**Online Open Consultation of the ITU Council Working Group (CWG) on**

**“Access to the Internet for Persons with Disabilities and Specific Needs”**

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| **Name of institution** |
| Telecommunications Regulatory Commission of Sri Lanka  Note:  The following institutions were involved in our two projects (“e-NABLE1” & “Connect a School: Connect a Community2”). The comments are based on the experiences we gained by working with these institutions3, 4.   1. Special Schools(Ministry of Education -Non Formal Education Unit) 2. Education Units of Special Schools(Ministry of Education - Non Formal Education Unit & Provincial Education units) 3. Vocational Training Centers (Department of Social Service) 4. Computers Centers of Ranaviru Villages ( Ranaviru Sewa Authority) 5. Special Needs Resource Center (Universities of Peradeniya, Colombo & Sri Jayewardenepura) |
| 1. **What are the different challenges facing persons with disabilities and specific needs in accessing and using the Internet?** |
| * Affordability to obtain an internet connection and pay the monthly bills. |
| * Affordability of the user terminals, Assistive Software and Devices. |
| * Poor computer literacy. |
| * Lack of soft educational materials. |
| * Trained teachers for ICT. |
| * Difficulties to find jobs after leaving school &vocational centers. |
| * Limited ICT courses for persons with special needs. |
| * Cultural and religious barriers have reduced the access to the internet. |
| * Assistive Software and content are not available in Local Languages. |
| * International Language Barrier (English). |
| * Difficulties to connect to the Internet using Isuru Linux OS (open source )   This is due to low speed and lack of the driver software. Dongles does not support Isuru Linux OS. |
| * Low income level of the Institutions. There is no mechanism to obtain ICT facilities and to maintain them. (Institutions are dependent on Government assistance). |
| * Lack of ICT skills based on the type of the disability.   Eg. Inability to use assistive software (Synthetic Audio) to interpret web pages, flash and multimedia contents for blind persons. |
| * Lack of the accessibility facilities to the Internet:Most of the institutions are located at rural, unserved and underserved areas. The service providers are reluctant to cover these areas due to low population, high installation cost. |
| * Internet cafes do not cater to PwDs. |
| * Lack of Physical Access Points for PwDs. |
| * The information relating to ICT facilities for PwDs are not available. |
| * Navigation maps are not available with real timeinformation |
| * Parents of PwDs lack ICT skills. |
| * Lack of ICT training/awareness programs for PwDs in electronic media. |
| * Lack of W3C compatible web pages. |
| * Lack of e-accessibility guidelines. |
| * Lack of a substantial ICT Job quota for PwDs. |
| * Lack of loans and information relating to self-employment opportunities for PwDs. |
| * Digital libraries and the e-books are not available for PwDs in local languages. |
| * Assistive devices, materials and spare parts not available freely in the local market. |

1. **What possible approaches and examples of goods practices are available to address these challenges?**

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| **Approaches and examples of applied goods practices** |
| 1. TRCSL and licenced operators provided equipments and internet facilities. 2. With ITU assistance TRCSL provided assistive devices and accessibility facilities to institutions. 3. “Connect to School: Connect a Community” projectTRCSL obtained ITU assistance. This project implemented a private public peoples partnership (4P) Model.  * The Ministry of Education developed and provided e-Thaksalawa the web content for school education in local languages. * Daisy Lanka Foundation developed text to speech software(Sinhala Language) for the distribution among all PwD schools and institutions. * Jinasena Rehabilitation Trust provided the following free software to the project schools. * Braille English to Sinhala Dictionary. (A dictionary that provides assistance to search entries in Braille) * Translation software for Sinhala /Tamil & English Braille to text to visually impaired. * Braille English to Sinhala language, and Mathematics teaching software for orally impaired students.  1. ICT training for these centers were provided by the following institutions.  * ITU International Volunteers * Korean International Volunteers Programme * Ministry of Education * TRCSL  1. With ITU assistance TRCSL arranged fellowships for PwDs to attend an international forum. 2. TRCSL presented e-NABLE initiative at International forums in Thailand, China and Singapore. 3. A study team from National Electronics and Computer Technology Center (NECTEC) ,Ratchasuda College, Mahidol University and ITU Regional Office for Asia and the Pacific, Thailand visited Sri Lanka to assess the status and the needs of ICT accessibility for PwDs. 4. All donated equipment to centers required the signing of an Operation & Maintenance agreement. 5. Created awarenessamong the school community to organize a fund raising mechanism for equipment maintenance and payment of bills. 6. Introduced ICT education for parents and school leavers after school. 7. Encourage Mobile licensed operators to develop suitable tariff proposals for PwDs and develop value added services for them. 8. Under a TRCSL research grant the University of Ruhuna developed a proto type sign language interpreter which converts sign language into text and vice versa. 9. TRCSL is currently conducting animpact study on e-NABLE project. |
| **Possible approaches of goods practices** |
| * Encourage licensed telecommunication operators to implement their CSR initiatives to cover areas where no internet is available. |
| * Conduct awareness campaigns for the followings: * All stakeholders on the use of PwD software, devices and physical access . * Media institutions to conduct educational programme for PwDs on the use of ICTs. * Contents providers and web site developers on the requirements of PwDs |
| * The National policy on e-accessibility for PwDs. |
| * ICT job quota for PwDs in Government and private institutions. |
| * Availability of audio books produced in local languages onthe Internet. |
| * Encourage more vendors to sell assistive devices and software. |
| * Encourage International ICT volunteers to provide training to PwDs . |
| * Develop a mobile device to be used for all applications in local language for visually handicapped persons. |
| * Assistive listening devices to be made available at all public places. |
| * Universal Service Fund to cater to PwDs requirements. |
| * Tax concessions for assistive devices and software. Manufactures and developers to be given financial incentives. |
| * High tech communications devices (like Google glass and the Google bionic eye) should be promoted and financial assistance to purchase such devices. |
| * A special web site with open courseware catering to the needs of PwDs to be established so that Degrees/Diplomas/Certificates could be obtained online. |
| * Include ICTs for existing Degree, Diploma and Training programmes for PwDs and instructors. |

