

Utilising a Sustainable Community of Practice Model to Strengthen of Wheelchair Provision Nepal: A Situational Analysis with Rich Pictures

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Biratnagar | Pokhara | Butwal | Kathmandu

“It is estimated that by 2050 over 3.5 billion people would benefit from Assistive Technology, yet 90% will not have access.” - WHO

“About 2.2% of people in Nepal have a disability and 37% have physical disabilities.” (Nepal Census 2021)



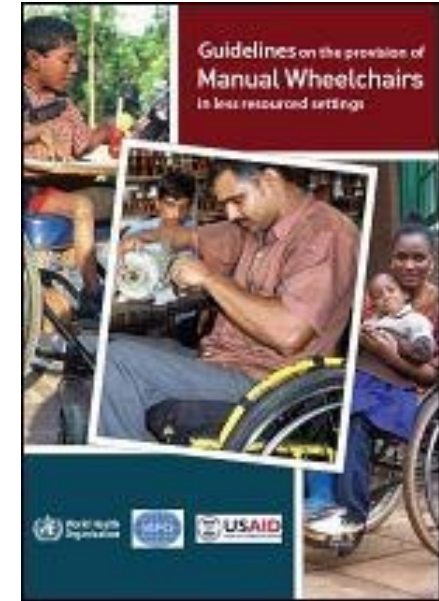
Sustainable Wheelchair & Seating Provision
Meeting Peoples Primary Needs
Now and In the Future



Appropriate Wheelchair Provision

A wheelchair that meets the user's needs and environmental conditions; provides proper fit and necessary support; is safe and durable; is available in the country; and can be obtained and maintained and services sustained in the country at the most economical and affordable price

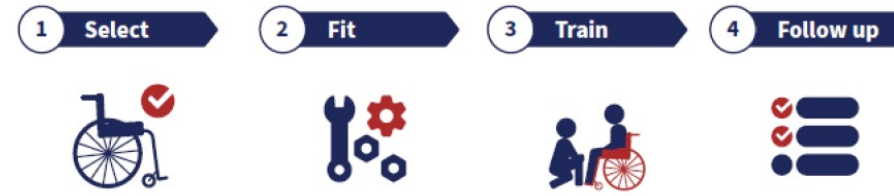
Adapted from the World Health Organization, “Guidelines on the provision of Manual Wheelchairs in less resourced settings”, 2008. Available at: <https://www.who.int/publications/i/item/guidelines-on-the-provision-of-manual-wheelchairs-in-less-resourced-settings>



- Global challenges exist, with context specific nuances that optimise, or limit development of appropriate in-country wheelchair services.
- WHO Global Wheelchair Provision Guidelines support improved provision processes, targeting key stakeholders including policymakers, personnel, wheelchair users and representative organizations to develop sustainable, seamless services.



5P framework of AT service provision guidelines [1]



1 Select
The wheelchair user's specific needs and preferences are defined through an individual assessment, to select the most appropriate wheelchair(s) for them.

2 Fit
The wheelchair, wheelchair cushion, postural support devices and any other accessories are prepared and fitted for the wheelchair user.

3 Train
The wheelchair user, along with those who will assist them, takes part in task-specific training in how to use and care for their wheelchair.

4 Follow up
Follow up is offered to all users, for as long as they require a wheelchair, with the frequency based on their individual needs.

These four steps begin once a person identifies, or has been identified, as needing a wheelchair and accesses a wheelchair service. The same four steps apply each time a person is assessed or reassessed for a new wheelchair.

4 major steps for wheelchair services [2]

1. *Global Report on Assistive Technology* (2022). Available at: <https://www.who.int/publications-detail-redirect/9789240049451> (Accessed: 31 July 2023).
2. *Wheelchair provision guidelines* (2023). Available at: <https://www.who.int/publications-detail-redirect/9789240074521> (Accessed: 31 July 2023).





BY INVITATION ONLY



Enabling Friday

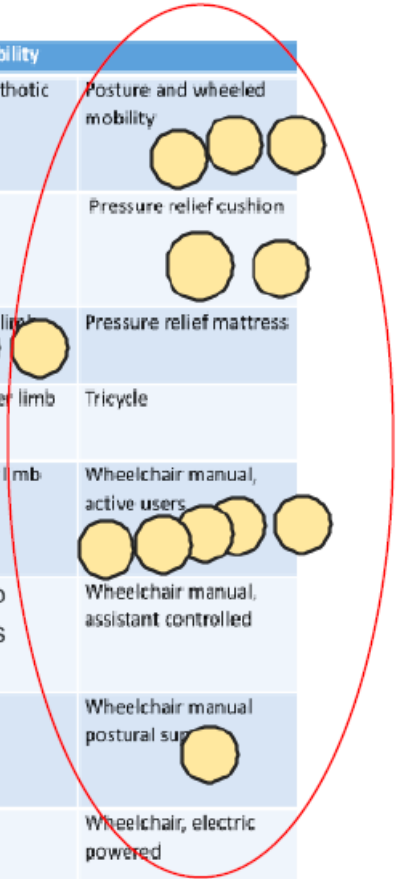
At Enabling Fridays, we want to bring together local and global expertise working in the AT sector to identify routes that could unlock local innovation, and improve current gaps in service.

