AT2030

Workshop Report

Wheelchair Provision in Nepal: Pokhara, Gandaki Province

Provincial Report

Prepared by
Prepared by The GDI Hub

Cluster 5: Integrate

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Center for Disabled Children Assistance
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This research has ethical approval from University College London (UCL) and permission from the Nepal Health Research Council (NHRC).

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Introduction

Figure 1. An active wheelchair user presenting the importance of appropriate wheelchair and accessible infrastructure pointing at the rich picture created by his team at the Pokhara workshop.

Wheelchairs as an essential mobility device for people with disabilities are well recognized whereas their postural function is often overlooked. *Gowran (2012)*[1] in the 'Sustainable solutions for wheelchair and seating assistive technology provision' argues that *"using the*

[1] Gowran RJ. Guest Editorial, Irish Journal of Occupational Therapy, Special Edition Wheelchair and Seating Provision. 2012; 39(2): p. 2.

terms wheelchair and seating together strengthen their use as a primary and essential assistive technology grouping which cannot be replaced by the assistance of another human being." Wheelchair and seating assistive technology (WSAT) together play a pivotal role in supporting a person's physical and mental well-being, independence, and meaningful participation in society.

Wheelchair and seating assistive technology (WSAT) is both an intrinsic and extrinsic enabler, being defined by *Gowran (2012)* as:

'An enabler both extrinsically and intrinsically for people with short-term and permanent posture and mobility impairments of body functions and structures to actively participate across the life span in everyday living. The type anfd complexity of the wheelchair and seating technology provided will depend on the limitations and restrictions caused to individuals' posture and mobility to personally participate within their desired environment and context.'

The World Health Organization (WHO) defines an appropriate wheelchair as one that is individually fitted, responsive to the user's physical, environmental, and lifestyle needs, and is safe, durable, and locally maintainable. Its provision must be embedded within a comprehensive service system that includes assessment, fitting, training, and follow-up care. Despite its significance, WHO highlights that equitable access to and standardized provision of appropriate wheelchairs remains a global challenge. Wheelchair provision encompasses the

full process of design, production, supply, and service delivery, and should adhere to the principles and protocols outlined in the *WHO Wheelchair Provision Guidelines (2023)*[2].

In Nepal, where services are concentrated in urban centers and inconsistent across provinces, it urgently requires a country-specific strategy for sustainable wheelchair provision due to its unique geographic and socio-political context. Despite global guidelines, evidence suggests that wheelchair service delivery remains inefficient, with limited national legislation or structured support systems in place *(Gowran et al., 2021)*[3]. For example, from the *'Wheelchair provision within Romania and the Philippines'* comparative study, *Gowran et al. (2019)* identified contrasting yet equally challenging service landscapes across these country contexts. Romania operates within a centralized, medicalized system marked by bureaucratic inefficiencies, limited user participation, and a lack of trained personnel. In contrast, the Philippines relies on a decentralized, NGO-driven model, resulting in fragmented services, poor coordination, and major access issues in remote areas. Despite these contextual differences, both countries face common barriers such as inadequate policy frameworks,

[2] Wheelchair provision guidelines. (2023). Geneva: World Health Organization; Available at: https://www.who.int/publications/i/item/9789240074521 [Accessed 22 Oct. 2023].

[3] Gowran, R.J., Bray, N., Goldberg, M., Rushton, P., Barhouche Abou Saab, M., Constantine, D., Ghosh, R. and Pearlman, J. (2021). Understanding the Global Challenges to Accessing Appropriate Wheelchairs: Position Paper. *International Journal of Environmental Research and Public Health*, [online] 18(7), p.3338. doi: https://doi.org/10.3390/ijerph18073338.

limited data systems, shortage of qualified professionals, and lack of repair services and context-appropriate wheelchairs *(Gowran et al., 2019)*[4].

