

Enabling the disabled

The role of ICTs in the lives of persons with disabilities in Myanmar

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About LIRNEasia

Our mission:

“Catalyzing policy change through research to improve people’s lives in the emerging Asia Pacific by facilitating their use of hard and soft infrastructures through the use of knowledge, information and technology.”

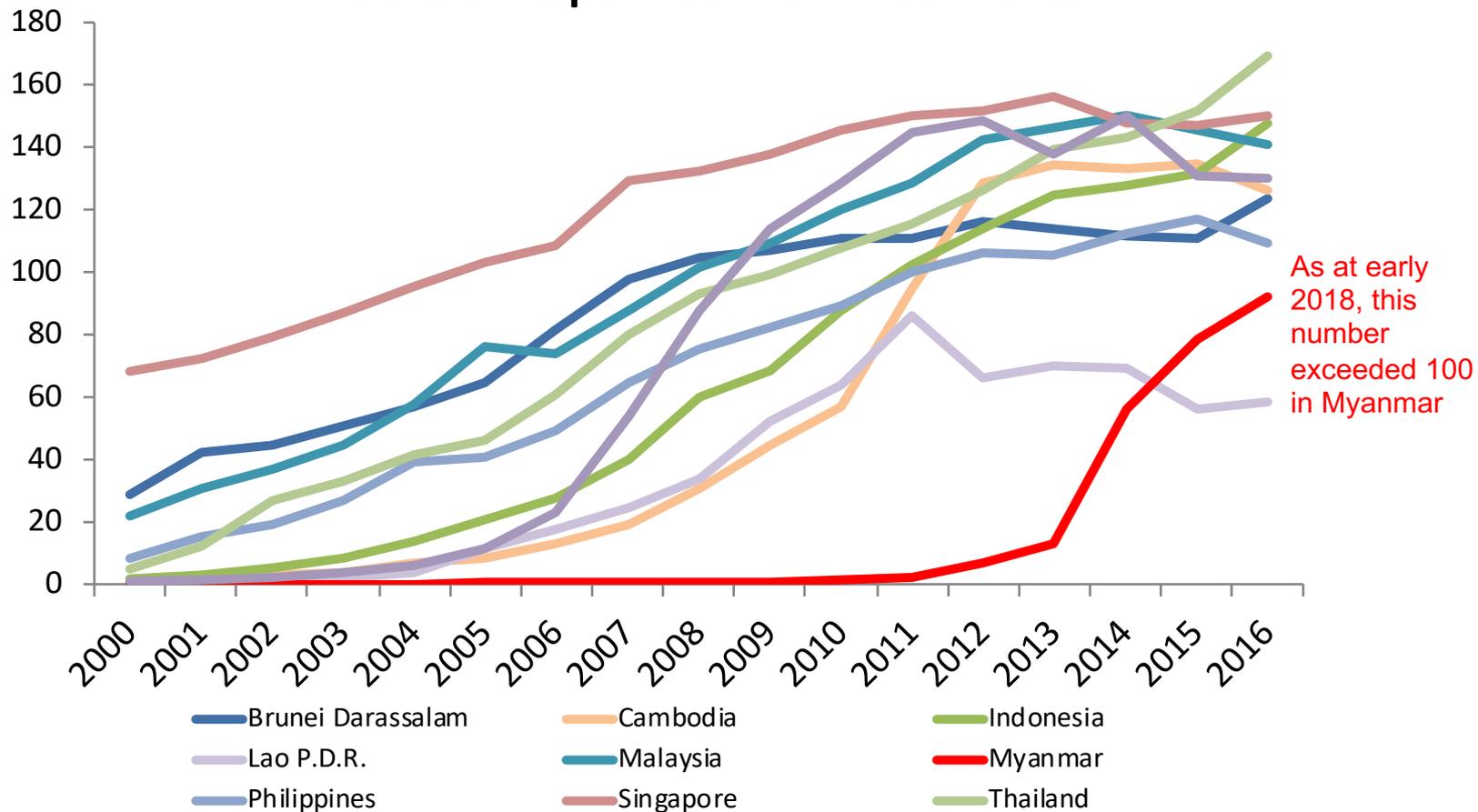
Countries that we engage with



Map with countries that LIRNEasia engages with

Sharp increase in mobile subscriptions in Myanmar from 2010- overtaken Lao PDR in mobile SIMs per 100

