

Supporting independent living by Persons with Disabilities through ICTs and enabling policy

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LIRNEasia: A pro-poor, pro-market think tank active in South and South East Asia

- 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*

- In Nepal, we have conducted research, built capacity, and provided regulatory and policy recommendations since 2004, e.g.:

- Research on Nepal's Universal Service implementation (2005-06)
- Capacity building for govt, civil society, private sector and media on broadband regulation and policy: Nagarkot (2015); Dhulikel (2017); Pokhara (2019)
- Evaluation of Nepal's communication system in aftermath of Gorkha Earthquake of 2015 (published 2016)
- Workshop on disabled-friendly policies and ICT solutions (2018)
- Hackathons to develop apps to help persons with disabilities in Nepal (2018)
- Nationally representative After Access survey and qualitative research on PwDs (2018)

Countries we engage with



How we developed the solutions

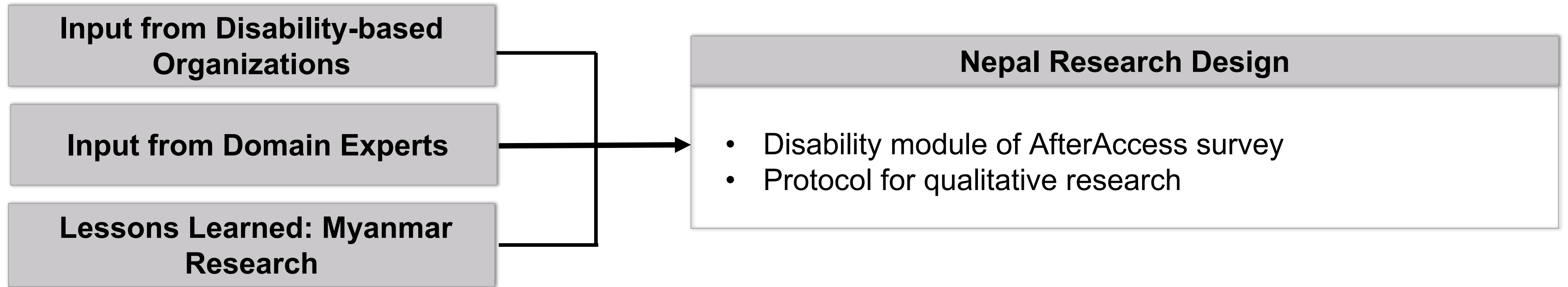
A workshop with disability-based organizations (DBOs) in early 2018 to identify and frame the issues



Inputs from experts on assistive technologies and complementary policy changes



Input from DBOs, domain experts and previous research contributed to research design



Focus group discussions with respondents



Research objective

- To understand the problems faced by PwDs that may be solved/alleviated by assistive technologies (based on ICTs) and analog complements*

“Analog complements” = policy or other actions necessary for the ICT-based technological intervention to have the desired effect.

Example: no point in an app that tells a person with physical disability where toilets are unless he/she can get to the toilet and its design allows a PwD to use it.

How the qualitative research was done

- Focus group discussions (FGDs), in-depth interviews (IDIs) and key informant interviews (KIIs) were used as data collecting techniques
- Respondents for focus group discussions and in-depth interviews were selected using 'Washington group questionnaire'
- Persons with mobility, hearing and visual impairments were selected as respondents, including 12 IDIs with severely disabled
- Nine agencies/people working on issues related to PwDs were interviewed as key informants
- Semi-structured guides were used for discussions