Our mission is to collectively build sustainable assistive technology (AT) provision in Nepal by supporting infrastructure development through advocacy, evidence-based practice, service system standards and innovation, working together to meet the needs of persons with disabilities now and in the future.



What priority product-service (s) will we focus on to test & build a sustainable service provision process?

Daily Living	Communication		Sensory		Personal Mobility		
Self-care / Domestic life/ Cognition	Augmentative and Alternative Communication	Access to ICT	Visual	Auditory	Ambulant Mobility	Prosthetic & Orthotic	Posture and wheeled mobility
Chairs for shower/ bath/ toilet	Communication boards/ books/ cards	Key board and mouse emulator software	Spectacles	Hearing aids	Canes/ sticks	Orthosis Spinal	Pressure relief cushion
Fall detectors	Communication software	Simplified mobile phones	White cane	Hearing loops	Club foot braces	Orthosis upper limb	Pressure relief mattress
Hand rails/ grab bars	Gestures voice technology	Communication important	Braille display (note takers)		Crutches, axillary/elbow	Prosthesis, lower limb	Tricycle
Incontinence products, absorbent	Video communication devices		Braille writing equipment/ brailers	Deaf blind communicators	Rollators	Orthosis, lower limb	Wheelchair manual, active users
Personal emergency alarm	What is the goal? What is are the skills here in the group. how do we prioritize where to start	Content in local languages	Magnifiers digital, hand-held	Alarm signalers with light, sound and vibration	Standing frames	Upper limb prosthetics	Wheelchair manual, assistant controlled
Personal digital assistance (PDA)			Accessible digital contents as well.	Magnifiers, optical	Closed captioning displays	Therapeutic foot wear	
Pill organisers			Screen readers		Walking frames, walkers		Wheelchair, electric powered
Ramps, portable	Hearing aid is not explored here. There could be opportunity and motivation to do this as a research.	IT infrastructure	Audio players with DAISY capability			Spares for prosthetics and orthotics components, wheelchairs	Local production of spares like castors and footrests - can use digital manufacturing to adapt to different chair designs or adapted from what exists locally.
Recorders				Education and training for the wheelchair users, wheelchair skills and maintenance and repair	Whole community, hospital and in the community		
GPS							



Aim

- Conduct a situational analysis to understanding manual wheelchair provision in Nepal by applying a Sustainable Community of Practice (SCOP) model, guiding four one day in-person workshops across four provinces.
- Provide participants including people with disability, practitioners and policy makers (n=116), to meet each other and share experience and ideas and understand the value, meaning, viability and visibility of wheelchair provision within their provincial context.
- Create a pictorial representation of what Wheelchair Provision looks like, known as a ‘Rich Picture’
- Identify and prioritize issues that inhibit the smooth flow of wheelchair service provision.
- Formulate recommendations future action.

Ethics Approval: UCL [Project ID No: 16149/001]& Nepal Health Research Council

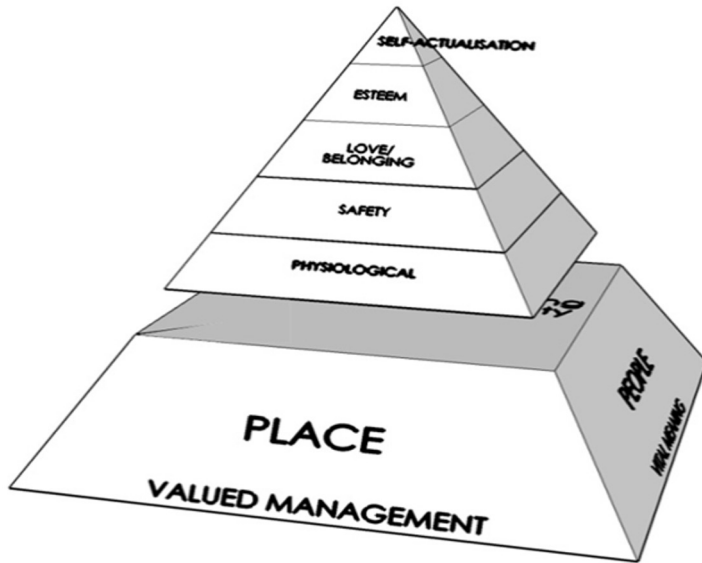


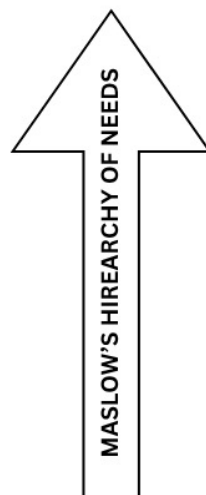
Sustainable Community of Practice Model (SCOP)

(Gowran 2012)

Four key interconnected dimensions to build a sustainable community of practice towards sustainability action utilising a soft systems approach.