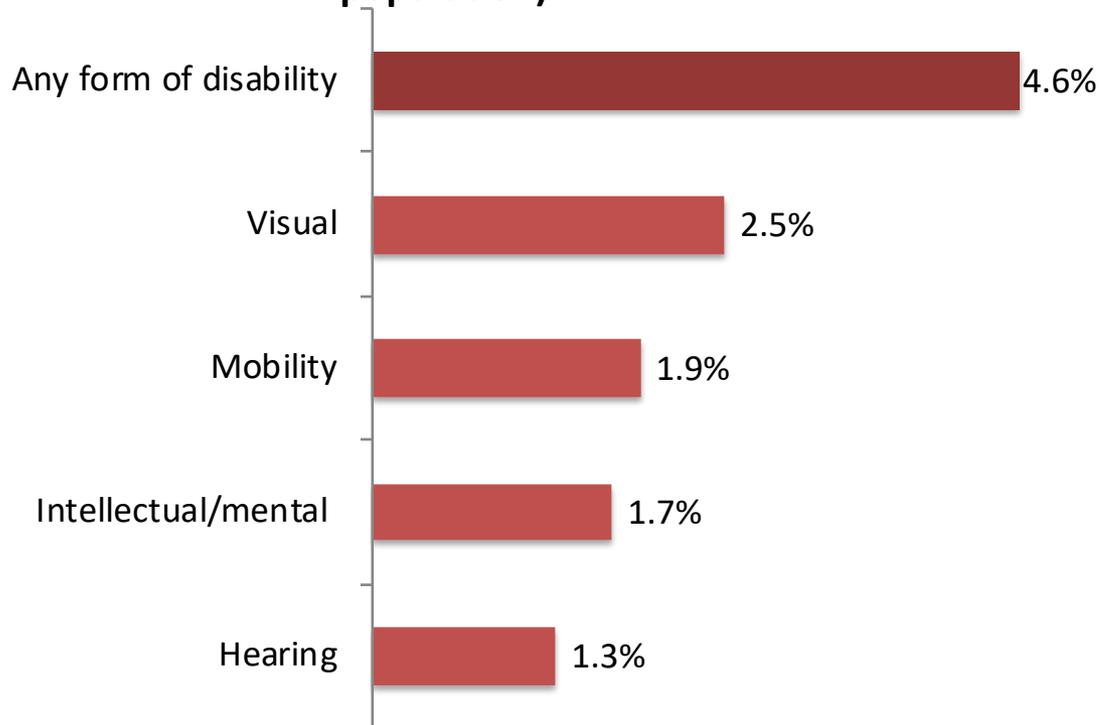
Mobile SIMs per 100- ASEAN countries



Source: International Telecommunications Union

4.6% of population had at least one form of disability in 2014; highest in Ayeyarwady

Prevalence of disability by type (% of population)



State/region	Prevalence of disability	
	Number	Percentage
Union	2,311,250	4.6%
Ayeyarwady	472,619	7.6%
Yangon	250,441	3.4%
Shan	228,074	3.9%
Mandalay	204,328	3.3%
Bago	202,431	4.2%
Magway	201,800	5.2%
Sagaing	177,852	3.3%
Rakhine	112,179	5.3%
Mon	109,298	5.3%
Kayin	99,389	6.6%
Tanintharyi	98,133	7.0%
Kachin	65,837	4.0%
Nay Pyi Taw	36,583	3.2%
Chin	35,669	7.4%
Kayah	16,617	5.8%

Questions we asked (and tried to answer)