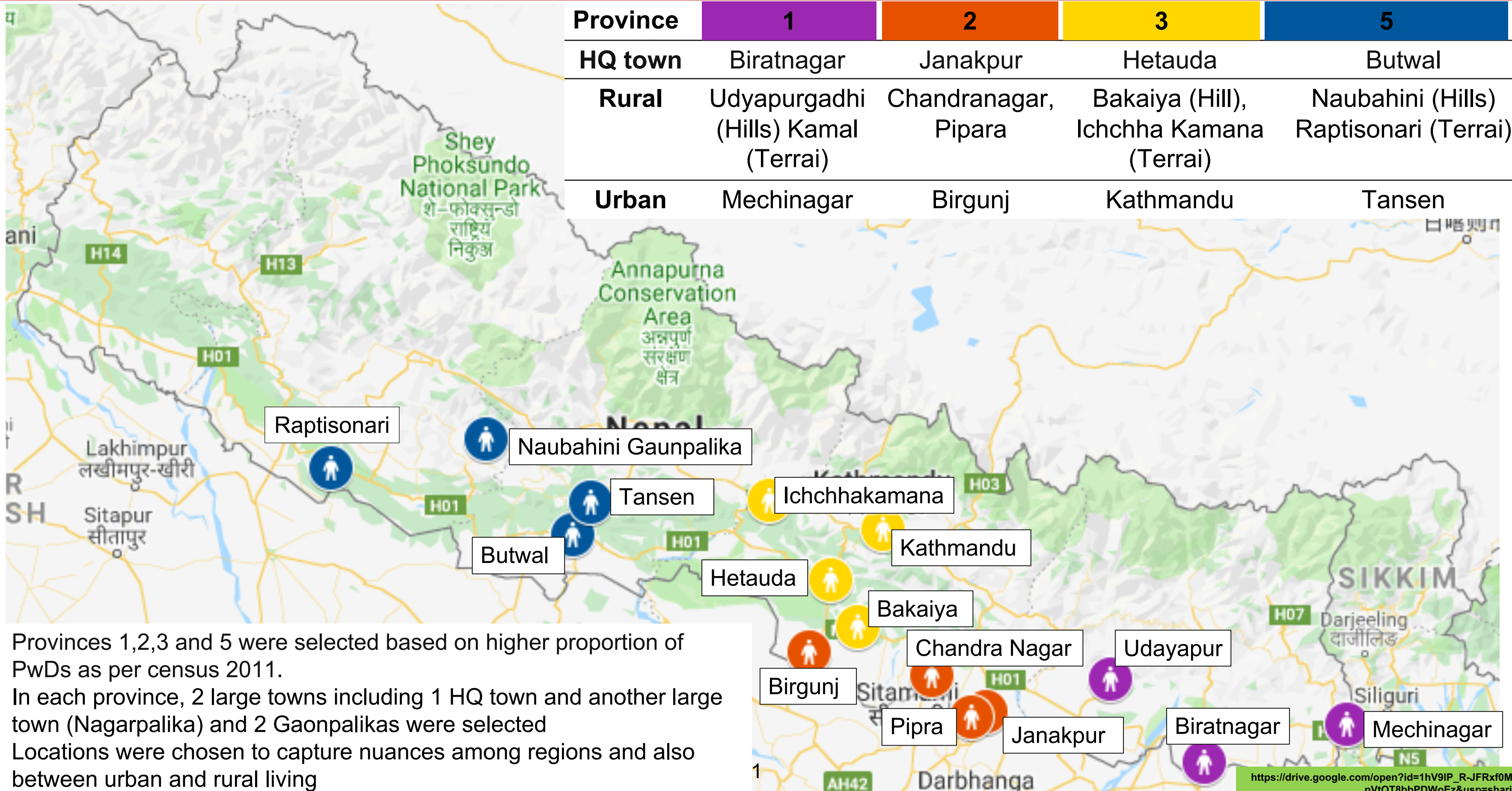
186 PwDs were interviewed in FGDs and IDIs

Number of FGDs

Segment	Male					Female				Total	
	Age (Years)	15-20	20-35	35-45	45-65	65+	15-20	20-35	35-45		45-65
Mobility SEC A/B		1		1			1		1		4
Mobility SEC CDE				1		1		1		1	4
Visual SEC A/B			1		1				1	1	4
Visual SEC CDE	1			1	1			1			4
Hearing SEC A/B			1		1			1		1	4
Hearing SEC CDE			1	1	1				1		4
Total	1	4	3	5	1	1	3	4	2	24*	

*3 additional FGDs conducted as mixed groups of users and non-users of ICT and 12 IDIs with severely disabled