(Gowran 2012, 2015, 2017)





At the highest level, individuals strive to realize their full potential through personal growth, creativity, and purpose.

This level reflects the need for self-respect, recognition, achievement, and the respect of others.

People are motivated by a desire for social connection, affection, friendship, and a sense of community.

Once physiological needs are met, individuals seek security, stability, protection, and freedom from fear or harm.

These are the most basic human survival requirements, including food, water, air, rest, and shelter.



Valued Management of the Place identifies the in-country contextual conditions, geographical, political and historical developments.

Vital Meaning to the People engages the key stakeholder/people accessing, providing and procuring services to understand perspectives.

Viable Maintenance affecting the Pace identifies the bottlenecks and barriers affecting the flow or pace of provision and sustainability gaps.

Visible Mindfulness for effective Policy generates a shared or collective understanding of the situation, working in partnership to create actionable sustainability policy.

Figure: SCOP Framework for Nepal (Illustration adapted from Gowran (2012) with permission)

Image/Graphics by **Thapa (2025)**



SCOP Model: Valued Management of the Place

Identifies the in-country contextual conditions system, geographical, political and historical developments.

- Services are concentrated in Urban Centres
- Inconsistent Across Provinces
- Rely on charitable donation, one size fits all approach with limited follow up services.
- Need for Country Specific Strategy

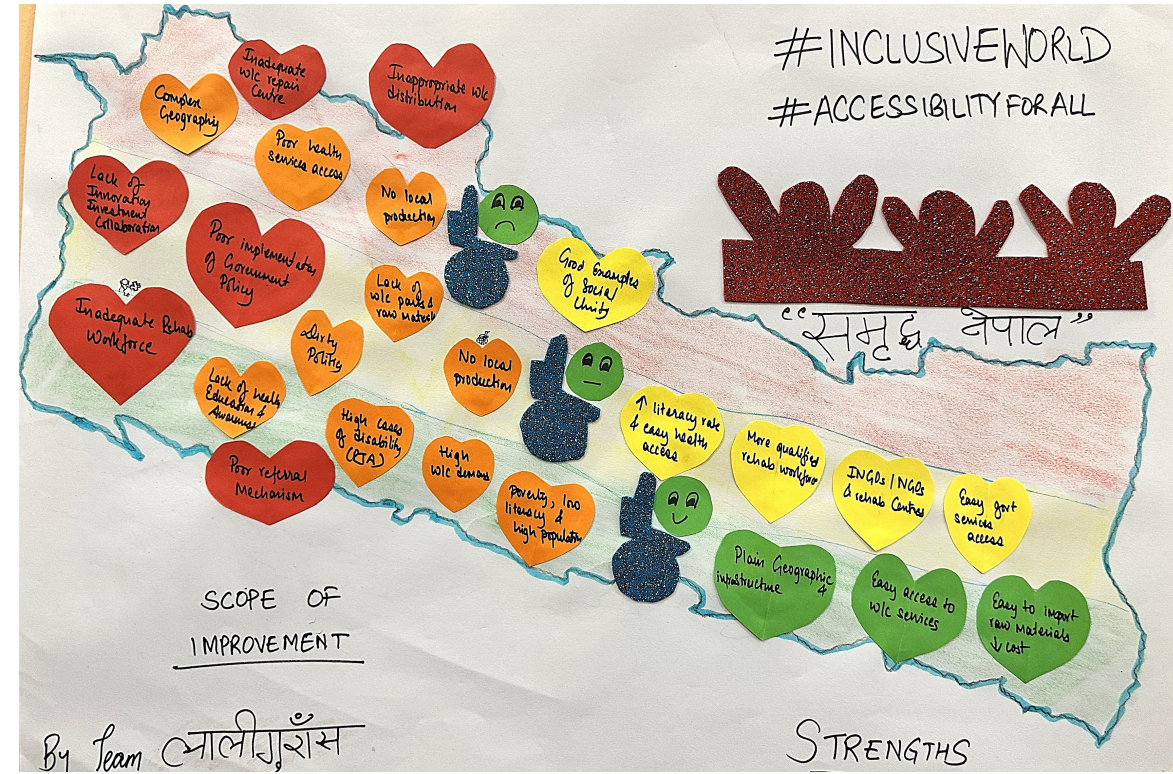


Image: Rich picture by a group in Kathmandu highlighting strengths and weaknesses around assistive technology provision in Nepal across three different geographical region – Plain terai, Mid hills and the Himalayas.



