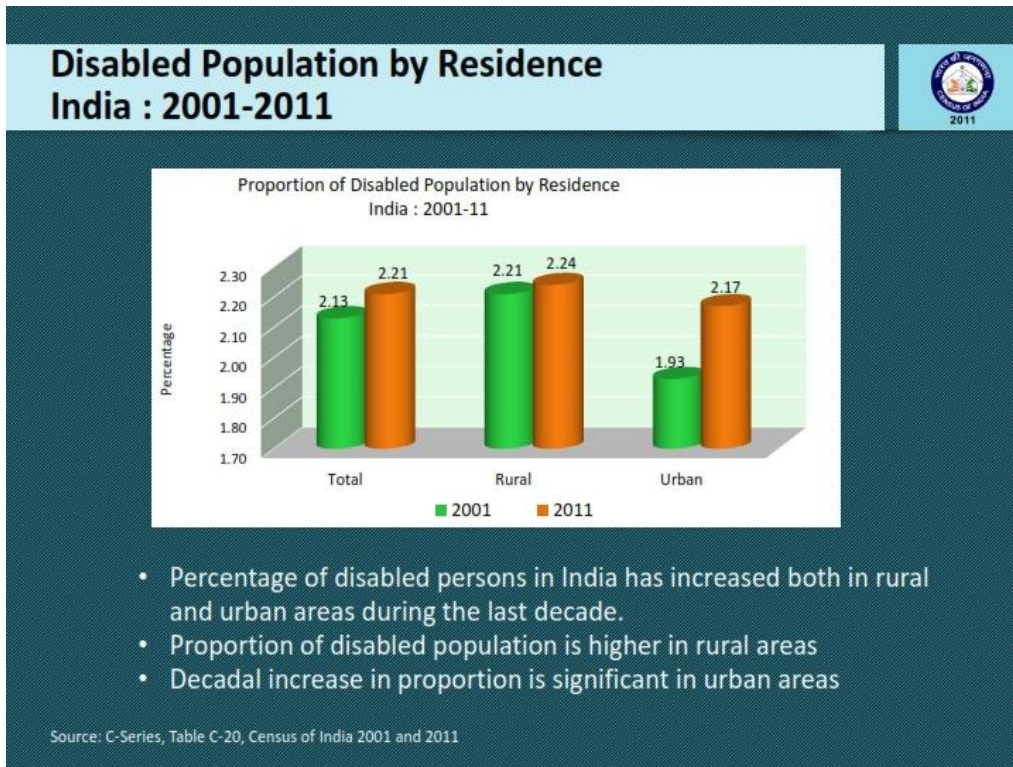Figure 1: Disabled population by Sex and Residence India: 2001-2011

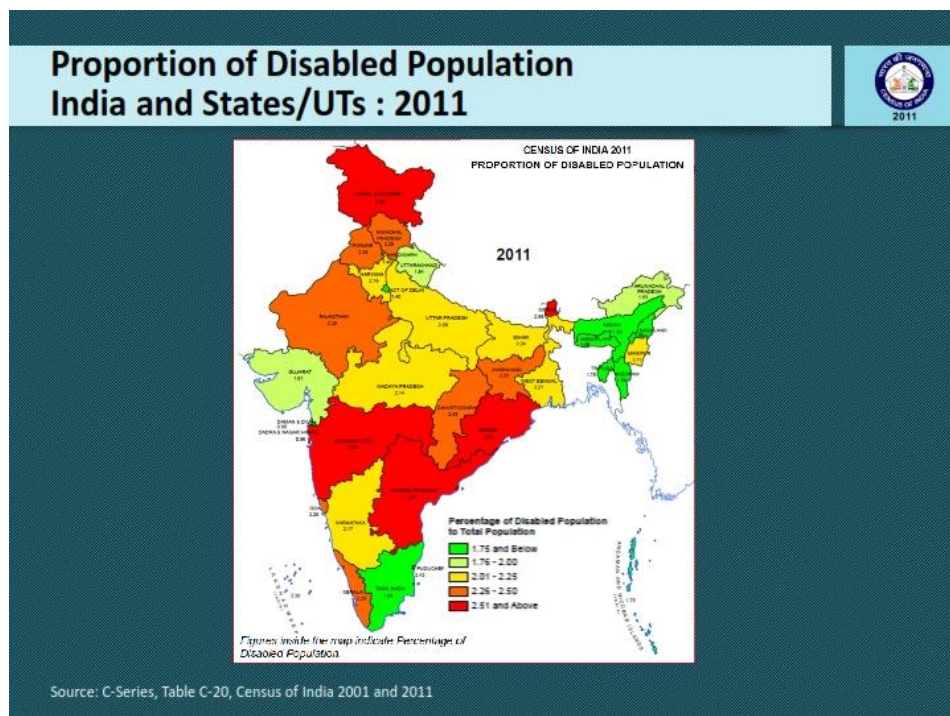Figure 2: Disabled population by Residence India: 2001-2011