1. **What are the gaps in addressing these challenging and how can these gaps be filled.**

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| **Gaps** | **Suggestions to fill the Gaps**  **Action to be taken** |
| * Accessibility | * Encourage CSR initiatives. * Coverage of unserved areas. * Introduce Special mobile device for all applications. * To develop audio/digital books through CSR programmes or from funds donated by well wishes. |
| * Affordability | * Provide special packages for PwDs/Institutions. * To consider tax exemptions for assistive devices and softwares. |
| * Education | * To liaise with the Ministry of Education to extend the school net programme (www.schoolnet.lk). * Develop open courseware and provide scholarships for PwDs. |
| * Job Opportunities | * On line malls to sell developed software products for PwDs. * Opportunity to work online. |
| * Training & HR Developments | * Provide vocational training to PwDs. |
| * Policy Issues | * Formulate the guide lines relevant to e-accessibility. |
| * Awareness | * Job directory services to find jobs. * Organize a work shop with the participations of all related stakeholders regarding the development of assistive devices and software, latest technologies available including navigational aids,W3C Web Content Accessibility guidelines (WCAG). * Hold an annual competition for new innovative ideas on the needs of PwDs and grant financial assistance todevelop these ideas (Eg. Google glass, Microsoft hololens and Google bionic eye). |
| * Cultural and language barriers | * Develop applications in local languages for PwDs. |
| * Technical competency | * Integrate navigational information with assistive devices such as white sticks, wheel chairs and mobile devices. * Development of ICT applications to assist PwDs with communications issues and enhance creativity. |
| * Financial Assistance | * Provide loans for self-employment opportunities. * Promote special loan scheme for PwDs for educational & professional courses in ICT including business/ entrepreneurship studies. |

1. **What is the role of the Governments in addressing the challenges and gaps?**

The issues and gaps identified above have to be addressed and the Government should facilitate this process.

1. **Contact Details**

**Organization : Telecommunications Regulatory Commission of Sri Lanka**

**First/Last Name : Mohan Jayasekera**

**Title : Director (Policy, International Relations & Licence Administration)**

**Focal Point for ITU**

**Contact Information:** [**mohan@trc.gov.lk**](mailto:mohan@trc.gov.lk)**, T.P:+94 11 2676206, Fax: +94 11 2685832**

**Country : Sri Lanka**

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**Notes:**

1. The project “e-NABLE” was started to cater to the ICT needs for PwDs. (Please refer:<http://www.trc.gov.lk/images/pdf/itu_final_report.pdf>).
2. TRCSL received ITU assistance for “Connect a School; Connect a Community”project.
3. The response to this questionnaire was based on the experiences of the project team and the project literature review over the past five years and consultation with PwD institutions. The project team comprised of Mohan Jayasekara, JagathRatnayake, G.C.S Fernando, W.K.N. Pradeep and Dilan Samarasinghe.
4. We requested information from related stakeholders to contribute to this online open consultation and they will also provide their views and comments directly to the ITU council working group.