Consultation Paper on

Making ICT Accessible for Persons with Disabilities

Submitted by
NCPEDP & BarrierBreak

Q1. Which are the disabilities, with specific accessibility requirement, other than those mentioned in para 2.3 that require consideration for preparing a framework?

THE RIGHTS OF PERSONS WITH DISABILITIES ACT, 2016 (RPWD Act) clearly mentions that 21 disabilities in "The Schedule".

Since the consultation and the framework is for people with disabilities, it should cover the needs of all of these diverse groups in an equitable manner. In addition, the principles of the RPWD Act clearly state the following principles that need to be kept in mind while drafting this framework:

(a) respect for inherent dignity, individual autonomy including the freedom to make one's own choices, and independence of persons;
(b) non-discrimination;
(c) full and effective participation and inclusion in society;
(d) respect for difference and acceptance of persons with disabilities as part of human diversity and humanity;
(e) equality of opportunity;
(f) accessibility;
(g) equality between men and women;
(h) respect for the evolving capacities of children with disabilities and respect for the right of children with disabilities to preserve their identities

Q2. Apart from the challenges enumerated in para 2.3, what other challenges do PwDs face while accessing telecommunication and broadcasting services?

The challenges enumerated in para 2.3 are very limited. They should not be the only areas that we focus on. In today's day and age, telecommunication and broadcasting has become a key tool to deliver solutions to people.

As we think of the challenges, we first need to also see the delivery engines and ensure that they are also adhering to the frameworks. Telecommunication & Broadcasting is used to by provide solutions to citizens of India and often these solutions are provided by different stakeholders such as:

- Government or Governmental Agencies
- PSU
- Private Companies
- NGOs
- Others

Telecommunication & Broadcasting is being used in numerous use cases and we need to understand that all of these use cases are needed by people with disabilities like any other citizen of India. Some of the use cases are:

- Government Services
- News & Information Sharing
- Education
- Financial & Insurance Services
- Healthcare

- Travel
- Sports
- Entertainment, etc

We then have to ensure that the method of delivery of the use case are also considered. The delivery might involve forever evolving technology, some of which can be:
- Hardware based solutions
- Software based solutions
- Web or Mobile Based Solutions
- Content Based Solutions
- Smart Homes
- IOT
- Kiosks
- Television
- WebTV
- Radio

Q3: In your opinion, what are the reasons for the desired benefits of ICT (telecom and broadcasting) not reaching the PwDs despite several policy measures and scheme being implemented?

In our opinion, the reasons for the desired benefits of ICT not reaching the people with disabilities are:
- **Disability related policy measures have till now in India been separated** – The accessibility requirements or guidelines are generally released separately. They are not given due importance and they are treated at additional effort
- **Disability Statistics** - The data on disability is limited and often organizations don't see the need to service this segment of society with the statement that "We don't serve this audience or they are not our customers"
- **Lack of Awareness that disability inclusion is required & mandatory** – The awareness has to go beyond the Department of Disability Affairs since if you see the use case, it is in every way of life
- **Lack of Technical Standards & Guidelines –** The technical standards and guidelines to assist in accessibility of solutions is not defined effectively and people don't know which standard or guideline has to be adhered to.
- **Lack of Knowledge of Technical Standard & Guidelines –** The knowledge of accessibility standards & guidelines is limited in India. Since 2009, the GIGW is a great example of lack of knowledge of technical standard with government departments & vendors
- **Lack of Funds –** Inadequate funds or not knowing how to find funds to ensure accessibility of the solution is also a reason that it lacks the implementation.
- **Non-inclusion of Private Sector –** Today a large number of these solutions & implementation happen with the Private Sector and they often believe that accessibility and disability inclusion does not include them and their solutions
- **Lack of a Procurement Policy –** Everything the government procures must have an accessibility requirement or mandate. This should be a part of every tender and RFP in the technical standards and also at the disability law level. This then needs to be monitored effectively and

vendors need to be made accountable & penalties need to be set for non-conformance & non-compliance.

- **Lack of Training for Disabled -** Need to train disabled people and show them how they can benefit for Telecommunication & Broadcasting.
- **Lack of Implementation & Monitoring** – This is also key to the implementation of disability related solutions. It must have monitoring and penalties at the state, center and organizations levels.

Q4: What additional or corrective measures can be taken by the Government to enable better access to telecommunication and broadcasting services and devices to PwDs? Please give a rationale for your response.