Covered both hill and terrai locations

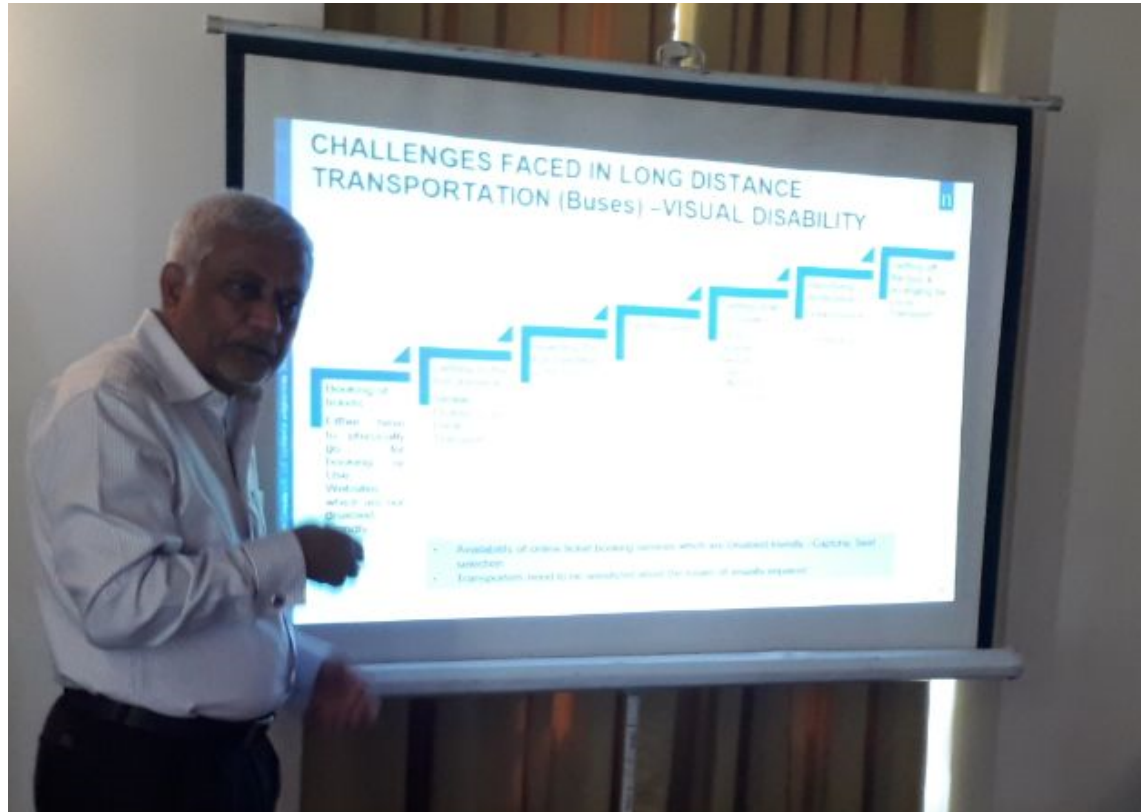


- Provinces 1,2,3 and 5 were selected based on higher proportion of PwDs as per census 2011.
- In each province, 2 large towns including 1 HQ town and another large town (Nagarpalika) and 2 Gaonpalikas were selected
- Locations were chosen to capture nuances among regions and also between urban and rural living

Barriers to independent living by PwDs with hearing, vision & mobility

Problem	Impairment		
	Hearing	Vision	Mobility
Lack of data on PwDs	Green	Red	Blue
Discrimination	Green	Red	Blue
Definition of PwDs	Green	Red	Blue
Lack of awareness among the public	Green	White	White
Access to public places *	Green	Red	Blue
Obtaining driving licenses	Green	White	White
Communication in public places*	Green	White	White
Communication with family members from afar*	Green	White	White
Use of public transport*	Green	Red	Blue
Affordability of assistive products	Green	White	White
Academic examinations not accommodative*	Green	Red	White
Education institutes not inclusive *	White	Red	Blue
Government websites not usable	White	Red	White
Employment quota ineffective	Green	White	White
Vocational training not appropriate/available	White	Red	White
Lack of customized services from telcos	Green	White	White
Lack of customized services from banks	Green	Red	Blue
Limited mobile apps	Green	White	White
High data costs	Green	Red	Blue

Inputs from domain experts, those knowledgeable about Nepali policy, and policy designers shaped the solutions



Priority recommendations that we will take to those in positions to act in next few days