Figure 3: Proportion of Disabled Population India and States/UTs: 2011

Accessibility of Government Websites in India: A Report
(cis-india.org/accessibility/accessibility-of-govt-websites.pdf)

Executive Summary

Website inaccessibility is the largest and most common barrier to implementing effective e-governance. In a country like India, where a very large percentage of the population is disabled, elderly,

illiterate, rural, having limited bandwidth, speaks only a vernacular language or uses alternative platforms like mobile phones, having accessible websites becomes all the more important to ensure that government information and services which are available online are accessible and usable by these groups. This report summarises the key findings of a test conducted to measure the accessibility of 7800 websites of the Government of India and its affiliated agencies against the Web Content Accessibility Guidelines (WCAG) 2.0, which is the universally accepted standard for web accessibility. It uses a combination of automated and manual testing to derive key findings. While the automated tool identified errors such as images without textual descriptions and HTML and CSS errors, manual testing was used wherever human decision was required, for instance, to judge whether a description of a link or image was indeed accurate, or to check for accessibility of forms.

Highlights

- *7800 websites were tested*
- *1985 websites failed to open*
- *Most of the remaining 5815 websites have some accessibility barriers*
- *An average of 63 errors per home page, with a few pages crossing 1000 errors*
- *6% of homepages with a cumulative count of errors in excess of 500*
- *33% of websites on which non-text objects have no alternate text*
- *58% of the websites with no navigation markup*
- *Only 52 websites with colour change option*
- *Around 42% of the web pages have form links*
- *Only 21 websites had inaccessible forms*

The report gives details of the errors in various categories and recommends adoption of WCAG 2.0, making easy fixes to websites which can instantly increase their accessibility, developing an online accessibility score card, developing an accessibility reporting mechanism and setting up a dedicated accessibility centre of excellence to promote and maintain accessibility.

Keywords: Accessibility , eAccessibility , Inclusive , ICT , Education. WCAG 2.0, UAAG , ATAG

Introduction

The impact of disability is radically changed on the Web because the Web removes barriers to communication and interaction that many people face in the physical world. However, when websites, web technologies, or web tools are badly designed, they can create barriers that exclude disable people from using the Web. For example:

A Website:-

Websites typically contain a mixture of text, images, links, buttons, tables, interactive forms and other content. There are many ways they can be inaccessible, including the following:

• On-screen buttons are made to respond only to a mouse click, so a person with a physical disability who is unable to use a mouse cannot

'click' them by pressing the Enter key on their keyboard, as is usual.

• On a payment form, the labels of input boxes and controls (e.g. name, choice of payment method) are displayed in a way that **cannot be read by the text-to-speech software** used by a blind person, so this person does not know the purpose of each box or control.

• Visual design and layout are inconsistent from page to page, making the website confusing and difficult to learn for people with some cognitive or learning disabilities.

• Online videos have **no captions (subtitles), audio description tracks or text transcripts**. So deaf, hard of hearing and blind users do not have access to the full content.

The mission of **"Towards an Inclusive India with eAccessibility"** research paper to is to lead the Web to its full potential to be accessible, enabling people with disabilities to participate equally on the Web.

Statistics and facts on Internet usage in India

Figure : 4

With over 460 million Internet users, India is the second largest online market, ranked only behind China. By 2021, there will be about 635.8 million Internet users in India. Despite the large base of Internet users in India, only 26 percent of the Indian population accessed the Internet in 2015. This is a significant increase in comparison to the previous years, considering the Internet penetration rate in India stood at about 10 percent in 2011. Furthermore, men dominated Internet usage in India with 71 percent to women's 29 percent.

