

Towards inclusive education:

The potential of accessible ICT to increase education participation and achievement for persons with disabilities

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Situation for Children with Disabilities

- Over **10 million** of out of school children in Sub-Saharan Africa have a disability (UNESCO, 2013).
- Disabled children have **far poorer educational** opportunities vs non-disabled peers (GCE, 2013).
- **3 -7% loss to GDP** is due to the exclusion of persons with disabilities from the labour market (ILO, 2012).
- Only **5 - 15% of enrolled children** have assistive technology / adapted materials (e.g. Braille) (UNICEF, 2013).

Inclusive education

- **A key strategy to achieve EFA** as well as the equity and inclusion of persons with disabilities.
- **Strengthening the education system** to reach out to all learners regardless of abilities, social background, language or culture.
- **Envisions all children learning together** in local schools translating into a just and equal society.
- **Personalised / child-centred learning approaches**, reasonable accommodations vital for realisation.

UN Convention on the Rights of People with Disabilities (UNCRPD)

- **Article 4** – all new technologies follow a universal design from the outset.
- **Article 9** – include accessibility of ICT early in development & procurement to reduce cost.
- **Article 24** – obligates reasonable accommodations i.e. access to training in and use of accessible ICT, assistive devices and educational material in accessible formats. Also, training & awareness raising in alternative modes of communication.
- **Article 32** – endorses international cooperation on scientific & technical knowledge.



Universal Design

- Design of products, environments and services to be usable by all people (with varying abilities, body shape, age), without the need for adaptation or specialised add-ons which are usually prohibitively expensive.





Vuyo, a teenager with cerebral palsy using a head switch to operate his computer.

Common accessibility issues

- Unavailability of curriculum material in alternative formats (large print, Braille, Audio)
- Lack of section headings
- Poor colour contrast
- An inability to navigate using keyboard only
- Missing text equivalents for images
- Complex graphics and language
- Inability to resize text
- Videos lacking captioning / sign-language
- Copyright





Mobile devices has the greatest potential to increase independent living for people with disabilities, while web-services and devices has immense potential to improve education opportunities at all levels.

Report on the ICT Opportunity for a Disability Inclusive Development Framework HLMD, 68th UN General Assembly, 2013)