Eight priority solutions that will be taken to those who can act on them

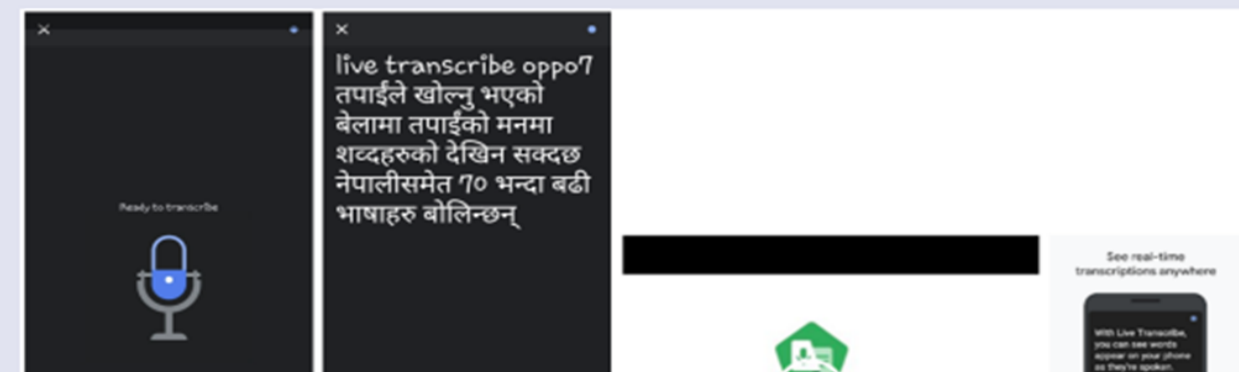
- User friendly public transport for PWDs
- Enabling the hearing/speech impaired communicate in public space (hospitals, police stations, courts) (3)
- Increasing awareness of assistive ICTs among persons with disabilities
- Connecting the hearing impaired with family
- School text books that the visually impaired can use
- Inclusive academic examinations for PWDs

Facilitating communication at healthcare centers for persons with hearing/speech disabilities

Persons with disabilities (PWDs) require access to health services. But PWDs, especially those who have speech or hearing disability, have difficulty communicating with healthcare professionals (doctors and nurses) and customer-contact personnel at hospitals. Most, if not all, healthcare personnel are unable to use or understand sign language. Due to this communication gap, patients with hearing disabilities have, at times, been given wrong prescriptions. This problem can be addressed by using the services of sign-language interpreter. However, sign-language interpreters are in short supply. ICTs may be used to match the constrained supply with the large demand.

Summary of Recommendations

Immediately: Provide public Wi-Fi at health care centers to facilitate short term actions (given below). Create signage at hospitals to inform PWDs about voice transcribing apps (eg: live transcribe application by google) which can be used to understand what healthcare service providers (and other officers) are communicating. These apps could be downloaded via public Wi-Fi.



User friendly public transport for PWDs

- **Immediately:** Provide training for public bus drivers and conductors. This has already been successfully conducted in Kritipur municipality by the police department. Training includes information on how service providers can effectively cater to the specific needs of those with different types of disabilities (e.g., announcing upcoming stops clearly to aid those with visual disability and LED/ visual announcements for those with hearing disability etc.). The training clarifies the benefits to society from PWDs who are able to live more independently.
- **Short term:** Conduct spot checks by police officers to monitor whether PWDs' rights are protected on public transport.
- **Long term:** Introduce a pre-paid digital identity card for PWDs and provide card readers for each bus. The card can be used for alerting drivers and conductors of the bearer's needs, making payments and centrally recording discounts awarded in order that they may be reimbursed to the service providers. The card can be used for other non-transport related services (e.g., healthcare) as well.