For each of the areas in Q3 above, we need to have corrective measure:

- **Ensure every new law, policy, guidelines, includes disability -** Disability related policy measures have till now in India been separated & Lack of Awareness that disability inclusion is required & mandatory. Also work with International standard consortiums like ITU, W3C.
- **Census data needs to carefully collected & with thoroughness -** Disability Statistics
- **Setup Technical Committees with Experts in the area** - Lack of Technical Standards & Guidelines
- **Partner with organizations like Professional Association focusing on Accessibility** - Lack of Knowledge of Technical Standard & Guidelines
- **Budget Planning** - Lack of Funds
- **Incentives & Penalties of Private Sector -** Non-inclusion of Private Sector
- **Create a Procurement Policy -** Lack of a Procurement Policy
- **Disabled People Organizations (DPO) Partnerships** - Lack of Training for Disabled
- **Setup Monitoring Committees** - Lack of Implementation & Monitoring

Q5: Apart from the measures suggested by ITU, what additional measures can be taken by the TSPs and equipment vendors/suppliers and other stakeholders to address the challenges faced by PwDs while accessing telecom and broadcasting services?

To make this effective we need to look at the end to end delivery of the telecom & broadcasting services and how to include Accessibility support & Accessibility Features at different levels:

- Hardware – DTH, Set Top Box, Television, Mobile Handsets, Remote Controls
- Software – Accessibility Features & Accessibility Options users can select based on their needs
- Applications – Websites, Mobile App, WebTV Applications need to follow accessibility standards & guidelines.
- Content – Is the Content itself accessible and follow Accessibility Standards

Accessibility Standards & Guidelines specify different solutions and techniques that need to be implemented and need to be adopted and implemented by all vendors/suppliers & other stakeholders.

Q6. What are the areas where collaboration between various stakeholders would be useful and how?

The various stakeholders need to collaborate & Include:

- Government Agencies & Technical Standard Bodies – To adopt & implement Standards
- DPOs – Disability People & their challenges need to be addressed and collaboration for bridge the knowledge gap
- Accessibility Experts – Need to collaborate with governments & vendors to advice on how to fulfill the technical requirements

Q7. Should the Government/TRAI direct the telecom and broadcasting service providers to provide information pertaining to billing, usage, pricing and contracts in the form accessible to PwDs? Please provide a rationale for your response.

Everything should be accessible to everyone, this is key if we want to implement the principles of RPWD Act. It we want to provide equal access & avoid discrimination, it is required that all information whether brochures, bills, usage, account setup, payment gateways must also be accessible.

Based on how the information is provided if in print or digital formats then those should be available in alternate formats like braille, large print, accessible pdf, etc.

Q8: Should the Government/TRAI mandate that the devices used for watching television provided through cable, satellite/DTH, fibre, etc. should be made accessible to PwDs?

Yes, the government has to mandate this as per the RPWD Act. We believe this is where the conversation has to start from. We have also submitted a document to Ministry of Information & Broadcasting on the Accessible Television Guidelines for People with Disabilities, which is Attached as Annexure 1.

Q9. Should international accessibility standards be adopted for telecommunication and broadcasting services and devices in India? Please suggest steps required to ensure their adoption by the service providers/device manufacturers.

Yes, the government has to adopt accessibility standards and these needs to cover the different hardware, software, etc as delivery methods.

The standards that the government has to adopt include but are not limited to:
- Web Content Accessibility Guideline (WCAG)
- Accessible Rich Internet Application – (ARIA)

Also, we can reference the standards & Guidelines by:
- FCC - https://www.fcc.gov/consumers/guides/accessible-tv-and-set-top-box-controls-menus-and-program-guides
- Ofcom
- NCAM - http://ncam.wgbh.org/invent_build/web_multimedia/tools-guidelines
- Section 508 - https://section508.gov
- EN 301 549 - http://mandate376.standards.eu/standard
-

We have also submitted a document to Ministry of Information & Broadcasting on the Accessible Television Guidelines for People with Disabilities, which is Attached as Annexure 1.

Q10. What additional measures can be taken or technologies can be deployed by service providers or equipment manufactures to assist PwDs?

All service providers or equipment manufactures needs to ensure that their solutions consider accessibility support, features and options. They need to have Accessibility Experts to understand how they can provide accessible solutions to their customers.

Q11 Should device manufacturers be mandated to allow in their device's operating system those applications which are meant to assist the PwDs? Please justify your response.

Again, the RPWD Act, requires non-discrimination & equal access. This has to be mandated.

Q12. What measures can be taken in India so that emergency services are made more accessible for PwDs? Should the implementation of these measures by TSPs be made mandatory by the Government?

Yes, emergency services need to be made accessible. At the time of emergency, today people with disabilities are not provided adequate information.

