

**Draft Comments  
On  
Consultation Paper  
On  
Making ICT Accessible for Persons with Disabilities**

**From:**

**Govt. of Haryana**

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

Comment:

In addition to those mentioned in para 2.3, speech-based disabilities shall also be considered while preparing the framework. A communication disorder is the one that affects an individual's ability to comprehend, detect, or apply language and speech to engage in communication effectively. The delays and disorders can range from simple sound recognition to the inability to understand or use one's native language.

In addition, types of disabilities with accessibility requirements have been categorized into four high-level categories: audio, visual, dexterity, cognitive; in para 2.3, yet it is pertinent to mention that there is vast variability within each category.

For example, visual disabilities may include different cases such as:

- I. A middle-aged man who has low vision since birth and is experienced with screen magnification software;
- II. A young woman who recently got tunnel vision or went totally blind due to some rare disorder and is a new screen reader user;
- III. An elderly man whose sight is deteriorating from macular degeneration yet he doesn't use any assistive technology;
- IV. A young girl whose color blindness has not yet been diagnosed.

It is clear from the above example that although visual disabilities are often categorized together, a product can be accessible and usable for a person who is blind, and yet totally inaccessible and unusable for a person with low vision, and vice versa.

Considering the kind of variability within the categories itself, it is recommended that such scenarios shall also be catered to while preparing a framework.

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

**Comment:**

One of the major challenges faced by PwDs is the cost of assistive technologies. The cost which the end user has to pay comprises of the cost proportion of the research on that technology as well as the assistive technology, training and support services, which overall turns out to be relatively higher. It prevents persons with disabilities from making full use of accessibility technologies in different sectors whether it is healthcare services, education, entertainment, etc. It is recommended that while designing the framework, it shall be considered that research and development of new technologies (ICTs, mobility aids, devices, assistive technologies) suitable for persons with disabilities shall be promoted and shall be made available at no or minimal cost.

Another challenge to be taken into consideration is the lack of access to ICT technologies which still remains a significant barrier. Even when ICTs are accessible, they are only available in a fraction of languages. It is recommended that all information and communication including healthcare guides, education guides, learning materials, closed-captioned movies and television programmes, cultural materials etc. shall be made available in accessible formats (preferably in regional languages). Further, adequate measures (policies, programmes) shall be undertaken to provide children with access to assistive technology, accessible content, trained teachers and resource centers.

**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?**

**Comment:**

Some of the reasons for the desired benefits of ICT not reaching the PwDs are as follows:

- i. Cost of assistive technologies;
- ii. Lack of effective policy implementation and monitoring mechanisms;
- iii. Persons with disabilities lack awareness of what ICTs can do to facilitate their socio-economic inclusion;
- iv. Lack of technical support

Issues related to technical know-how, absence of ICT service centres, shortage of trained technical personnel further act as a hindrance in delivering the benefits of ICT to PwDs.

Further, it is essential that the study of how persons with disabilities interact with ICT shall involve PwDs during every stage of the process. In order to make the findings of the study meaningful, PwDs must be included and consulted on how to make the assessments and how to interpret the results of those assessments.

**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.**

**Comment:**

Communication is essential to all forms of interaction. Technology helps people to communicate in many effective ways. Widespread usage and increasing integration of ICT (telecommunication and broadcasting) in all aspects of life certainly play a vital role in building inclusive societies.

ICT can help ensure that persons with disabilities have a greater access to knowledge and independent living. However, while introducing ICTs, one shall consider that it needs to be accessible to all persons and not just to PwDs. Implementation approaches to ICT should reflect the goal of bringing up greater participation and inclusion. It shall help in providing universal accessibility to mainstream communication technologies.

One of the reforms while implementing assistive ICT shall focus on the level of independence, control and comfort that PwDs have in their use of ICT. Indeed, all persons, 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 that it be controlled to fulfill the functions required by its user. Also, the PwDs should have the freedom and availability of customized plans for different ICTs (telecommunication and broadcasting) based on their needs and comfort.

Further, it is important to note that many people with disabilities or others close to them, who provide assistance are not aware of how ICTs can help them throughout their lifetime period.

To unleash the full potential of ICT, a new level of collaboration, and a new approach to scaling innovative solutions to achieve a real impact are needed. This will further necessitate substantial harmonization between government entities (central and local), technology companies, private sector

organizations, universities, and NGOs, as well as with traditional development partners. In order to ensure the effectiveness of policy measures, implementation mechanisms shall be revised. Key indicators shall be identified and monitored on regular basis.

**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?

**Comment:**

In addition to the measures suggested by ITU, there are other areas of concern which shall be addressed to continue expanding the ICT opportunities to persons with disabilities.