- To what extent are ICTs accessible to PWDs in Myanmar?
- What are the challenges PWDs face in their day-to-day lives?
Can ICTs play a role in minimizing challenges?
- 4 subsections
 - Digital devices, connectivity and content
 - Emotional connectivity: relationships & mental health
 - Mobility: buildings, transportation and infrastructure
 - Earning and learning: education and livelihoods

Qualitative research carried out with 101 respondents with visual, hearing and physical disabilities

Interviews in Yangon, Mandalay, Shan and Ayeyarwady in May 2018

3 types of qualitative research

- Key informant interviews (KIIs)

Heads of institutions focused on PWDs

- In depth interviews (IDIs)

Individual interviews conducted in their homes

PWDs who were at home for 90% of the past 3 months

- Focus group discussions (FGDs)

Group discussions In central location, usually with 4-6 participants



(Photographs from the research fieldwork)

Groups homogenous to enable more free flowing conversation, but varied sample in terms of SEC, gender, age

Focus group discussion sampling table

Disability type	Location	SEC	ICT use (U: user, NU: non user)	Gender	Age
Hearing	Ayeyarwady	C/D/E	4NU	4M	25-39
	Mandalay	C/D/E	4U	4F	25-39
	Shan	A/B	4U	4F	15-24
	Yangon	A/B	4U	4M	15-24
	Yangon	C/D/E	4U	4F	40+
Physical	Ayeyarwady	A/B	6U	6F	25-39
	Mandalay	C/D/E	6U	6M	15-24
	Shan	C/D/E	6NU	6F	25-39
	Yangon	A/B	6U	6M	40+
Visual	Ayeyarwady	C/D/E	6U	6F	40+
	Ayeyarwady	C/D/E	6U	6F	15-24
	Mandalay	A/B	6NU	6M	40+
	Shan	C/D/E	5U	5M	25-39
	Yangon	A/B	6U	6M	25-39
	Yangon	C/D/E	6NU	6F	15-24
	Yangon	C/D/E	2U	2F	15-24

*SEC= Socio-economic classification based on household income, SEC A- richest, SEC E- poorest

Digital devices, connectivity and content

Mobile phones used by many to get in touch with friends and relatives

Before using a phone, we couldn't contact with our old friends, but now we can. We also can make a video call with our parents when we go outside. There are flashes of light and vibrations on my phone when my family calls to me at that time we make a video call.

R48, Hearing disability, 38, M, SEC D, Ayeyarwady

“Even though we are far away, we feel close. For example, when I call my deaf friends from Northern Shan state, we talk for a long time”.

R80, Hearing disability, 39, F, SEC C, Teacher, Mandalay

“My relatives from my Mom are in Yangon and sometimes we contact with phone and from messenger.”