At the time of an emergency, all information must be available in an accessible format.
- Printed Content – Braille, Large Print
- Video Content – Captioned Text, Sign language Support & Audio Described Information
- Websites - Accessible websites & mobile apps so users can access the same information with their mobile phones

We have also submitted a document to Ministry of Information & Broadcasting on the Accessible Television Guidelines for People with Disabilities, which is Attached as Annexure 1.

Q13. Should the device/handset manufacturer be mandated to manufacture atleast one model of handsets for PwDs which is having accessibility features and which are compatible with assistive technology features such as hearing and visual aids including emergency buttons etc.?
As per the RPWD Act, our principles say equal access and non-discrimination. All devices should be accessible and this should not be restricted to one handset.

Please refer to the Gari Database - https://www.gari.info. This shows us clearly that numerous handset manufactures are already looking at accessibility. If they can do this for the international markets, we believe that India should be no different.

Q14. How should companies be encouraged to utilise their CSR funds for development of applications, devices and services for the PwDs? What kind of devices and applications can be envisaged/designed to make achieve ICT accessibility for PwDs?

We believe that Accessibility Support is about providing equal access and non-discrimination. Companies can be provided incentives to be able to create accessible solutions. Whether they fund the funds from the CSR or Marketing or innovation budgets, should be irrelevant to the government, since it is important that we understand that Accessibility is a Right of people with disabilities.

The government can put in incentives, so that companies can implement Accessibility Products, Solutions & Services and give organizations tax relief irrespective of where the funds were utilized from.

Today people with disabilities, need access to the same apps, same technology.

Q15. Should any other funding mechanism for the development of applications, devices and services meant for the PwDs be considered? Please give a rationale for your response.

The key is to incentivize organizations to develop such applications, devices and services, so that more organizations are interested to include these solutions in their existing solutions.

That will itself ensure that numerous solutions become accessible rather than just a few which are being developed keeping PwDs in mind.

Q16. How can effective campaigns be designed to create awareness about use of ICT accessibility tools? Can such campaigns be funded by CSR funds? If not, what other mechanisms can be used to fund such campaigns?

Skill Training campaigns are already being run by the government, all we need to do is add a focus area of ICT for PwDs. The same funding mechanisms that are today being used can be used to create this awareness.

As we see the funding is sometimes from CSR, other times from marketing, HR, Training or Innovation budgets.

We think instead of focusing on where to find the funds, we should focus on incentives that can be provided for creating inclusion & accessibility.

Q17. Should the Government incentivize the manufacturing and development of ICT tools and devices viz. tools for mobile accessibility, TV accessibility or for web accessibility for PwDs? Please give a rationale for your answer.

All of these organizations are already looking at Accessibility. The Gari Database - https://www.gari.info is a great reference. Providing Incentives can help us to get more organizations to focus on accessibility.

Q18. Please give inputs/suggestions/comments on any other issues which you feel are relevant to the subject matter.

The most important steps that we believe need to be followed our:

- Mandate Accessibility for government & Private Sector through the law and provide guidance on Accessibility Standards & Guidelines to be adhered
- Create a Procurement Policy that is implemented and has compliance & adherence clauses
- Incentivize Organizations to include accessibility support
- Setup Technical Accessibility Committees to develop the standards

Annexure 1

Accessibility Standards for Television to provide Equal Access to People with Disabilities

Submitted by NCPEDP & BarrierBreak

To
Ministry of Information & Broadcasting
for
Accessible Television for People with Disabilities

Introduction

Television is recognized as one of the most important mediums of mass communication in the world. It is critical for rapid and mass delivery of information, education and entertainment to hundreds of millions of people around the country.

The Constitution of India ensures justice, equality, liberty and fraternity and assures dignity of the individual and quality of status and opportunities to all its citizens including people with disabilities. It also ensures the fundamental rights to equality, non-discrimination, freedom of speech and expression and the right to life and liberty to all.

India has a large population of people with disabilities. It is important that people with disabilities can fully access television content in an accessible manner so that they can fully participate in society by consuming popular cultural content as well as important news and emergency information when required.

Thus, it is imperative that we treat television as an equal access issue, and make sure anyone who desires to consume content on television, can do so easily and without barriers.

This document is for establishing guidelines for key stakeholders in order for them to make television easily accessible to people with disabilities, as per their right according to the *Rights of Persons with Disabilities Act, 2016*.