One particular challenge is the difficulty in finding suitable frequencies for hearing aids. Telecommunication Service Provider(s) (TSPs) shall work for the identification of additionally suitable frequency ranges to support the wireless communication needs of persons with disabilities.

Secondly, continuous research is imperative to better realize the challenges faced by PwDs. Particularly needed is the research and building of knowledge in assessment methods for disability-inclusive projects.

Thirdly, there is a vast need to improvise on accessibility matrix of ICT and services for all. In order to improve the availability of accessible technologies, public procurement rules may adhere to mandate accessibility in any ICT equipment, software, and applications purchased by governments or government-funded programs. Procuring accessible electronics, ICT products and services may also facilitate the employment journey of PwDs in the government sector. This will help in standardizing a practice for inclusive governance.

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

Comment:

The government can play a significant role in *stirring* the widespread availability of accessible ICT-enabled solutions adaptive to the needs of PwDs. This can be achieved through the promotion of research & development (R&D) labs, innovation labs, start-ups that foster public-private collaboration, as well as local development of assistive technologies and distribution of knowledge, accessible products, and content.

Further to promote such initiatives, policies may be formulated for tax-incentives, funding for entrepreneurial start-ups with innovative ideas promoting the development of accessible technology for PwDs. This initiative will promote investments in the field of assistive ICT, which will further benefit wider groups of the population. This will also help in promoting the affordability of assistive technologies in social, educational, economic and other sectors.

Some other initiatives where collaborations would be useful are as follows:

- i. Awareness campaigns, workshops shall be conducted for promoting the ease of use of assistive technologies for PwDs and people assisting them.
- ii. These initiatives shall be designed and planned effectively in order to increase the participation of persons with disabilities in such workshops.

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.

Comment:

Yes

Making information available in a form accessible to PwDs will increase access to information, thus creating an environment that can be useful for all.

True accessibility, however, means paying more heed to different types of disabilities and how one can take initiatives to make the PwDs feel comfortable. It applies to not just the physical structures of offices but also to the communication forms of telecom and broadcasting service providers. Introducing mandatory guidelines that incorporate accessibility-related requirements has the potential to create a critical volume, conceivably turning the market of accessible products into an evolutionary ecosystem. Such guidelines would lead to increased availability of accessible ICTs, further catering to decreased cost for PwDs.

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?

Comment:

Yes, the devices used for watching television provided through cable, satellite/DTH, fiber, etc. should be made accessible to PwDs, as per the accessibility feature(s) opted by them.

**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.**

**Comment:**

Yes,

Accessibility standards play a significant role for multiple reasons whether it is for defining accessible ICT equipment for procurement, or for establishing metrics for measuring quality of service for telecommunication and broadcasting equipment's. In view of the role of standards in ensuring accessibility, Government shall promote ICT accessibility standards, and adopt international standards to the greatest possible extent to achieve economies of scale to lower cost and ensure interoperability at the same time.

To encourage service providers / device manufactures to adhere to the adopted International Standards, policy level interventions shall be made through the adoption of a variety of measures targeted on making ICT more accessible and interoperable. Specific policies may be formulated to emphasise the need for accessibility. Further, in public procurement, preference shall be given to service providers compliant with International Standards.

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

**Comment:**

Some of the additional measures are as follows:

- i. Create awareness of accessibility barriers
- ii. Adoption of international standardizations in order to develop and harmonize accessible ICT standards
- iii. Strengthen research and development in order to develop new ICT-enabled accessible solutions

Increased R&D and incorporation of universal design principles along with international standards at the early stage of product development will contribute towards lowering the cost of assistive solutions. Creating awareness among people with disabilities and those who assist them, about the availability of accessible ICTs at an affordable cost, will help them live independently. Increased demand will also open business opportunities nationally and globally.

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

**Comment:**

Yes

It is important to integrate the frameworks which imply the use of ICTs and assistive technologies. Accessibility ICT is still considered as a minor arcade by private sector players and not taken into consideration in many organizations. Such circumstances lead to a deficient resource pool in accessibility departments resulting in a limited opportunity for research, innovation and introducing new accessibility products.

The mandate of accessibility applications to assist PwDs will not only widen the chances of use of these assistive applications but will also

create more jobs and overall growth opportunities in the sector. Such competitive market with the mandate of accessibility applications would lead to a greater availability of these products, consequently decreasing their final price for PwDs.

**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?**

**Comment:**

Many mobile phone users may have a hearing and/or speech difficulties. Whatever their combination or severity of their impairments, it is important for them to communicate with emergency services via technology equipped instruments like mobile phones. At times, accessing emergency services is nearly impossible for PwDs, thereby restricting their ability to convey the essential information pertaining to the emergency.