R58, Physical disability, 33, F, SEC A, Teacher, Ayeyarwady

Commonly cited disability specific adaptations in mobile use among respondents

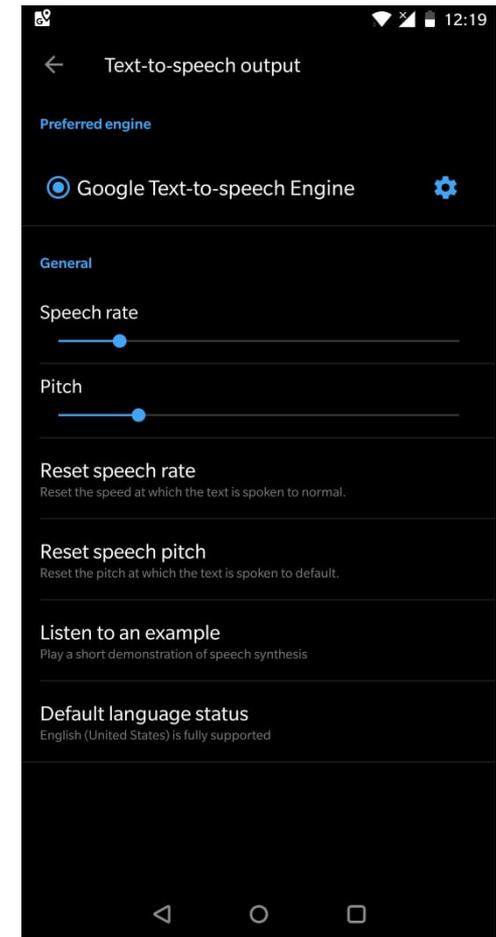
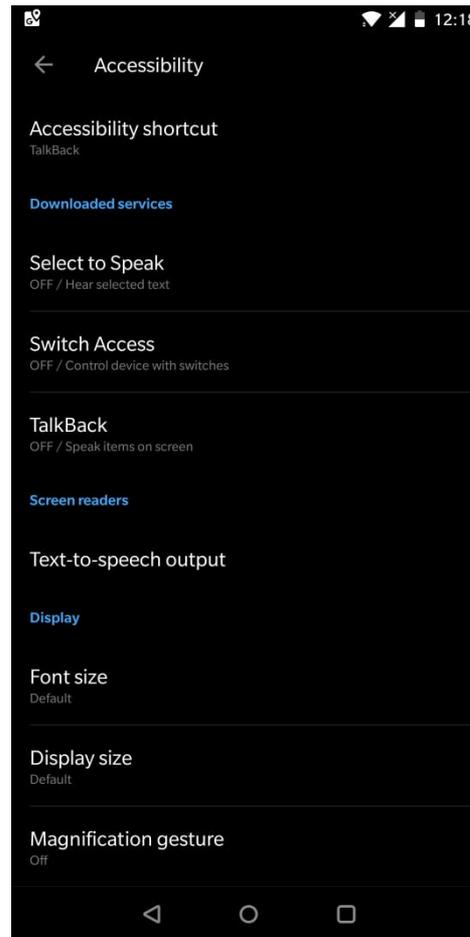
Hearing	Physical	Visual
<ul style="list-style-type: none">• Video calls made if proficient in sign language• Text messaging used, but some stated this was a challenge given limited linguistic knowledge	<ul style="list-style-type: none">• Few with specific adaptations among respondents (may be due few respondents with physical disabilities having congenital hand deformities that may otherwise have affected their use of a device)	<ul style="list-style-type: none">• Voice calls made• Voice messages

Text to speech accessibility feature available in a number of languages, but not Myanmar

Screen readers and text-to-speech engines translate on-screen information into speech

“Posts with Burmese sentences are not for us. The phones cannot read Burmese. As my phone cannot read Burmese, we cannot use Facebook fully. I don’t feel satisfied.”

R41, Visual disability, 24, M, SEC C, Maseuse, Shan



(Screenshots of TTS accessibility features)

Visual: Lack of Unicode compatible font and workable local language text to speech engine hindering use by PWDs

The problem is twofold

1. Zawgyi (commonly used font in Myanmar) not Unicode compatible, hence not readable by screen readers.
1. Local language text to speech engine not fully workable. Marginal changes need to be made on eSpeak, but there is a lack of enthusiasm on making further developments to the software given its robotic voice. Natural sounding engines more resource intensive

“We have to learn computer from grade five to grade seven. We use a Myanmar font which is different to that used by other people and it is thus not of much use. We also type in Myanmar but it’s complex. So, if they can fix it for us, then we will be able to use it the computer like the people who can see. For English, it is very convenient for us now. We can use JAWS.”