Understanding Context

- Census 2021 shows 2% population have Disability, varying slightly across provinces
- Physical disabilities are most prevalent disability
- WHO Rapid Assistive Technology Assessment (rATA) survey (2021) reported 12.5% disability rate amongst the sampled population (N=1,060) across Gandaki Province, six times higher than the reported census.
- Priority Assistive Product List for Nepal
- Situation Assessment on Rehabilitation in Nepal (2022) - report uneven distribution of rehabilitation professionals across different provinces.
- Concentration of Physiotherapists, who are the key rehabilitation personnel in the country is at least 75% in Bagmati Province, primarily within urban centres like Kathmandu whereas Gandaki province have around 5% of the total physiotherapists. (EDCD, 2022).
- **Seven Occupational Therapists to 30 million people.**



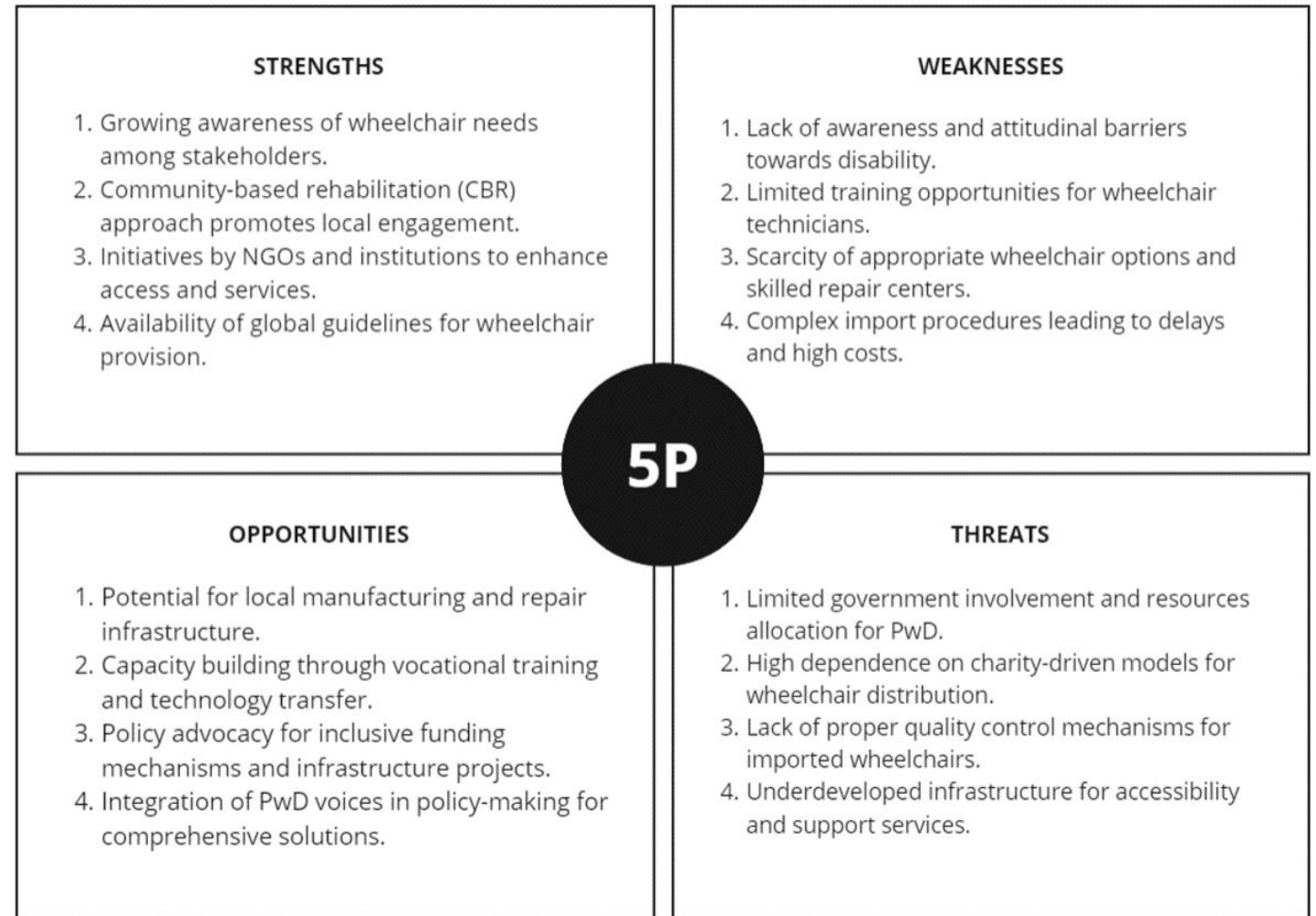
SCOP Model: Vital Meaning for the People

Engages key stakeholders/ people accessing, providing and procuring services to understand perspectives.