Studies from diverse settings such as Ireland, Romania and The Philippines by *Gowran et. al (2017, 2019, 2021)*[5] demonstrate that tailored strategic planning - developed in collaboration with governments and stakeholders - is essential for building effective, equitable, and sustainable wheelchair services. Aligning national efforts with WHO's Global Standards and Assistive Products Specifications (APS) global guidebook can help ensure quality and contextual relevance.[6] *Gowran et al.* highlights that sustainable wheelchair service provision requires global commitment and context-specific strategies that reflect users' needs across their life course. These researchers claim that despite growing demand, access remains limited due to inconsistent regulation, insufficient funding, inadequate policy frameworks, and a shortage of trained personnel. To address these challenges, researchers suggest that countries must develop inclusive, evidence-based, and integrated systems supported by competent professionals and diverse, appropriate products *(Gowran et al., 2021).*

[4] Gowran (2019): Developing country-specific wheelchair service provision strategic plans for Romania and the Philippines, Disability and Rehabilitation: Assistive Technology, Available at: https://doi.org/10.1080/17483107.2018.1539131.

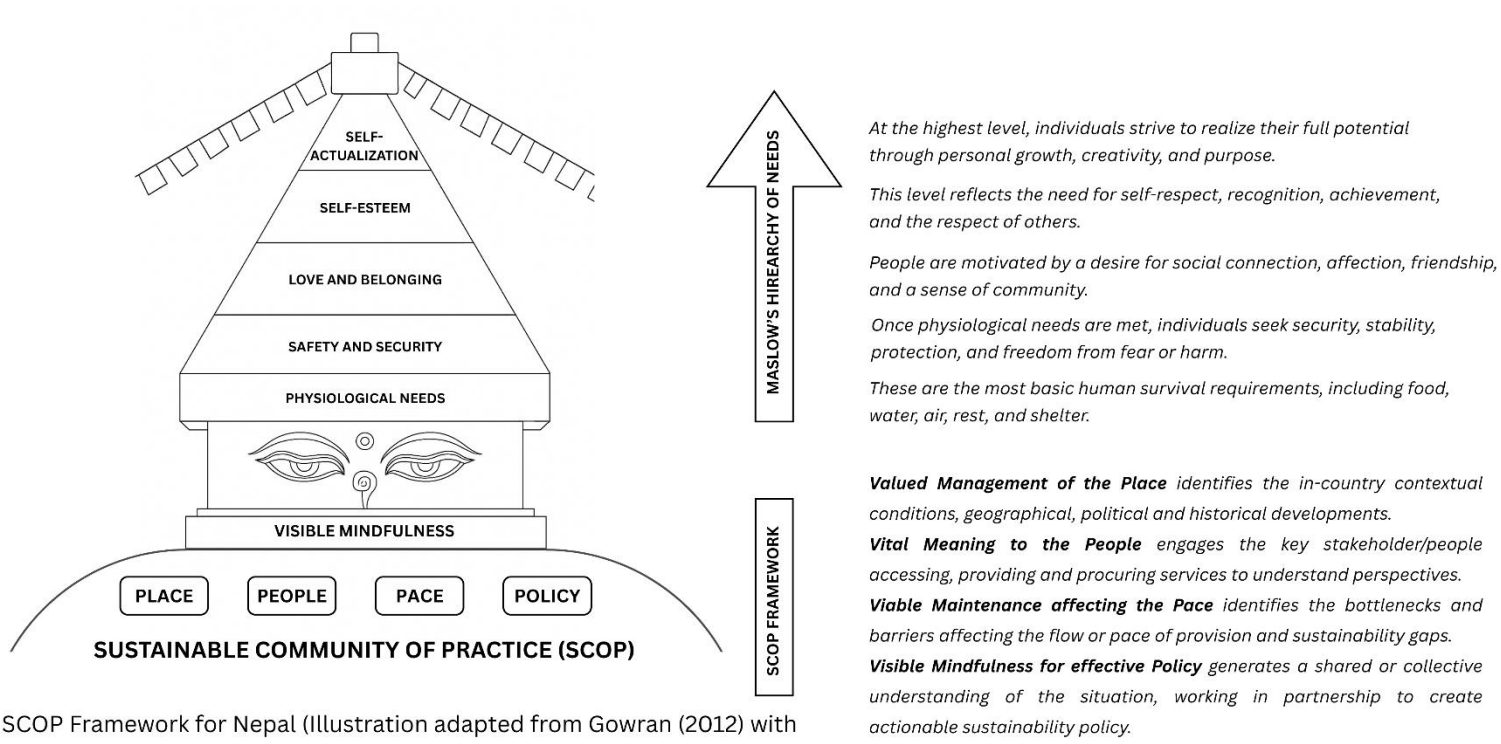
[5] Gowran, R.J., Casey, J., & Daly, J.B. (2017). Utilising a Sustainable Community of Practice Model to build best practice in Wheelchair provision on the Island of Ireland. Available at: https://pure.ul.ie/en/publications/utilising-a-sustainable-community-of-practice-model-to-build-best.