R27, Visual disability, 19, F, SEC E, Student, Yangon

Despite relatively affordable data, communication costly for hearing impaired due to need to make video calls

“It costs more for us than persons with other disabilities because we need to make video calls. It costs more than when you can just make a phone (voice) call”
R80, Hearing disability, 39, F, SEC C, Teacher, Mandalay

Price of 1GB of mobile data as % of GNI per capita (2017)

Country	Prices for 1GB (USD)	GNI per capita per month (Current USD-Atlas method)	Prices for 1GB as % of monthly income
Nepal	7.56	66	11.5%
India	6.13	152	4.0%
Vietnam	5.36	181	3.0%
Bangladesh	2.85	123	2.3%
Cambodia	2.00	103	2.0%
Thailand	8.7	497	1.8%
Myanmar	1.62	99	1.6%
Indonesia	4.11	295	1.4%
Sri Lanka	1.56	320	0.5%

Source: International Telecommunications Union and World Bank, Calculations by authors

Emotional connectivity

Relationships & mental health

A number of respondents with visual disabilities spoke of losing contact with families

“My wife left me after I was a disable. My son in Yangon is from my first wife. All my relatives in Myanmar left me alone and I am a person with no relatives.”

[Visual disability, respondent details withheld]

“I’ve lost contact with my family since I was a child. I don’t even know their phone number. Honestly speaking, sometimes I want to stay here and sometimes I want to go home. And sometimes it hurts when I feel that they didn’t even come to see me.”

[Visual disability, respondent details withheld]

Many cited battles with mental health due to their current state of affairs

*Sometime, I just stay quiet thinking of myself alone, I used to feel very sad and discouraged. Saying that “Why me, why am I like this? My condition is too bad” I have come across many thoughts. Eventually I sometime end up crying and weeping.
[Visual disability, respondent details withheld]*

*“Even though we are disabled our brain can still work well. But when we apply for a job, we are rejected and we feel depressed”
[Visual disability, respondent details withheld]*

Mobility

Buildings, transportation, infrastructure

Public buildings and transportation being inaccessible led difficulties in mobility for physically disabled

“There are no wheelchair-accessible lanes in the shopping malls. We need to get up from our wheel chairs, and then we move by ourselves as much as we can to climb down the stairs. At first, I felt shy to do that in front of people. So far, wheel chair lanes have not been implemented for us. If they are, we will not have to feel shy in the public anymore.”

R13, Physical disability, 42, M, SEC B, Sportsman, Yangon

“I decided to go back home by myself because getting in and out of the bus was not easy.”

R14, Physical disability, 55, M, SEC B, Sportsman, Yangon

Many stated fear of traveling alone– often relied on the support of family and friends

“I always travel with other people who would support me. It is dangerous. Moreover, I do not know in what place I am because it is a new place. If I don’t travel with a friend, then I can get robbed or beaten. I never go alone because it is difficult for me to communicate. If I am not in a place that I know very well then I do not know where I am.”

R8, Hearing disability, 24, M, SEC B, Masseur, Yangon

I haven’t go out alone. I only go out with my sisters and my friends because there’re good people and bad people in this world. As you know about the boys, some are very helpful but some are so cruel so I don’t go out alone.

R92, Visual disability, 39, F, SEC E, Unemployed, Mandalay

Independent travelers recalled getting off at wrong bus stops due to communication gaps– steps are being taken by the YBS

“One time I got off at the wrong bus-stop when I took the bus. I got off at the wrong stop without asking anybody. I took the bus myself and I got off myself because I was concerned normal people would not understand my question if I ask them.”

R7, Hearing disability, 24, M, SEC A, Masseur, Yangon

There are about 5 bus lines which provides good service and facilities for the disabled. They have got LED screens, voice announcements, bell buttons etc.”

Head of DPO

Some used ICTs effectively for navigation to travel more independently

“If I don’t have anyone to help me, I can use this app called BeMyEyes. [I show my surroundings using a phone camera] and they speak out what they can see. We now have Myanmar volunteers and I normally call these volunteers [through the app] during the daytime

“We have some applications that can show GPS locations, but not very precisely .I use it whenever I go out. I use GetThere is the app used. I also wish the software tells us more about the locations though. It only shows the main roads now”

“I like [to use] Grab when I go to Yangon. I feel quite safe. Now there is a software for the disabled from iSchool Myanmar. We can report any problems online if we have any issue. I am using it. The app is for four type of disabilities. We can also listen to local and international update news as audio files. But still cannot use Burmese.”