In today's world, with the ubiquitous impact of ICTs across all sectors of activities in all countries, no one should be excluded from using mobile phones, the Internet, televisions, computers, electronic kiosks and their myriad of applications and services including in education, political life, and cultural activities or for e-government or e-health to cite a few examples. Being excluded from these ICT-enabled applications implies being shut down not only from the information society, but also from accessing essential public services, as well as from the opportunity of living an independent life.

We cannot miss the opportunity to use all the ICT sector consultation in support of the available tools − including ICTs − to build an inclusive society for persons with disabilities. By working together across all sectors of society – public, private and civil society we can finally ensure the inclusion of more than one billion persons in the world with disabilities in the digital age.

"The Internet has acted as a platform for collaboration for all types of organisations. It has allowed for all citizens, including people with disabilities, to engage more actively in political and social life. The Internet in itself could be considered an assistive technology, allowing voices to be heard that traditionally could not be."

Anriette Esterhuysen, Executive Director, Association for Progressive Communications

Websites: Critical facilitators for Accessing social and economic activities.

The advent of the Internet has heralded a new age not only of information sharing in general, but of the proliferation of web-based services that serve disabled and non-disabled communities alike. Through the Internet, users can remotely participate in a range of activities such as tertiary, professional, lifelong education, employment, economic, government services and consumer activities.

Opportunities for social participation also include social networking, news access, online interest groups, video, audio and text communication, cloud-based sharing and media interaction. For persons with disabilities, these services and content are made further accessible through both computer based and web-based accessibility applications such as screen readers, speech recognition, video communication (for sign language communication and video relay interpretation), voice to text services (open and closed captioning, both real time and embedded) and visual assistance.

Mobile devices and services:

More than any other ICTs in use today, mobile aid compatibility. Customers can enjoy devices and services have by far the greatest impact on independent living for persons with disabilities. At the basic level, feature phones provide a means of on-demand communication for the user through both SMS and voice calls.

1. A variety of smartphones are rated for hearing closed-captioned multimedia content and use face-to-face video chat applications or dedicated video relay services to communicate via sign language. They are also able to access content non-visually through screen reading applications, customize alert settings to use a combination of audible, visual and vibration alerts.

Best Practices

One of the most important developments for utilization of ICTs by persons with disabilities is the definition and implementation of accessibility guidelines to ensure ease of use by persons with disabilities. For instance, the introduction of the Web Content Accessibility Guidelines (WCAG) and the new ISO/IEC standard for WCAG 2.0 – ISO/IEC 40500:2012 xi are some of the best practices on how to mainstream accessibility principles in the case of web content.

Implementation of these guidelines is already reducing and removing barriers precisely in the ICT services most relevant for persons with disabilities. In addition, empirical evidence shows that the adoption of these guidelines improves user experience and accessibility for all persons, regardless of disability. Investments in accessibility also introduce benefits for wider groups of the population   are a common and hugely significant finding. Furthermore, standardization is a key vehicle to develop global telecommunications and ICT standards that include accessibility features.

In this regard, an important goal of standardization-related activities is to ensure that newly developed standards contain the necessary elements that make services and features usable by people with as broad a range of capabilities as

possible. As standards describe how different types of equipment interact with each other and define the quality necessary for media to be usable by all devices, these standards should also describe suitable methods of media delivery to persons with disabilities, and are therefore essential for the provision of services accessible for all persons, regardless of ability.

Pervasive barriers

Some barriers are pervasive. They affect all areas of development. The first one relates to assistive technologies which are important tools for development efforts. Experts state that the cost of assistive technologies, which is comprised of the cost of the technology as well as the cost of assistive technology assessment, training and support services, is still a significant barrier that prevents persons with disabilities from fully accessing healthcare services, benefit at all educational levels, be competitive on the open market and live independently.

Guiding principles for introduction of ICTs in teaching and learning of persons with disabilities.

Communication is essential to all forms of social interaction and participation and technology helps people to communicate in many effective ways. Indeed, widespread ICT usage and increasing integration of ICTs into every aspect of life plays an important role in building societies that are more inclusive for persons with disabilities. ICTs can help persons with disabilities to have a greater access to knowledge and independent living. However, there are a few principles that should be taken into consideration while introducing ICTs.

First, ICTs needs to be accessible to all persons and not just to persons with disabilities. All persons ought to be able to access ICTs that help to facilitate communication in different cultural, educational, and professional situations.