[6] Assistive product specifications and how to use them. (2021). World Health Organization. Available at: https://www.who.int/publications/i/item/9789240020283. [Accessed 10 Jun. 2025].

Applying the Sustainable Community of Practice (SCOP) model *(Gowran et al., 2017)* to view wheelchair provision in Nepal, this study seeks to understand the landscape of overall wheelchair product and service provision, deep diving into its provincial situation.

This report focuses on **Gandaki Province.** The SCOP model has four interconnected dimensions which provide a foundation for countries to evaluate their current situation and build context specific platforms to support the development of appropriate wheelchair provision as a prerequisite to meet the lifestyle needs of all citizens requiring wheelchair services at any time in life.

The SCOP model four dimensions (see figure 2 below):



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

Figure 2. Model for Building a Sustainable Wheelchair Community of Practice (SCOP) where Place, People, Pace and Policy remains the foundation for human needs (Gowran, 2012).

For overall background information on the Situational Analysis of Manual Wheelchair Provision methodology and process, please refer to this report.

Valued Management of the Place (context):

Gandaki Province

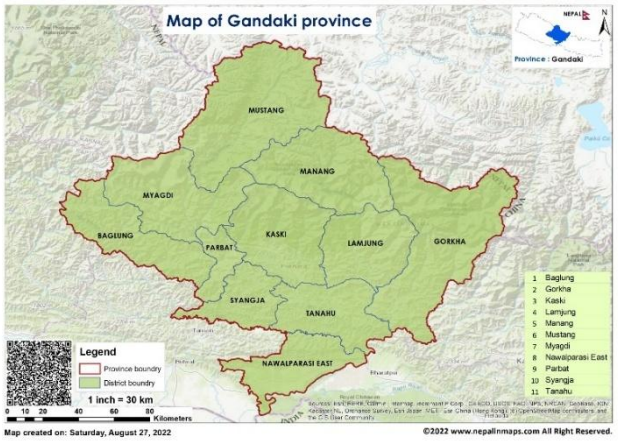


Figure 3. Gandaki Province in the map of Nepal (Source: Nepalinmaps)

This dimension presents Gandaki Province identifying the contextual conditions and infrastructure from a geographical, political and historical perspective.

Geography, Culture, and Population

Gandaki Province, located in west-central Nepal, spans a varied terrain - from the Himalayan peaks (including Mustang and Manang districts), through the Mid-Hills (such as Gorkha, Tanahun, Lamjung), down to the Terai plains in Nawalpur. It is geographically diverse and bordered by towering peaks of the Annapurna Range with China to the north and India on its southern fringe. According to the 2021 national census, Gandaki Province is home to roughly 2.47 million people, representing 8.46 % of Nepal's total population, with a population density

of about 115 persons/km². Urbanization is significant: approximately 65.8 % of its population resides in urban municipalities - cities like Pokhara *(figure 4)* and Nawalpur - while 34.2 % live

Figure 4. Phewa Lake and Pokhara valley, the capital of Gandaki Province.

in rural municipalities (NPHC 2021, 2023)[7].