Stage 1: Individual interviews (n=14)

Physiotherapist,
Service Providers,
Wheelchair Users and carers,
Repair technicians,
Leaders of disability institutions

Situation of Wheelchair Provision in Nepal (5P: People, Personnel, Products, Provision, Policy)



(Ram C Thapa et al, 2023)



- Biratnagar 26 March **Koshi** (n=28)
- Pokhara - 29 March **Gandaki** (n=31)
- Butwal 1 April **Lumbini** (n=30)
- Kathmandu - 4 April **Bagmati** (n=27)

Team

Thanks to Centre for Disabled Children Assistance (CDCA)



Fabricating ramp



Finished ramp



Wheelchair users returning from workshop.



Stage 2: Provincial Participatory 1 Day Workshops Conducted in both English & Nepali

Session 1:

- Current Wheelchair Services Landscape
- Stakeholder Identification and Their Roles
- Barriers Affecting Service Flow
- Stakeholder Sentiments and Perceptions



Image: Workshop participants engaging in group discussion during the Biratnagar workshop.



Table 1. Workshop participants summary – Pokhara, Gandaki Province

Participation	Female		Male		Grand Total
	Identifies as having a disability		Identifies as having a disability		
Sector	No	Yes	No	Yes	
Local Government	4		6		10
Officer	3		4		7
Policy Maker	1		2		3
Service Provider	4		4	4	12
Policy Maker	1			1	2
Rehabilitation Provider	3		4	2	9
Wheelchair Technician				1	1
User		5		4	9
Rehabilitation Provider		1		2	3
User		4		2	6
Grand Total	8	5	10	8	31

Table 1. Workshop participants summary – Biratnagar, Koshi Province

Participation	Female		Male		Grand Total
	Identifies as having a disability		Identifies as having a disability		
Sector	No	Yes	No	Yes	
Local Government	1		2		3
Officer	1		1		2
Policy Maker			1		1
Service Provider	6		11	4	21
Rehabilitation Provider	5		9	3	17
Supplier	1		2		3
Wheelchair Technician				1	1
User		2		2	4
User		2		1	3
Wheelchair User				1	1
Grand Total	7	2	13	6	28

Workshop Participants (n=116)

Table 1. Workshop participants summary – Kathmandu, Bagmati Province

Participation	Female		Male		Grand Total
	Identifies as having a disability		Identifies as having a disability		
Sector	No	Yes	No	Yes	
Local Government	2				2
Policy Maker	2				2
Service Provider	4	1	11	4	20
Policy Maker			1	1	2
Rehabilitation Provider	4	1	9	3	17
Wheelchair Technician			1		1
User		1		4	5
Officer		1			1
Supplier				1	1
Artist				1	1
Wheelchair Technician				2	2
Grand Total	6	2	11	8	27

Table 1. Workshop participants summary – Butwal, Lumbini Province

Participation	Female		Male		Grand Total
	Identifies as having a disability		Identifies as having a disability		
Sector	No	Yes	No	Yes	
Local Government	2		3		5
Officer	1		3		4
Policy Maker	1				1
Provincial Government			1		1
Policy Maker			1		1
Service Provider	9	2	2	3	16
Policy Maker		1			1
Rehabilitation Provider	9	1	2	3	15
Users	1	1	2	4	8
Carer			2		2
User	1	1		4	6
Grand Total	12	3	8	7	30