Laws, Policies & Precedent

Equal Access & Non-discrimination are key to the Constitution of India. The laws, policies and precedents under which equal access to television for people with disability in India are:

   I.   The Constitution of India.
  II.   The United Nations Convention for the Rights of Persons with Disabilities ratified by India on October 01, 2007 (UNCRPD - Article 9 and others).
 III.   National Policy on Universal Electronic Accessibility, 2013.
  IV.   Rights for Persons with Disabilities Act, 2016.

Stakeholders

This Standard covers the key stakeholders that provide the delivery of television to citizens of India. These include different stakeholders that need to come together to provide accessible television to disabled people of India.

Broadcasters

This includes Television broadcasting providers using different types of technology solutions like:

- Satellite Television Providers
- Cable Providers
- DTH Providers
- IP TV Providers
- Web TV Providers
- Internet Companies providing Television & Entertainment

Hardware Manufactures

This includes different types of hardware that end-users utilize to access television:

- Television Manufactures
- DTH Set Top Box Manufactures

Content Providers

The content of the programming is key to building inclusion. So it is important that these guidelines also cover the content providers

Accessibility Guidelines

Television & Set Top Boxes

Television & Set Top boxes are the key method through which we access television programming. The television & the set top box itself needs to provide techniques for people with disabilities to access the content.

Television & set top boxes need to be provide distinct methods to enable low vision & blind people to access the menus, programming, controls as well as the audio descriptions by providing audio support & easily distinguishable. For the deaf & hearing impaired people, it needs to provide easy options to access the captions, sub-titles and/or sign language interpretation.

Television, set top box & remote controls need to be easily distinguished & identified as well as provide auditory support for features like:
- Power On/Off
- Changing the Source
- Changing Channels and Volume
- Switching On or Off Closed Captioning
- Switching On or Off Audio Descriptions
- Display of Channel Information/Guide
- Access to Playback controls (Play, Stop, Pause, Fwd, Rewind, etc)
- Interacting with Menu Options
- Setup Options

Captioning

Captions are written text displayed on the screen telling the viewer about the audio portion of the television program and relevant sounds important for understanding what is currently happening in the video. This benefits the deaf and hard of hearing population. In addition, it is important for the options to be clearly legible and visible even to people with low vision and the elderly.

Types of Captioning

Open Captioning

Open Captioning is captioning which is displayed on the screen by default with no way to turn captions off.

Closed Captioning

Closed Captioning is captioning which can be turned on or off as per the users' convenience.

Accurate

Captions must match the spoken words in the dialogue. In addition, captions should convey background noises and other sounds. It is critical to include the non-speech auditory information also to provide the mood, the context of the scene and dialogue. For example, a door bell ringing or the creak of the door closing.

Synchronized

Captions must be synchronized to the corresponding spoken words and sounds to the extent possible.

Spelling and grammar

Captions must use accurate spelling. Grammar must follow what is being said on screen. Use of proper grammar must be especially considered when writing non-verbal parts of a captioning text.

Position of captioning

Captions must be positioned to avoid covering any visual element which would be essential to understand the message delivered in the video.

Case, italics and underlining

Captions must use mixed case. Using all upper caps or all lower caps for captioning text should not be done unless it is critically required for understanding the video. For signifying emphasis, it is recommended to use italics instead of underlining text.

Color

Captions should appear as white text on a black background.

Online/Internet TV

Closed captioning must be supported in online video content as well. They can do so using the WebVTT format, with exceptions for things like user-generated content. A clearly labelled mechanism must be provided for switching closed captioning on and off.

Furthermore, the web pages where the online content is distributed must also adhere to the Web Content Accessibility Guidelines 2.0 Level AA guidelines.

Sign Language Interpretation

The presentation in a sign language of the programme audio (speech and other sounds) for viewers who are deaf and use sign language. Sign languages typically use hand shapes, movement, body language and facial expressions to convey meaning. When we will refer to 'sign language' in this text in the Indian context, we will refer to a variant of it called 'Indian Sign Language', or ISL.

Sign Language Guidelines

Accuracy of Sign Language

Sign Language Interpretation must be accurate and convey the clear message to the deaf users. Once such real-time news as aired, its repeat broadcasts must be provided with closed captioning as soon as possible. Whenever possible, in case of news, teleprompter captions can be used to quickly show captioning with little delay.

Position
Sign language interpretation needs to be provided in a picture-in-picture mode.

Audio Description
Audio description must be provided to ensure equal access to blind or visually-impaired people to experience television. Audio Description utilizes pauses in the dialogue to describe the scene which might include but is not limited to the action on the screen, characters, locations, costumes, body language and facial expressions to enhance the experience of the viewer.

