Report of visit by Dipendra Manocha to Myanmar for ICT solutions for persons with vision impairment

December 13-17, 2016

Visit under a project of LIRNEasia

Places/events attended:

1. Myanmar Digital Rights Forum on December 14, 2016
2. Meeting with Mr. Ye Win during the Myanmar Digital Rights Forum on December 14.
3. Meeting in the office of 7Day newspaper publishers to explore accessibility of their digital edition on December 15, 2016
4. Visit to the School for the blind being run by Christian Fellowship organisation of Myanmar on December 15.
5. Dinner meeting with key members of learn Asia and MIDO.: December 15
6. Visit to the Myanmar National Association of the Blind and meeting with the ICT staff of the organisation. December 16, 2016
7. One hour training of smart cane in the school for the blind of the Christian fellowship Myanmar. December 16
8. Meeting with Executive Director of Myanmar Independent Living Institute: December 16
9. Follow-up meeting with Liarn Asia and MIDO: December 16
10. Meeting with Mr. Aung Lwin Oo and Mr. Bobo: December 16
11. Break fast meeting with Htake Htaike from MIDO: December 17

Key recommendations:

1. Working on removing technology gaps:
    a. TTS: Burmese TTS is the main component that needs to be made available for any solution for information access to work in Myanmar. There are two possible solutions for removing this important gap:
        i. E-speak: Robotic voice TTS that can be implemented faster with low resource requirements. A project through MNAB already going on since 2013. Large part of the work is already completed. However, the language is not added to e-speak NG main repository due to some communication gap and some technical difficulty. Dipendra to facilitate to remove this hurdle to get Burmese speech included in E-speak NG repository. There are few bugs in current implementation related to four or five characters. Once the current work is integrated in E-speakNG, we will work towards removing these bugs. These include punctuation marks of Burmese script not being recognised as punctuation.
        ii. Joint project between organisation from Myanmar and reputed international company providing TTS solutions such as Acapella, Nuance, Ivona, Iflytech, etc. This approach would need funded project of about one year with estimated cost of about 250,000 USD.

b. Braille Translation:
    i. Duxbury is one of the most popular braille translation software used in all braille presses we visited in Myanmar. This software has facility to edit translated text for corrections after braille proof reading. Right now Burmese language is not support in Duxbury software. Mr. Aung Lwin Oo has worked with Mr. David Holiday to include Burmese language support. There seems to be some communication gap as some final bugs have not been removed making the work unusable. I would like to explore if this gap can be removed since similar issues have been solved for Indian Languages.
    ii. Burmese Language support for refreshable display: Liblouis is an open source braille translation library used by various screen reading software to provide support for various languages for refreshable braille display. By next year, we are expecting refreshable braille displays to become affordable for countries such as Myanmar. This would eliminate dependence on hard copy printing of braille books. Thus we will need to work to add Burmese language in liblouis braille translation library.
c. Zogie and Unicode fonts: One of the biggest hurdles in digital content available in accessible format is wide use of Zogie font that doesn't comply to Unicode standard of digital encoding for fonts. We will need to work on policy for wider use of Unicode based font. Meanwhile, we can also work towards Zogie font support for Burmese language in E-speak, Duxbury and Liblouis. This would enable assistive technologies to support content in Zogie font too.

d. Availability of Content in accessible format:
    i. Availability of news-papers and periodicals: Visit to the 7Day news-paper publisher office revealed that they provide digital edition of their newspaper through web site. This web site need to be made WCAG2.0 compliant to be usable with assistive technology such as the screen reading software. The web site currently uses Zogie font which is not Unicode compliant. Nonunicode font usage will be a huge hurdle in the accessibility of their web site for the users of screen reading software. They also have an app on android. This too need to be tested with screen reading software. However, this testing can happen only after availability of the TTS in Burmese language. The MD of the newspaper made an offer that they could shift their app to the Unicode based font in first phase.
    ii. It is highly recommended to work on a funded project to introduce inclusive publishing of text books and availability of digital files of text books in accessible Epub format for higher education or senior school classes.
    iii. Involvement of publishers for inclusive publishing: Publishers of periodicals or books for higher education could be involved and trained in inclusive publishing making their publications accessible to all including persons with print disabilities.
e. Assistive technology devices:

i. We found that low tech devices such as braille writing frames etc. are available at much higher cost in Myanmar than I India. We will explore providing assistive devices from various sources to Myanmar.
ii. Once local language TTS is made available, the reading and writing solutions on digital devices such as mobile phones or computers need to be provided to users with print disabilities. Students in higher education already work only in English medium. For them some method of getting computers in their hands with appropriate content and skills for operating these are essential. Providing computer training without access to device to be able to use after the training would result in wastage of time and resources. Similarly, providing devices without adequate training to use it also would result in wastage of resources.

f. Policy intervention:
    i. Use of Unicode based font would not be possible without a clear policy and a firm plan for its implementation. Individual market players will not be able to shift to the Unicode based fonts as they would lose out their business if they made this shift on their own. Thus a government lead programme needs to be introduced for this taking all stake holders together into a system following international standards.
    ii. ICT policy mandating compliance to WCAG2.0 for web sites and EPUB3 for public documents and instructional materials Is highly recommended.
    iii. Number of persons with blindness in education system is extremely low in comparison to the population of persons with blindness or low vision. Special schools would never be able to take this number to respectable level. Inclusive education with appropriate support systems for educational institutions and special educators are extremely to improve the situation.
g. Way forward:
    i. It is recommended to form a group of organisations and individuals that are key stake holders and can be contributors in the mission of ending the book famine for persons who cannot read normal print. I can suggest terms of reference that we used in creating DAISY Forum of India for this group to come together. Key objective of the group would be to formulate a national goals for ending the book famine for print disabled and then each organisation could contribute to the national vision by creating and implementing projects in line with the goals.
h. Some immediate actions:
    i. E-speak Burmese to be made usable on windows and android within next three months
    ii. 7Day news-paper to be made accessible through its app or accessible web site within next three months.
    iii. Form a group to carry the ICT Accessibility agenda forward in Myanmar
    iv. Explore introducing low cost devices from India in Myanmar to increase affordability there.