(Photograph of phone of visually disabled respondent- Includes apps such as GetThere and BeMyEyes)

Learning & earning

Education & livelihoods

Respondents had varied educational backgrounds

- No formal education
- Homeschool
- Regular, government schools and universities
- Schools focusing on PWDs

Sometimes, students had learnt at different types of educational institutions (eg: blind school and university)



(Photograph of respondent)

PWDs with visual impairments challenged by lack of specialized teaching and considerations

“Though I stayed at home [until age 20], we hired some teachers from outside to teach me. I was able to learn until high school but the difficulty was with mathematic subjects that my teachers didn’t know how to teach the blind. Mostly, I learned only subjects like English that I can memorize. I put my eyes close to the book but still mathematics related subjects are difficult.”

R17, Visual disability, 28, M, SEC A, Student, Yangon

“Subjects like Geography; we can’t really do it because there is a drawing. So since we can’t draw, our marks for drawing are automatically reduced.”

R27, Visual disability, 19, F, SEC C, Student, Yangon

PWD focused educational institutions provided specialized teaching material

“We listen again our recording file as the teacher teaches us. At the same time use the translated textbook that is made for us. We got that from school. They printed it all.”

R70, Visual disability, 23, F, Student, Yangon

“ I would like to read but I am not able to. I can only read if they publish books for the blind or if the voice donors donate their voice and convert the books into audios.”

R27, Visual disability, 19, F, SEC C, Student, Yangon

Specialized schools for hearing impaired exploring scalable ICT solutions for regular schools

“They usually drop out of normal school because teachers in government schools do not know how to teach in sign language. So, children just sit and gaze in class.”

“For the children who go and learn at normal school, for each subject, we making a sign language video for them. We start at history subject. After that, we try to tape other subjects one by one for all six subjects. They have to go to that school because we only teach until 8th standard in here. However, they will be given videos with sign language as support.”

Head of educational institution

Computers explored as solution to exam taking challenges faced by students with visual disabilities

“They [the scribes] are working employees who didn’t pass their high school. ...We have to spell every single word. Even words like ‘This is on or off’; we have to dictate every word to them. This is a challenge for us. we asked for only students who had already passed high school, or to be able to take the examination with a computer. With a computer, Myanmar language is not that easy – we are still practicing it. But it will be more convenient if we can take our exams with computer system.”

[Visual disability, Respondent details withheld]

If one were to use own computers in examination, there could be ground for cheatings. ...But if they were to provide the students with computers that are fully prepared with the question sets and the voicing software and accessibility tools, this sounds like a very good solution.

Teacher at educational institution

PWDs displeased with stereotypes about skills they can learn and jobs they can engage in

“I think some of the people think massage is the only thing the blind can do. Some can understand our situation but some don’t.”

R43, Visual disability, 25, M, SEC D, Masseur, Shan

People think [PWDs] can only be artisan and craftsman. There is no training school here and their parents can't send them to Yangon

R57, Physical disability, 39, F, SEC B, Lawyer and teacher, Ayeyarwady

“They are like gifted people in using technological gadgets. I also have thought to teach them how to fix cars, TVs, air-conditioners, or fridges. They can fix keypad phones. One thing is if they are taught systematically, they will be very good at it.”

Head of educational institution

Some saw learning English and computer skills as a gateway to further employment opportunities

“My wish for them is to get them employed in some profession. The primary objective is to teach them computer skills and English language. We hope to fill in that future basic required skillsets for the students so that they might be able to join any profession. And there are one or two of my old students who are also operating in computer fields. Some are working as teachers, they teach computer skills. And some are applying their computer knowledge in NGO fields. Some even adapted to audio recording and engineering, applying their computer basic knowledge. Being a masseuse is a vocational skill. And it works too. For many other jobs, you need to learn computer skills. And if you were to work in a NGO, you’d also need management skills and project managements and similar skillsets to manage a project.”