Multi-stakeholders and Roles – need to bring together

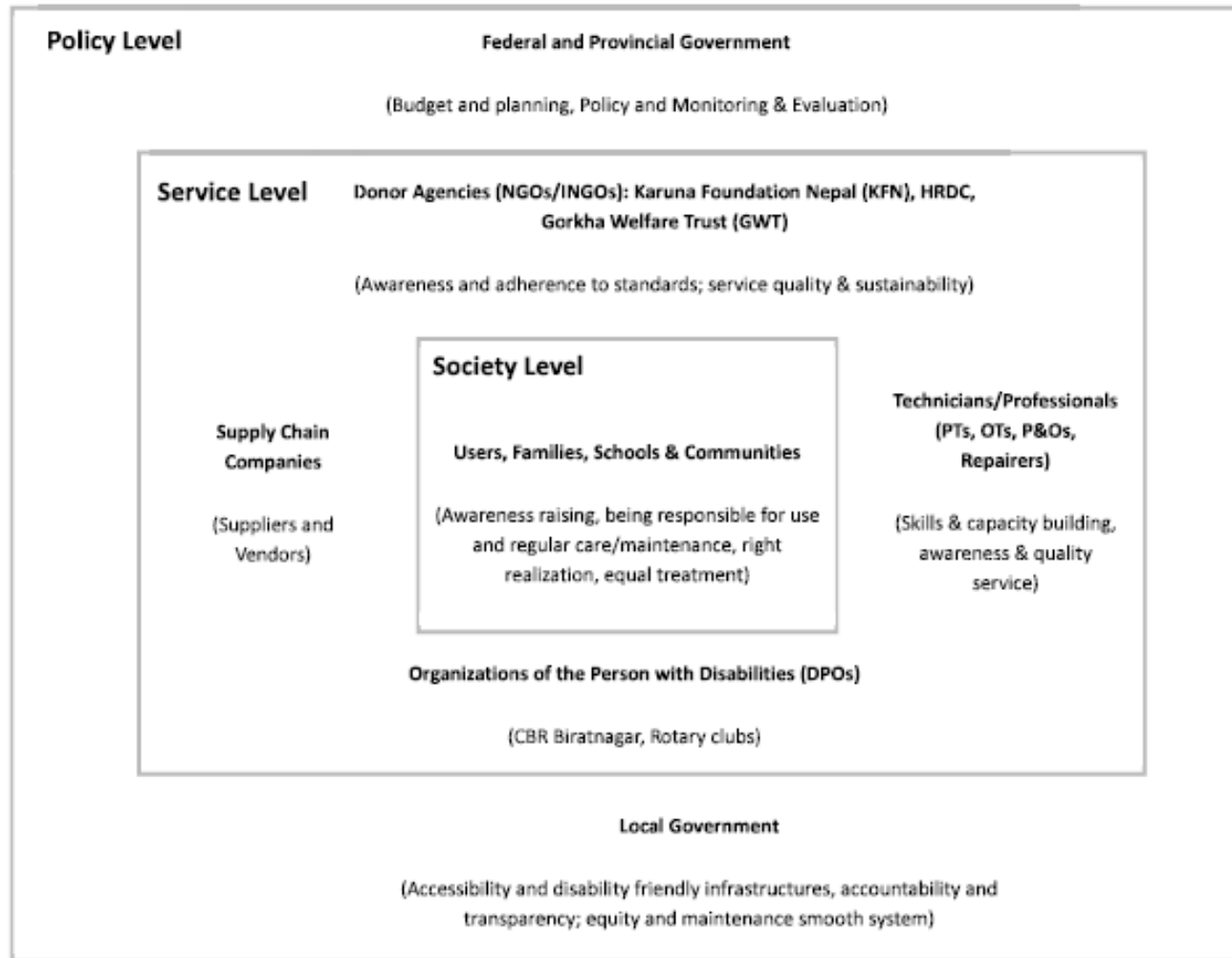


Figure 7. Wheelchair sector stakeholder diagram of Koshi Province.



SCOP Model: Viable Maintenance affecting the Pace

Identifies the bottlenecks affecting the flow and pace of provision and the sustainability gaps.

- **High demand, limited budget**
- **Fragmented services, Nepotism in distribution**
- **Limited awareness, poverty**
- **Poor personnel capacity**
- **Low quality, supply, customisation of products**
- **Reliance on random charity**
- **Repair services, access to parts**
- **Policy, resource, co-ordination gap, Bureaucratic complexity**
- **Environmental infrastructure**
- **Lack of good data**
- **Daily challenges – inappropriate wheelchairs – too big**
- **Wheelchair Provision an uphill journey**



Image: Group work during the Pokhara workshop.



Session 2 Creating a Rich Picture | विस्तृत चित्र सृजना अभ्यास

- To create a pictorial representation of what Wheelchair Provision looks like.
- ‘Rich Picture’ is based around wheelchair provision in this region and includes key *stakeholder perspectives of provision, interactions and connections between.*
- The purpose of the ‘Rich Picture’ is to provide an opportunity for open discussion and come to a broad, shared understanding of the wheelchair services.
- Bring people together on a level playing field.
- In groups participants used materials provided to create their picture
- Nominated a spokesperson to provide feedback