For people with complete vision loss, or people with low-vision issues, it is important that content be described audibly. Generally, this process involved analyzing which key elements which need to be described, especially if gaps are there which are not spoken by dialogue. Narration is recorded and is available either on the master track or on a spare audio channel.

Our recommendation is to make AD available on a separate audio channel. Exceptions can be made for live video or user generated video content online.

Audio Description Guidelines
Accuracy
Audio Description must be accurate and not be misleading. Also, the described activity should not spoil the nature of the story or activity ahead of time. The description should be provided as they happen in the video. It should simply describe the happenings of the video and not tell the story itself.

Timing of described content
Audio Description must be planned to use the gaps in the spoken dialogue and should not speak over spoken. On the other hand, in cases where there are long periods of silence or no spoken dialogue, it is not necessary to describe video unless it actually adds value and enhances the understanding or enjoyment of the content by the viewer.

Clear Content
Audio Description must be written in clear and simple language.

Nature of described people, objects, actions and places
Audio Description must describe people, objects, actions and places in a way that assist the visually impaired to experience the screen. The descriptions should not provide any more information than the sighted viewer would have.

Describing text
Things like titles, logos, scrolling text etc should be described if it has significance to the video. Credits should also be described and should match what is one the screen.

Emergency Information
At the time of an emergency, television can play a key role in dissemination of information. All emergency information must be provided to provide equal access to people with disabilities.

For Blind & Low Vision People, emergency information it must have auditory support along with visual form (like text/graphic/animation, etc) which includes that all important information like phone numbers, addresses, maps, evacuation procedures etc must be provided in audio format.

For Deaf & Hearing Impaired People, emergency information must have be provided with open captioning and sign language interpretation.

Implementation Plan & Targets of Service Delivery

Ministry of Information & Broadcasting as a part of the implementation plan has defined the target of service delivery that would be required to be met by the broadcasters.

From the date of this guideline, all broadcasters will have 1 year to start to deliver accessible services or for new broadcasters the time to deliver accessible services will be 1 year. To achieve this, the broadcasters, the hardware providers and the content providers will need to work together to make access to television for people with disabilities achievable.

No. of Years	Captioning	Audio Description	Sign Language Interpretation
First Year	40%	10%	5%
Second Year	50%	12%	7%
Third Year	60%	14%	9%
Fourth	75%	15%	10%
Fifth	85%	20%	15%
Sixth	100%	25%	20%

Monitoring and Implementation

Ministry of Information & Broadcasting will formulate a committee to monitor the implementation of the Accessibility Standards for Television for People with Disabilities. This committee will provide a report every year implementation level by each broadcaster.

For Broadcasters that fail to meet the Accessibility Standard there will be penalties that would be applied.

Comment [SK1]: Need to discuss how to set penalities and how to make this a part of the renewal of licenses

Reference

Difference between Subtitles & Captions

Subtitles are only about spoken dialog (i.e, narration, or currently spoken words by people in the video). Captions include everything that subtitles have, but also relevant sounds or music which may not be in spoken form but still important to understand the video (for example, 'sound of footsteps approaching', 'someone knocking on the door' etc).

Challenges faced by People with Disabilities

The biggest challenge faced by people with disabilities is not knowing what is going on in the video in terms of audio. For example, they may not know what is being spoken by a person in the video. They may not know any background noise or music relevant to the video (for example, if no such clear visual indication is given, then they may not know that the national anthem is being played on TV).

The primary language through which people with hearing disabilities communicate is sign language. There is a severe paucity of content which is available in sign language. Especially in times of emergency or national (or local) crisis, not having content in sign language can exclude them from fully participating in society and hampers their quality of life.

Besides content available in sign language, they often also do not have content available with closed captions. This makes watching television and following what is going on very frustrating, and bordering on the impossible. Once again, this severely affects their quality of life. For some channels which do provide some form of subtitles or closed captioning, it is difficult to find information on which ones do and how to enable or disable it.

For Low Vision and Blind people, the challenges of not only understanding the content, since so much is understood by the non-verbal communication, creates a challenge for them to experience content equitably. In addition, the challenge of just interacting with the hardware whether it is a television, set top box or internet based playback systems often make it a struggle.

The need to invest in audio description as well as the challenges of the hardware need to be overcome.

All these challenges are also faced by the elderly population and can enhance the quality of life for senior citizens in India.

Content tiers
Content should be divided into the following tiers of importance:

- Primary content: The content which is the absolutely crucial
- Secondary content: The content which is important, but not absolutely crucial for the audience
- Tertiary content: The content which is good to know for the audience, but not very important. This could be included if time allows for it,