Another principle is that particular forms or approaches to ICT should reflect the goal of fostering greater participation and inclusion. Mobile technologies, for example, enable access for everyone, including persons with disabilities, to access services at the time of need, thus unleashing huge potential for independent living within inclusive societies.

Additionally, where possible, technologies ought to be designed to be as inclusive as possible to all persons, as opposed to further development of certain technologies that would only be used specifically by persons with disabilities. This is important to help facilitate greater inclusion and universal accessibility to mainstream communication technologies. Naturally there will be some circumstances where specialized technologies are necessary, but these will become increasingly rare as technology becomes more universally available.

A further important principle refers to the level of independence and control persons with disabilities have in their use of ICTs. Indeed, all persons, including those with disabilities have personal preferences for particular technologies and they ought to be able to choose the ICT that best serves them. It is important to take into

consideration that the primary purpose of any ICT is to fulfill the functions required by its user. Finally, it is critical to consider behavior of the community that surrounds persons with disabilities. Communication that harnesses ICT may require more time than conventional speech processes. For this reason, members of the community should be aware of the importance of waiting for ICT-aided communication. Those involved in teaching processes can model this for the larger community. ICT training courses should play a part in stand and teacher training programs so that educators become aware of the different uses and users of technologies.

In conclusion, these general principles may guide decisions about the types of technologies that should be used.

There is a clear need for standards to be developed those ensure contents accessible in different forms for persons with varying abilities and disabilities.

Excerpt of an interview of Douglas Biklen (USA) wins UNESCO/Emir Jaber al-Ahmad al-Jaber al-Sabah Prize to Promote Quality Education for Persons with Intellectual Disabilities 2011

"ICT should be seen to enable social inclusion of persons with disabilities by fostering independent living" .A key aspect of this is, where possible, differences between the technologies used at home and those used at work should be minimized. Learning how to use assistive technologies can take time and present challenges for persons with disabilities as it is. Therefore, greater homogenization between technologies used in the home and workplace would help to ensure that Persons with Disabilities do not have to employ disproportionate amounts of time and effort learning to use different technologies.

The purpose of building inclusive societies is to foster harmony between all persons, by enabling persons with disabilities to be integrated in mainstream environments. This will help to nurture such an enabling environment by harnessing the power of ICTs, making them more accessible, user-friendly and better equipped to meet the diverse needs of persons with disabilities.

Government of India Initiative

Action Plan for 2015-16:

Conducting zonal awareness workshops for sensitizing of all key stakeholders such as government officers, professionals such as engineers, architects, real estate developers, students and others.

Creation and dissemination of brochures, educational booklets and videos on the issue of accessibility.

Creation of a portal alongwith mobile app for creating a crowd sourcing platform to comprehensively obtain information about inaccessible places, processing information for approving proposals for creation of ramps, accessible toilets and accessible ramps etc., and channelizing CSR resources for creation of accessible buildings and transportation.

To develop a mobile application (mobile-App) in English, Hindi and all Regional languages for locating nearby accessible places across the country

With the successful launch of the Accessible India Campaign, India will join the rest of the world, as an inclusive society with universal accessibility, caring for its citizens, accessibility rights and independent living. Physical accessibility related actions will initiate accessibility to education, employment and livelihood, which will unleash productivity of 6% population and their economic contribution in nation building.

Ministry of Social Justice and Empowerment

Shri Venkaiah Naidu, Union minister for Urban Development addressing the gathering at the launch of Accessibility Index.

Government has launched **'Inclusiveness and Accessibility Index'** as part of Prime Minister's **'Sugamya Bharat Abhiyan'** for Persons with disabilities**'**. The Index, prepared in collaboration with The Federation of Indian Chambers of Commerce and Industry (FICCI) .

The **'Inclusiveness and Accessibility Index'** helps the industries and corporates to participate in the Accessible India Campaign (AIC) by voluntarily evaluating their readiness for making the workplace accessible for Persons with Disabilities. *The Prime Minister made a call to the Corporate*

Sector to come forward and support the Campaign during his speech on the occasion of the launch of AIC on 3rd December 2015, which also marked the International Day of Persons with Disabilities.

Overview of the Convention on the Rights of Persons with Disabilities and its dispositions on ICT accessibility

The Convention on the Rights of Persons with Disabilities was adopted by the United Nations General Assembly on December 13, 2006; it has been signed by 159 countries and ratified by 157 countries (as of July 2015).