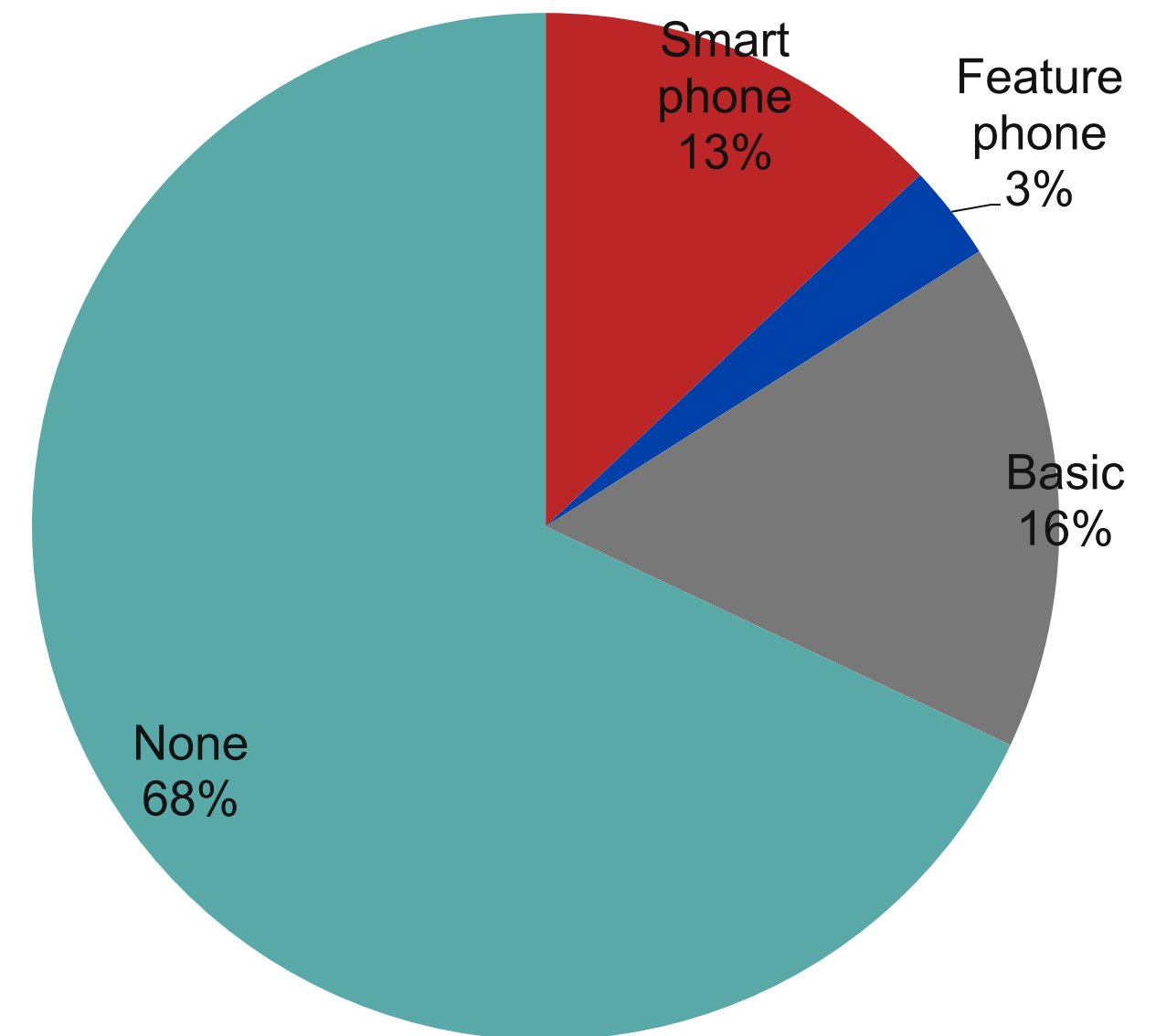
Enabling the hearing/speech impaired communicate in public space (hospitals, police stations, courts)

- ***Immediately:*** Provide public Wi-Fi at health care centers/police stations/courts to facilitate short term actions (given below). Create **signage to inform PWDs about voice transcribing apps** (e.g., live transcribe application by Google) which can be used by hearing/speech impaired to understand what service providers saying. **Good data connectivity** essential for these apps.
- ***Short term:*** **Directory of sign-language interpreters** around the country to be prepared. PWDs/service providers can use public Wi-Fi to obtain **sign-language interpretation via video calls**. Register PWDs when they first access public Wi-Fi and give **priority to Wi-Fi use by PWDs**.
- ***Long term:*** **Stored-value digital identity card for PWDs** which can be used for giving priority and to make payments.