Teacher at educational institution

Respondents expressed grievances about difficulties in securing employment

“There is no equity for disabled when we apply job. As my experience, we could sometimes teach better than others at school. But, as the life of disabled nobody wants to trust in our capability”

R57, Physical disability, 39, F, SEC B, Lawyer and teacher, Ayeyarwady

“It is very hard to work in real society. I don’t get much pay on my current job but it is very hard to change our job because we are deaf.”

R82, Hearing disability, 27, F, SEC C, Shop helper, Mandalay

Anti-discrimination laws are in place, but implementation hinges on the establishment of the National Committee

As per Myanmar Disabilities Law Sections 36, 75-76, and 81, employers must employ women and men with disabilities to the jobs that are appropriate for their abilities and capacities and in accordance with the quota specified by the National Committee on the Rights of the Disabled People. Employers must select and employ persons with disabilities who are registered at the relevant township Employment Exchange Offices. Employers must make appropriate arrangements for the job interview for the persons with disabilities, and ensure them equal rights with other workers in relation to interviews, wages, opportunities, promotion, job security and access to free vocational education and training based on their employability. In particular, employers shall not suspend, fire, demote and transfer disabled employees without any sound reasons. Employers must submit the list of employees with disabilities, as well as the job vacancies, to the township Employment Exchange Offices.

Some self-employed PWDs used the Internet for knowledge acquisition and communication

Since I get customers for my massage service from Facebook, it is beneficial. They send me messages in advance before they come.

R7, Hearing disability, 24, M, SEC A, Masseuse, Yangon

I do my job (foreteller) on mobile phone and use mobile for knowledge and get things for writing.

R85, Physical disability, 24, M, SEC C, Astrologer, Mandalay

Facebook used as a platform to connect with potential customers

“I invented and repaired the battery of this current wheelchair by myself. At last, I didn’t feel like a disabled person when using this wheel chair. This wheelchair is part of my life.”

“I modify wheel chairs and sell to others. I use Facebook to advertise my creations.”



(Photograph of respondent)

R14, Physical disability, 55, M, SEC B, Sports coach, government officer and entrepreneur, Yangon

Recommendations

Implement the Law on the Rights of PWDs

The Myanmar Law on the Rights of PWDs addresses a number of concerns of our respondents, ranging from transportation to education to livelihoods. Ensuring that public buildings, transportation and study materials are accessible to PWDs and ensuring equal opportunities for PWDs in workplaces are among issues addressed in the Law.

Progress is being made

The National Committee who was not appointed at the time of the research, had been appointed prior to this event

Implement projects to improve PWDs' digital literacy

The Draft Universal Strategy of Myanmar (2018-2022) notes having training programmes to improve digital skills of target groups, including PWDs. A number of respondents who were mobile owners didn't have sufficient skills to use the existing accessibility features on their mobile phones, limiting the scope of their use of the devices.

Sign and ratify the Marrakesh Treaty

The Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired or Otherwise Print Disabled grants copyright exceptions for digital publications for PWDs with visual disabilities. This may grant wider access to internationally available digital content such as e-books, which could act as accessible study materials.

Encourage the use of Unicode compatible fonts and the development of a workable local language TTS engine

The use of Unicode compatible fonts by the wider public could allow for screen readers to recognize on-screen text. This, along with the development of a local language text to speech engine, could give persons with visual disabilities wider access to digital content in the local language.

Allow for persons with visual disabilities to take computer based examinations

The option of taking computer-based examinations on machines belonging to the academic institution may allow persons with visual disabilities to take their examinations independently.

Our respondents stated that use of unqualified scribes for their examinations had led to lowered grades.

Establish accessible digital mental health services

The establishment of digital mental health services are recommended, ensuring that the services are made accessible for persons with different types of disabilities.

Despite stating that they felt depressed, no respondents noted the use of mental health services through digital devices.

Thank you!

www.lirneasia.net/disability