ICT Accessibility

A very innovative component of the Convention relates to dispositions concerning Information and Communication Technologies (ICTs), both from a digital accessibility and assistive technologies standpoint. Indeed, for the first time, ICT accessibility is defined as an integral part of Accessibility Rights, on par with accessibility to the physical environment and transportation:

"To enable persons with disabilities to live independently and participate fully in all aspects of life, States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems".

As a result of this definition of Accessibility, all the dispositions of the Convention defining the rights of persons with disabilities in specific areas of activity and which include the terms "accessible" or "accessibility" include all ICT products and ICT

based applications and services, a far reaching implication for industry, governments and civil society.

The Convention thus directly addresses the risks of exclusion that the increasing usage of ICTs may create for persons living with disabilities in the areas of social, economic, political and cultural life. The Convention, however, also addresses the significant potential of ICTs in the area of new assistive solutions benefiting persons with disabilities.

Barriers to ICT Accessibility:

- Lack of adequate services, and especially of websites that visually impaired persons can read and navigate through easily.
- Lack of products and services for certain groups of persons (e.g. telephone communication for sign language users).
- Lack of accessible contents.
- Incompatibility of software with assistive devices (e.g. screen readers for blind users).

Many of these barriers could be removed. However, this requires firm cooperation, coordination and determination at India level.

National Policy on Accessibility– An Analysis

Electronics and Information and Communication Technologies (ICTs) are widely used in all areas of life such as education, health care, employment, entertainment, banking and finance management and other aspects of daily living.

They not only make life easier for people in general, but have the potential to revolutionise the lives of persons with disabilities through larger inclusion and

participation in these areas and by enabling independent living through use of appropriate assistive technologies (ATs).

In the year 2010, the erstwhile Department of Information Technology, Government of India circulated a draft consultation paper on the National Policy for Electronic Accessibility that sought to regulate the provision of accessible Electronics and ICTs services and products and universal design concepts for persons with disabilities. Post consultation and deliberation, the Government of India has passed the National Policy on Universal Electronic Accessibility (National Policy) in 2013.

The draft consultation paper had clearly identified the requirements of persons with disabilities that had to be kept in view while designing electronic accessibility solutions:

- Eliminating discrimination on the basis of disabilities and facilitating equal access to Information and Communication Technologies and Electronics (ICTE).
- Understanding the diversity of persons with disabilities and creating solutions for their specific needs.
- Ensuring that accessibility standards and guidelines and universal design concepts are adopted and adhered to.

While the draft consultation paper only sought to provide equal access to ICTE products and services to persons with disabilities, the objective of the National Policy has been expanded to include not just equal but also barrier free access. The category of disabilities has also been expanded to include mental disabilities. Further, the policy seeks to

facilitate local language support and sync universal access with barrier free access that should be usable without adaptation.

The scope of the National Policy continues to cover access to ICTE products and services to persons with disabilities in the areas of universal design, assistive technologies and independent living aids as in the draft consultation paper, but the National Policy expands on the broad roles and functions of the major stakeholders.

The National Policy clearly defines the following points that were not discussed in the Draft Consultation Paper:

- The Department of Electronics and Technology is named as the nodal authority for monitoring the implementation of the policy.
- Recommends constitution of a high level advisory committee of multiple stakeholders – central and state ministries and department, industry, academia, disabled persons organisations and persons with disabilities for guiding and implementing the policy.
- Recommends an amendment in the Information Technology (IT) Act to protect persons with disabilities who inadvertently break the law.
- Lays emphasis on providing support in local languages to accessible Electronics and ICTs.

The strategy and Action Plan defined in the Draft Consultation Paper have been augmented and restructured to include the following points described in the National Policy:

Creating awareness on universal electronics accessibility and universal design

- The National Policy specifically provides that the Department of Electronics and Information Technology will play the lead role.
- Other central and state ministries, departments and agencies will also be responsible.
- Carried out through Media, campaigns, conferences, workshops and seminars.
- Information to be made available in public domain in local languages in accessible format.

Capacity building and Infrastructure Development

- The National Policy requires that schemes for capacity building on accessibility and assistive technologies be taken up within the government and for persons with disabilities.

Education and Assistive Technologies Centres

- Accessibility standards and guidelines and universal design concepts to be included in the curriculum of Electronics and ICTs education.
- Assistive technologies and independent living aids to be included in the curriculum of Special Education and Rehabilitation.
- Model ICTs centres to be setup to provide training and demonstration to special educators and persons with disabilities including persons with mental disabilities.