Ethnically and culturally, Gandaki is diverse. Its residents include Brahmin, Chhetri, Gurung, Magar, Newar, Tamang, and Dalit communities, reflecting a wide array of traditions and

[7] National Population and Housing Census 2021 (National Report). (2023). [online] Ramshahpath,Thapathali, Kathmandu, Nepal: National Statistics Office. Available at: https://censusnepal.cbs.gov.np/results/files/result-folder/National%20Report_English.pdf [Accessed 10 Jun. 2025].

languages. Pokhara, the provincial capital of Gandaki Province stands out as a major cultural and tourism hub of the country, rooted in Tibetan-Buddhist heritage and Gurung traditions.

Disability Rates and Trends

According to the 2021 National Population and Housing Census, 3.12% of Gandaki Province's population lives with some form of disability, higher than the national average of 2.2 % and one of the highest figures in the country. Physical disabilities and low vision impairments are among the most reported. Among the disability types recorded, physical disabilities remain most prevalent, accounting for around 31.56% of all disabilities - slightly lower than the national share - followed by low vision (approximately 15.8%) and deafness (10%).

Additional data from the *2022 Nepal Demographic and Health Survey (NDHS)* indicates that more than 8% (N=1,811) of men and women aged 15 and older in Gandaki Province experience at least one domain of significant functional difficulty ("a lot of difficulty" or "cannot function at all"), signifying higher disability prevalence than reported in the national report. Similarly, the *WHO Rapid Assistive Technology Assessment (rATA)* survey[8] in 2021 reported 12.5% disability rate amongst the sampled population (N=1,060) across Gandaki Province.

[8] Paudel et al. (2023). Measuring access to Assistive Technology in Nepal: A Country Report. Kathmandu: Epidemiology and Disease Control Division, Department of Health Services, Ministry of Health and Population, Nepal Health Research Council and World Health Organization, Nepal. Available at: https://edcd.gov.np/uploads/resource/66014a6626c87.pdf

This figure is around 6 times the figure reported in the census survey and is close to the global average of 16% disability rate. This figure is even higher, up to 46.4% in the older population aged over 65 years nationally. NDHS report estimates around 27% disability amongst the older population. With increasing elderly population globally including in Nepal, the rate of disability is going to increase each year. The report also found that disability prevalence varied by socio-economic status and education, with significantly higher rates among those with no formal education and those from the poorest households.[9]

Although, the urban areas in Gandaki such as Pokhara may have relatively better access to disability services with the presence of specialized hospitals, rural areas still experience significant gaps in services, including a lack of accessible transportation and healthcare infrastructure. *'The Situation Assessment of Rehabilitation in Nepal'* report highlighted highly uneven distribution of rehabilitation professionals across different provinces of Nepal. For example, the concentration of Physiotherapists, who are the key rehabilitation personnel in the country is at least 75% in Bagmati Province, primarily within urban centers like Kathmandu whereas Gandaki province have around 5% of the total physiotherapists. This is around 1 physiotherapist per 41,667 people in the province. (EDCD, 2022).[10]

[9] Ministry of Health and Population [Nepal], New ERA, and ICF. 2023. *Nepal Demographic and Health Survey 2022. Kathmandu*, Nepal: Ministry of Health and Population [Nepal]. Available at: https://microdata.worldbank.org/index.php/catalog/5910/related-materials. [Accessed 10 Jun. 2025].

[10] EDCD. (2022). Situation Assessment of Rehabilitation in Nepal. [online] Available at: https://edcd.gov.np/resource-detail/situation-assessment-of-rehabilitation-in-nepal. [Accessed 29 Jun. 2024].

Economic Activity

Figure 5. Farmer in rural Nepal preparing land for cultivation with a power tiller, illustrating the gradual shift toward mechanized farming in the Himalayan foothills.