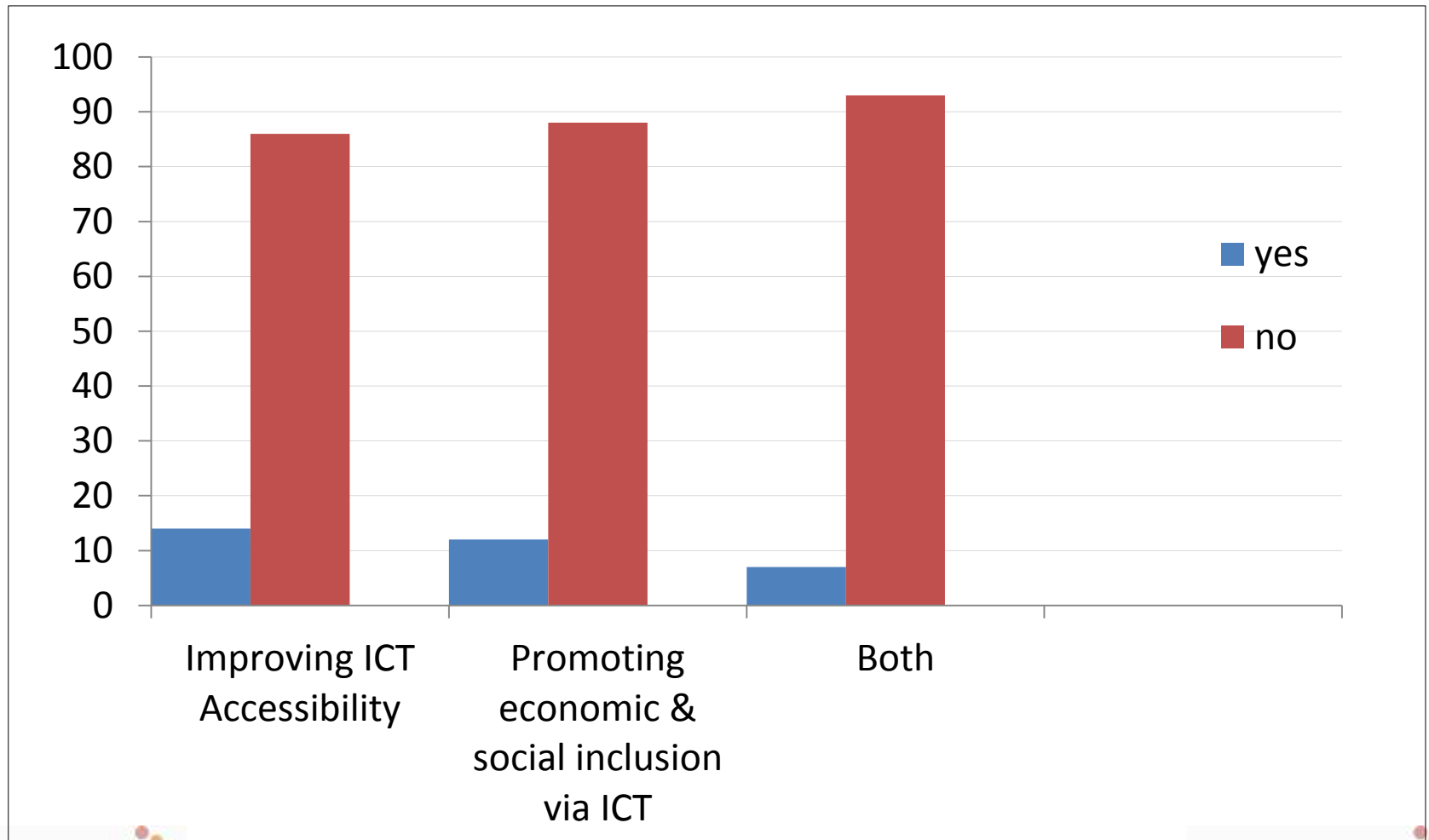
Accessible ICT for Education

- **Mainstream technologies:** computers, websites, word processors, whiteboards & mobile phones with in-built accessibility features, tablets, Apps.
- **Assistive Technologies:** hearing aids, screen readers /magnifiers, adaptive keyboards /mouse, augmentative communication devices.
- **Accessible media & formats:** accessible HTML, captioned video, DAISY (Digital Accessible Information System) books.



School for the Blind in Beira, Mozambique

Accessibility in National Broadband Plans of UNCRPD countries



Recommendations: Policies & political will

- Update ICT, disability & education legislation to include accessibility.
- Strengthen research & development of universally accessible technologies & ICT solutions - involve persons with disabilities.
- Include accessibility as a criterion in procurement of all educational software & hardware.
- Allocate appropriate budget (equipment plus training)
- Put in place subsidies / tax breaks / customs waivers.
- Special school / Resource centres should have ICT Development Plans.

Recommendation: Awareness & training

- Promote understanding of disability and diverse learning needs of all learners.
- In- & pre-service teacher training on ICT should incl. making it accessible for students with varying abilities & meet different learning styles.
- How to create accessible digital content.
- Existing accessibility features in computers, tablets & mobile phone.
- Available assistive technology incl. Opensource.
- Mandatory first hand training for end user & co

Recommendations: Cooperation and copyright

- Copy and **intellectual property right sharing** to promote accessibility.
- **Accessible Open Education Resources**, flexible copyright & avail e-versions on Gov. websites.
- **Marrakesh Treaty** – permits sharing of published works in accessible formats for visually impaired /print disabled across borders.





Thank you.

Biography

- UNESCO (2012) **Consultative Expert Meeting Report on Accessible ICTs and Personalized Learning for Students with Disabilities: A Dialogue among Educators, Industry, Government and Civil Society**, 17 – 18 November 2011 UNESCO Headquarters, Paris retrieved from http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/accessible_ict_personalized_learning_2012%20.pdf
- Global Campaign for Education (2013). **Equal Right, Equal Opportunity: Inclusive Education for Children with Disabilities**. Retrieved from: http://campaignforeducation.org/docs/reports/Equal%20Right,%20Equal%20Opportunity_WEB.pdf .
- **Report on the ICT Opportunity for a Disability Inclusive Development Framework** (HLMDD, 68th UN General Assembly, 2013) retrieved from: http://www.unesco.org/new/en/media-services/single-view/news/the_ict_opportunity_for_a_disability_inclusive_development_framework_new_action_oriented_report/#.UqDk_vQW2Ck