Conducting research and development

- To develop assistive technologies and independent living aids based on accessibility standards and guidelines and universal design concepts.

- To provide incentives for the research and development of such products
- To formulate schemes to support research and development organisations for developing such products.
- To include persons with disabilities and rehabilitation professionals in formulation, implementation and monitoring the schemes.

Accessibility Standards

- The draft consultation paper provides that the accessibility standards and guidelines be taken or modified from existing standards and guidelines in accessibility.
- The National Policy specifically names existing accessibility standards and guidelines such as the following as examples

1. W3C Accessibility Standards
2. ATAG (Authoring Tools Accessibility Guidelines)
3. WCAG 2.0 (Web Content Accessibility Guidelines)
4. UAAG (User Agent Accessibility Guidelines)

- Accessibility compliance would be monitored for government websites, websites for disability issues, general citizen centric websites and important websites with high traffic or high consumer transaction.

Accessible format for content

- Content published in electronic format including text books, journals, publications, multimedia etc are required to be published in accessible format

- Support in local languages to be provided for all content

Developing programmes and schemes

- The National Policy lays emphasis on schemes for women and children with disabilities

Developing procurement guidelines for Electronics and ICTs for accessibility and assistive needs

- The draft Consultation Paper merely states that ICTE procurement guidelines and processes should include accessibility standards and guidelines.
- The National Policy requires that Electronics and ICTs procurement policies be evolved to confirm to the requirements of the National Policy.
- Higher cost of accessibility compliant hardware and software to be budgeted for at procurement.
- Incentives to be provided by the government to assist with the procurement of such products.
- Any scheme formulated by the central or state governments for persons with disabilities should be linked with ongoing schemes for ICT accessibility.

Affordable Access

- The Draft Consultation Paper requires that schemes be formulated to provide access to ICTE services and products to persons with disabilities at affordable costs.
- Information about these schemes to be made available in the public domain in local languages in accessible format.

- The National Policy promotes open source usage to meet affordable access requirements.

The e-Accessibility Action Plan

Government of India's Department of Disability Affairs **launched the Accessible India Campaign (AIC) (Sugamya Bharat Abhiyan).** The campaign focuses on improving accessibility in key areas, such as physical infrastructure, transportation, and information & communication technology (ICT).

ICT accessibility can assist people with disabilities to overcome some of the challenges with both transport and infrastructure; for example, if someone struggles (due to a disability) to go to the railway station to book a train ticket and can instead do so through a website or mobile app, it could change his or her life.

Under the AIC, the focus is on making 50% of central and state government websites accessible, including documents on these sites. However, long before the AIC, the Government released the Guideline for Indian Government Websites (GIGW) in 2009, which stipulated that government websites must be accessible as per the Web Content Accessibility Guideline 2.0, published by the World Wide Web Consortium (W3C). Moreover, it will soon be seven years since the Government of India announced the AIC. The question that needs to be asked is, **"How many citizen-centric websites have been made accessible?"**

Today, the Government is focusing on mobile apps and specifically working on one called the Unified Mobile Application for **New Age Governance (UMANG)** – but will it be accessible to people with disabilities or will it widen the gap that they face in the digital world?

Here are four steps that Government of India needs to take to promote ICT accessibility:

1. **Accessibility standards as a requirement** Ensure that every website and mobile app developed by the Government is accessible. Define 'accessibility standards' that vendors and teams must comply with.

2. **Prioritization and planning** Focus on citizen-centric websites and mobile apps, and create a plan to implement these with clear targets.

3. **Procurement standards** Make accessibility a procurement requirement. Ensure that every rupee that the Government spends ensures that the disabled citizens of India are included.

4. **Go beyond the Government** This mandate should apply to all public sector units (PSUs), public-private partnerships (PPPs), and corporates that are providing citizen-centric services.

Recommendations/Suggestions

The following suggestions will help you get started designing accessible web pages. They are based on the WAI guidelines.

A. **General Page Design**

Designing a well-organized website helps visitors navigate through the information presented.

Maintain a simple, consistent page layout throughout your site.

A consistent design and appearance makes it easier for visitors to locate the specific information they seek. For example, a feature presented on every

page, such as a standard navigation menu or logo for the site should always appear in the same place. A clear, consistent presentation will especially assist people with visual impairments or learning disabilities who have difficulty using disorganized navigation schemes.