Such situations hold a critical importance for PwDs. In order to make the emergency services more accessible, some of the measures which may be considered for implementation are as follows:

- i. Most of the emergency services are available on common dial-in numbers today. Alternative means of communication like video calls may also be introduced.
- ii. SMS-based emergency services for the hearing/speech impaired people may be introduced.
- iii. For people with visual impairment, services like Braille and large prints and free voice dial facilities are some of the interventions which may facilitate PwDs for accessing the emergency services.
- iv. Focus on the outreach of existing emergency services.
- v. Further, awareness-cum-action programs shall be conducted in and around the emergency services for PwDs.

Q13. Should the device/handset manufacturer be mandated to manufacture at least 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?

**Comment:**

It is important to understand that accessibility is not a limited service for a relatively small section of the population. It is for everyone and explicitly includes people with disabilities and the aged. For persons with disabilities, having an accessible mobile device increases independent living as well access to wide range of services (including emergency services).

Further, it is pertinent to mention that private sector entities (including device/handset manufacturer) play a key role in designing, manufacturing, developing and putting into the market, the solutions with assistive technologies.

As such, mandating device handset manufacturers to manufacture at least one model of the handset for PwDs with accessibility features will be a step towards effective implementation mechanism.

**Q14. How should companies be encouraged to utilize 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?**

**Comment:**

To further contribute to the advancement of ICT accessibility, governments, industry, and private sector organizations, research centers as well as organizations representing persons with disabilities shall be encouraged to contribute for the development of accessible ICT for PwDs. Corporate social responsibility initiatives are a good source for funding ICT accessibility. CSR programmes also help in raising awareness and capacity in the private sector on the opportunity to incorporate accessibility within their own organizations and workplaces.

**How????**

Some of the devices and applications that can be designed are as follows:

a. Applications:

- i. Sign language interpretation over the web
- ii. Accessibility software: screen reading, voice to text, screen typing, text to voice
- iii. Captions (closed and open)
- iv. Captioned telephone (relay)
- v. Accessible e-books and e-documents
- vi. Navigation applications for people with visual impairment
- vii. Assistive health monitoring applications
- viii. Virtual neighborhood map for blind / low vision people
- ix. Assistive locator applications for locating service outlets like ATMs, grocery shops, schools, medical facilities etc.

b. Mobile Devices:

- i. Assistive mobile devices compatible with hearing aids
- ii. Devices with an emergency button to access emergency services through a voice call, video call, text etc.

**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.**

**Comment:**

There can be a number of ways through which government can fast-track development amongst ICT accessibility. These could be in the form of policies, measures such as imposing a penalty for nonadherence or offering incentives such as tax benefits, instituting awards etc. In general, the preferred approach could be to incentivize voluntary adoption. Some of the ways in which innovation and research in ICT accessibility can be supported by the government include:

- i. The government can offer to match funds to purchase certain assistive technologies based on successful development and spread of use of such technology. The government can match funds for academic institutions investing in research and development of these technologies.
- ii. Tax benefits for organizations investing in research and development of assistive technologies.
- iii. Establishing targets and reporting mechanisms for delivery of assistive ICT services.
- iv. Corporate social responsibility initiatives are also a good source for funding ICT accessibility. CSR programmes also help in raising awareness and capacity in the private sector on the opportunity to incorporate accessibility within their own organizations and workplaces.
- v. The budget for each ministry/department to carry out accessibility initiatives. For eg. making websites accessible, all e-services of citizens accessible through assistive technologies ( including voice, text messaging facilities)
- vi. Training of Govt. officials for global learnings on accessibility projects.

**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?**

**Comment:**

One common misbelief which comes across and hinders the progress of ICT accessibility is the idea that implementing accessibility is the limited task of the Ministry in charge of the disabled and social welfare since it relates to persons with disabilities. However, the truth is that ICT usage binds together implementation strategies for all domains - be it education, employment, health, social welfare, transportation, telecommunication or finance. As such, awareness campaigns shall be inculcated in all domains for promoting the use of accessible ICT.

In order to make the ICT accessibility awareness programs more effective, people with disabilities shall also be involved in the designing and implementation of such programs. Workshops shall be organized in govt. / private organizations in order to sensitize officials to respond to the needs of PwDs. Capacity building programs to be organized to build up the capacity of trainers and resource centers to train people in using assistive technologies.

**Q17. Should the Government incentivise 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.**

**Comment:**

Yes, such mechanism will promote research and development in the sector.

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

Comments on Consultation Paper on Making ICT Accessible for Persons with Disabilities

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