Increasing awareness of assistive ICTs among persons with disabilities

- **Short-term.** Some PWDs have heard of ICT solutions for certain problems they face, but many have not. And even those who are aware may not use them day-to-day. Those in the older generation, particularly, are unaware of these solutions and do not see their value. Simple video clips (including audio or not) can be used to create awareness how to access and use them. But it must be kept in mind that **52% of 15-65 PwDs have no schooling and 18% have only primary education.**

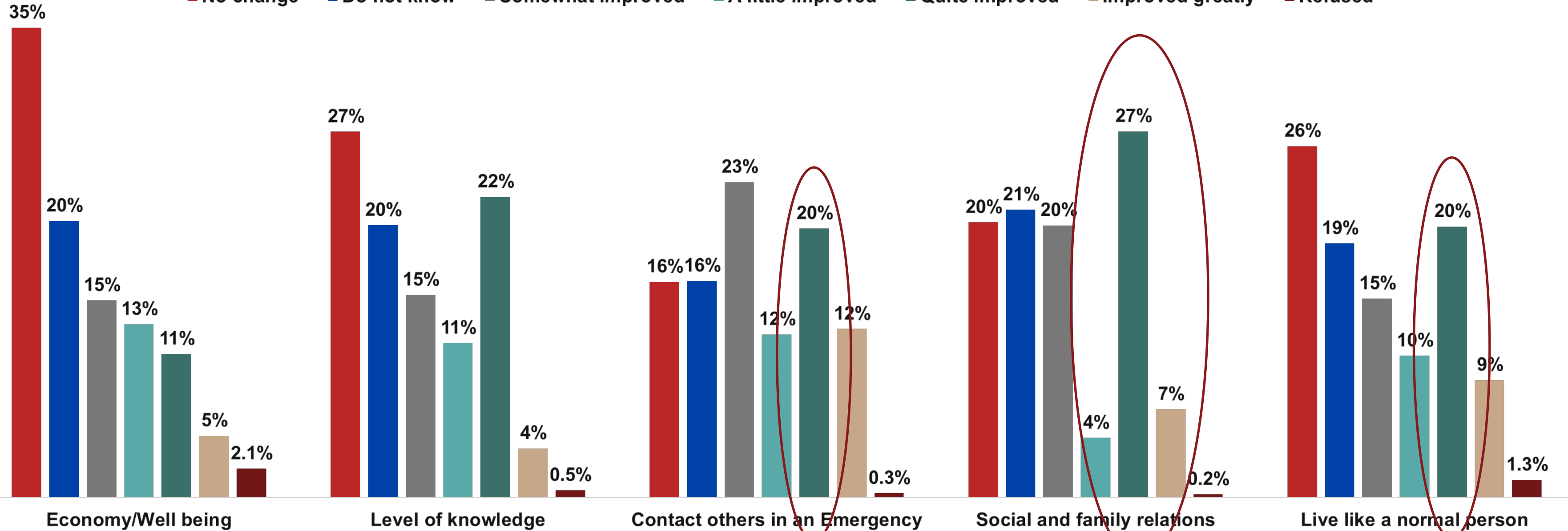
Mobile Ownership
Age 15-65 PWD population



Connecting the hearing impaired with family

Perception on the impact of ICT to the lives of PWD (% of aged 15-65 PWD population who have used a mobile phone in the last 3 months)

■ No change ■ Do not know ■ Somewhat improved ■ A little improved ■ Quite improved ■ Improved greatly ■ Refused



Connecting the hearing impaired with family

- When persons with hearing disability are away from home, they must use video calls to connect with their immediate family. Video calling subsidies are provided for this, but their family members do not have the same subsidies and communication with family is therefore restricted. → **Immediate term:** provide an additional “family” SIM with video calling subsidies to persons with speech/hearing disability.

What is NOT independent living

- *“I don’t go anywhere so I don’t have any difficulty. It’s been years that [I don’t go outside]. But when I wore an artificial leg at the age of 13, I went outside all the time. I feel regretful now. But now, I can’t go.”*

A respondent from our Myanmar study

Toward independent living . . .

- Private space (“home incarceration”) → public spaces [inclusive public transport + (e.g., driving licenses for the hearing disabled)]
- Ability to function in public spaces (hospitals, schools, courts, etc. not just streets and parks) → ability to communicate, but more . . .
- Ability to participate in society → education (text book, exams, and more . . .)
- Ability to make a living → employment, enterprises