Keep backgrounds simple.

Make sure there is enough contrast. People with low vision or colour-blindness can have difficulty reading information on sites with busy backgrounds and dark colours. Some background images and colours obscure text and make reading difficult. Make sure that there is enough contrast between your text and the background of the page. Choose background, text, and link colours carefully, and always test your site by viewing it at different resolutions and colour depths. For example, you can change your monitor settings to a resolution of 640x480 and 16-bit colour for one test, and change to 1024x768 and 24-bit colour for another.

Use standard HTML.

Hypertext Markup Language (HTML) is the standard code used to create websites. HTML was designed to be a universal format outside the bounds of proprietary software and computer operating systems. The code tells a web browser where to find and how to display information. Using standard HTML as defined by the W3C will ensure that your content can be accessed by all browsers used by visitors to your site. Avoid tags, features, and plug-ins that are available to only one brand or version of a browser.

Caption video and transcribe other audio.

Multimedia formats that include audio can present barriers to people with hearing impairments as well as to people with less sophisticated computer systems. Provide captions and transcriptions for these resources so visitors who cannot hear have an alternative method for accessing the information.

Make link text descriptive so that it can be understood out of context.

Visitors who are blind and use screen reading software can adjust their software to read only the links on a page. For this reason, links should provide enough information when read out of context. Use text that describes the link destination instead of "click here." For example: <A HREF="http://www.kvsecontents.in">Click here </A> will present "Click here" as the link. However, <A href="http://www.kvsecontents.in"> Information about KVSeContents </A> will display "Information about KVSeContents" as the descriptive text for the link.

Include a note about accessibility.

Notify site visitors that you are concerned about accessibility by including a statement about accessibility and about how to notify you with their accessibility concerns.

B. **Graphical and Audio Features**

People who are blind cannot view the graphical features of your website. Many people with visual impairments use speech output programs with text-only browsers (such as IBM's Home Page Reader or Lynx) or graphical browsers with the feature that loads a page with the images turned off. Include text

alternatives to make the content in graphical features accessible. Described below are guidelines for providing alternative text for various types of visual features.

- Include appropriate ALT/LONGDESC attributes for graphical elements on your page.

- Use a NULL value for unimportant graphics.

- Include descriptive captions for pictures or other text options for making content in graphical features accessible.

- Provide audio description and captions or transcripts of video

C. Accessibility Tests

Test your website with a variety of web browsers, and always test your pages with at least one text-based browser and with multi-media browsers with graphics and sound-loading features turned off. This way you will see your web resources from the many perspectives of your users. Also view the resources at your site using a variety of computing platforms, monitor sizes, and screen resolutions. Make sure you can access all of the features of your website with the keyboard alone, simulating the experience of web users who cannot use a mouse. Make use of accessibility testing software such as A-Prompt, Bobby, and WAVE; they will point out elements that could be inaccessible. Then, revise your HTML to make your site accessible.

Govt. Web sites tested for eAccessibility

Tool Used : http://wave.webaim.org

Following table lists the different Government websites tested during for accessibility:

Table: 2

Sr No	URL	No. of Errors
1	epathshala.nic.in	10
2	ncert.nic.in	64
3	mhrd.gov.in	23
4	India.gov.in	03
5	disabilityaffairs.gov.in	00
6	ciet.nic.in	14
7	iitd.ac.in	00
8	riemysore.ac.in	04

Conclusion

The web offers many opportunities to people with disabilities that are unavailable through any other medium. It offers independence and freedom. However, if a web site is not created with web accessibility in mind, it may exclude a segment of the population that stands to gain the most from the internet. Most people do not intend to exclude people with disabilities. As organizations and designers become aware of and implement accessibility, they will ensure that their content can be accessed by a broader population.

Acknowledgment

Much of the content of this paper "*Towards an Inclusive India with eAccessibility*" focus on How to ensure 100% web accessibility in India. This paper is created from the different resources both online and offline. However, the contents do not necessarily represent the policy of the Indian government, and you should not assume their endorsement.

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Distinguish Service Award – Govt. Polytechnic Hamiprur Himachal Pradesh – 2004.

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Major Scholastic Awards and Achievements

Letter of Appreciation from Deputy Commissioner KVS(Regional Office Chandigarh) – 2016.

National ICT Teacher Award (Hon'ble President of India) - 2015.