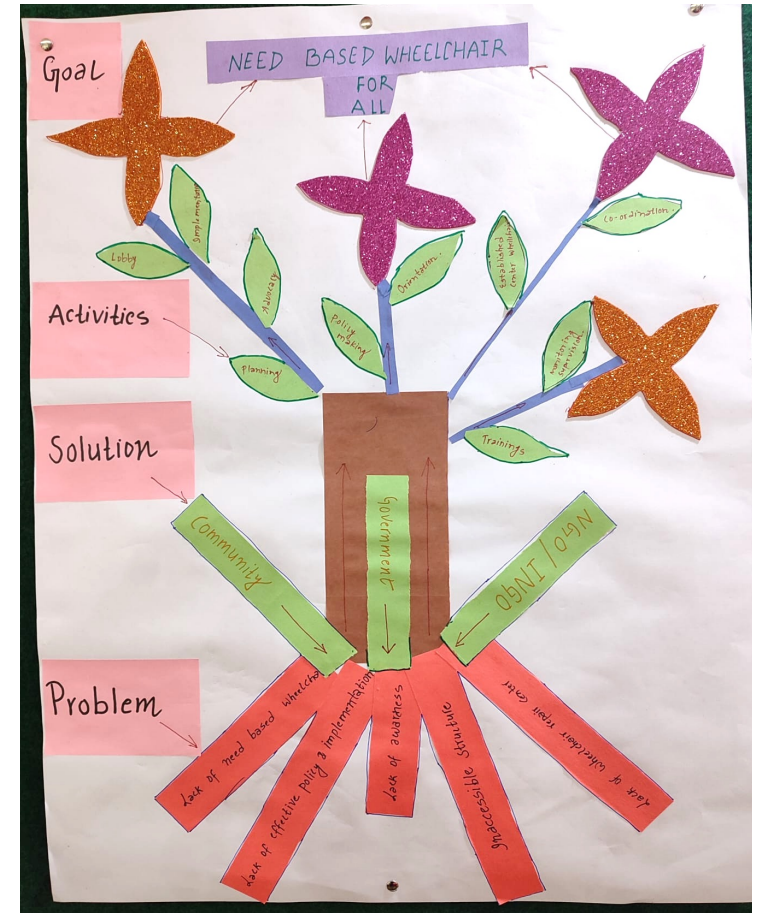
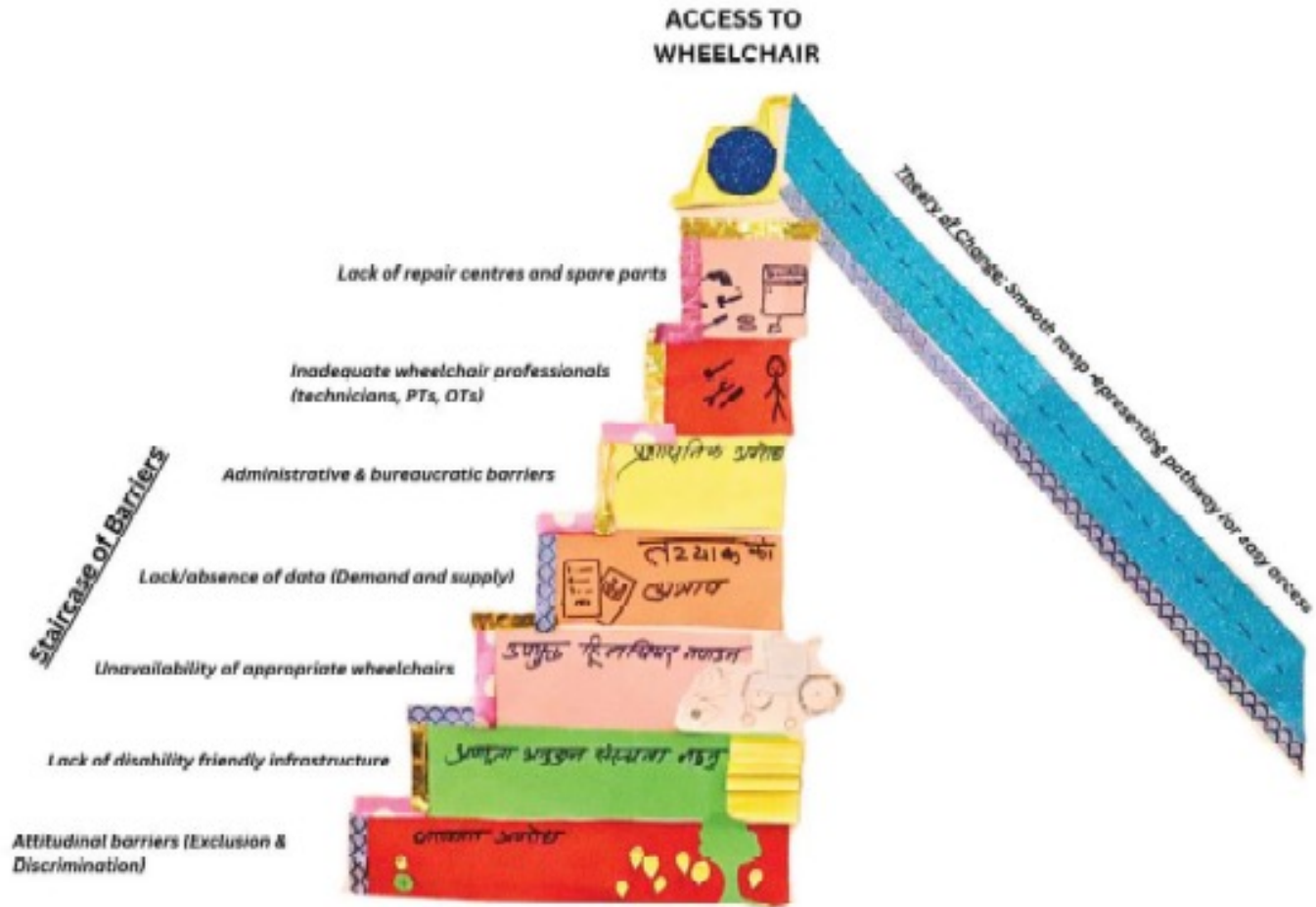
Figure 9. Users' sentiment drawn in the rich picture shows the feeling of 'missed out' or isolation.

Profound frustration, anxiety and strong desire for dignity



Chain of Mobility - inaccessible environment





Tree of Change – Receive Needs Based Wheelchairs for All

Wheelchair Provision – an uphill journey, ‘staircase of barriers’



SCOP Model: Visible Mindfulness for effective Policy

Generates a shared or collective understanding of the situation, working in partnership to actionable sustainability policy.

- **Reflective Consciousness**
- **Collective Awakening**
- **Sustainability Action**

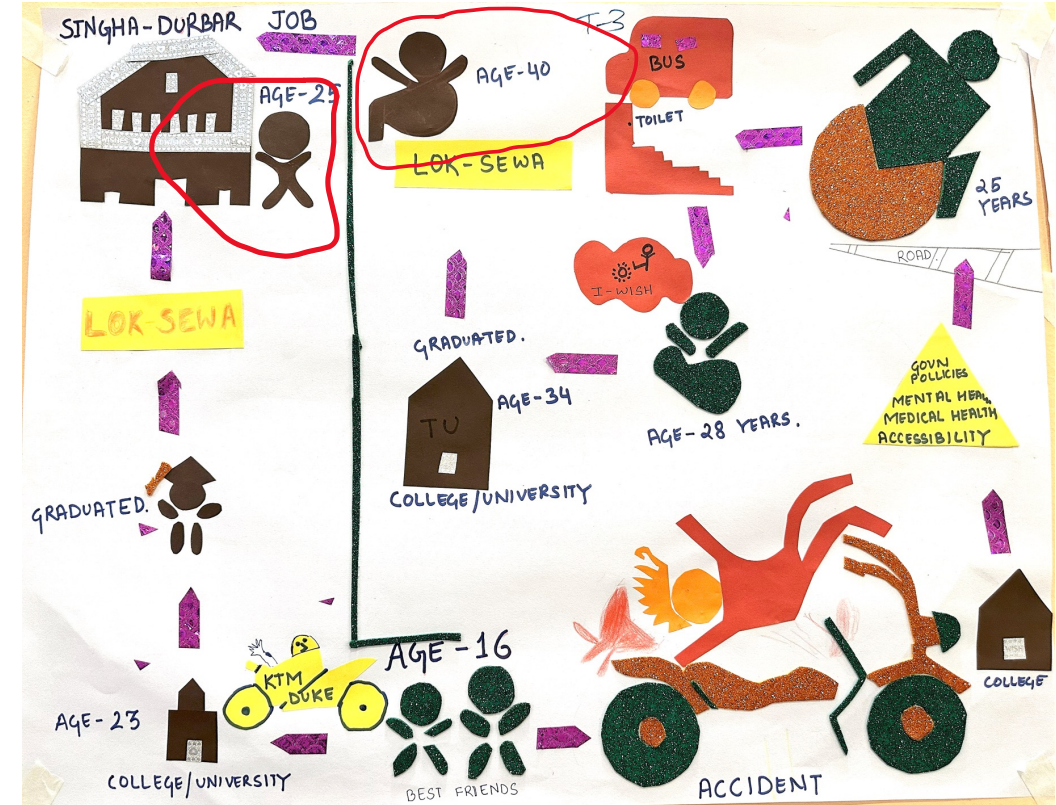


Image: Understanding the journey – inequity
Kathmandu



Key priorities:

Policy

- Policy and Government will
- Rights based approach
- Advocacy and Awareness
- Communication & coordination

People

- Access for All People (throughout life)
- Built environment (home and away)
- Transportation / mobility
- Data base / Registry

Personnel

- Building Capacity (workforce)
- Education and Training for All

Provision

- Assessment and measurement
- Regulation, monitoring and follow up
- Repair / Maintenance service

Product

- Product selection and supply capacity
- Local production
- Innovation and product development

Other Priorities:

Promoting early intervention and Preventative Healthcare



Next Steps

This report offers comprehensive insights into Nepal's wheelchair provision landscape, highlighting the urgent need for systemic transformation to achieve sustainable, equitable wheelchair services nationwide.

Present to the Ministry of Health & Population.

For detailed provincial-level findings, please refer to the individual workshop reports linked below:

[Biratnagar, Koshi Province](#)

[Butwal, Lumbini Province](#)

[Pokhara, Gandaki Province](#)

[Kathmandu, Bagmati Province](#)



1. Biratnagar Group



2. Pokhara Group



3. Butwal Group



4. Kathmandu Group

Consensus Building

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Thank you for listening and time for questions!



References:

1. World Health Organization, “Guidelines on the provision of Manual Wheelchairs in less resourced settings”, 2008. Available at: <https://www.who.int/publications/i/item/guidelines-on-the-provision-of-manual-wheelchairs-in-less-resourced-settings>
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3. Wheelchair provision guidelines (2023). Available at: <https://www.who.int/publications-detail-redirect/9789240074521> (Accessed: 31 July 2023).
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6. Wheelchair Provision Situational Analysis Workshops: <https://at2030.org/nepal-wheelchair-provision-workshop-report/>