Gandaki province has high tourism potential due to the presence of well-established trekking trails and its capital, Pokhara being Nepal's 'Tourism Capital'. Tourism, agriculture, and remittances are the backbone of Gandaki's economy. Despite its tourism potential, 57.6% of its population engage in agriculture related activities. While tourism generates substantial revenue, it remains inaccessible to most Person with Disabilities (PwDs) due to limited inclusive infrastructure. Employment opportunities for individuals with disabilities are also scarce. In fact, during the national census survey, 3.4% of the total unemployed population of this province reported 'disability/illness' as the reason for not being economically active. If we consider the aged population, people with family care responsibilities and disability/illnesses, this figure is around 23%.[11]

[11] National Population and Housing Census 2021 Provincial Report (GANDAKI PROVINCE). (2023). [online] Ramshahpath,Thapathali, Kathmandu, Nepal : National Statistics Office. Available at: https://censusnepal.cbs.gov.np/results/files/result-folder/province/Gandaki_Province_census_report.pdf [Accessed 10 Jun. 2025].

Wheelchair Provision Landscape

The provision of wheelchairs in Gandaki Province reflects broader national trends of funding gaps, uneven assistive technology (AT) distribution, with a heavy reliance on urban rehabilitation hubs and limited outreach in rural and mountainous areas. Government expenditure on rehabilitation constitutes only 0.2% of total health financing, with approximately 95% coming from external development partners. According to the *Situation Assessment of Rehabilitation in Nepal*, services related to assistive products such as wheelchairs are overwhelmingly centralized, particularly in major urban centers like Pokhara, which hosts Green Pastures Hospital - one of Nepal's oldest and most comprehensive tertiary rehabilitation centres (EDCD, 2022). This urban concentration facilitates relatively better access to clinical rehabilitation, wheelchair fitting, and follow-up services for residents within Pokhara and surrounding municipalities. However, such facilities remain largely inaccessible to residents in high-altitude or remote districts within Gandaki, where terrain, infrastructure, and limited-service presence continue to pose significant barriers to wheelchair access (EDCD, 2022).

The *Nepal National Priority Assistive Product List* (PAPL), jointly developed by the Ministry of Health and Population and the World Health Organization, identifies manual wheelchairs as one of the core assistive products essential for mobility and participation (PAPL, 2018)[12]. It outlines

[12] Priority Assistive Product List of Nepal. (2018). [online] Teku, Kathmandu, Nepal : Government of Nepal Ministry of Health & Population. Available at: https://cdn.who.int/media/docs/default-source/assistive-technology-2/priority-assistive-products-list/nepal_nationalpriorityassistiveproductlist22ef6d46ef7a4079a5d2e279010a27fd.pdf?sfvrsn=9b669404_7 [Accessed 10 Jun. 2025]. Improving Access to Assistive Technology for People of Nepal.

a vision for a nationally regulated and standardized AT system incorporating quality-assured products, trained personnel, and accessible delivery mechanisms. While this framework offers a clear roadmap, its implementation at the provincial level, including in Gandaki, remains limited. The 2022 situation assessment found that provincial governments lack dedicated assistive technology governance structures, and few rehabilitation professionals are formally registered or integrated into primary healthcare systems (EDCD, 2022). As a result, most wheelchair provisions in Gandaki still depend on non-governmental actors and sporadic donor-supported interventions, with no robust supply chain or maintenance services in rural zones.

Moreover, the 2022 assessment by the *Epidemiology and Disease Control Division (EDCD)* highlights that rehabilitation services have yet to be systematically integrated into provincial public health reporting systems, despite ongoing efforts to embed assistive technology indicators within the *Health Management Information System (HMIS).* This suggests that regular monitoring of wheelchair distribution, use, and maintenance has not been formalized at the provincial level. While *WHO's Training in Assistive Products (TAP)* program is being introduced, its implementation across Gandaki Province remains limited, with only infrequent training efforts led by local NGOs and INGOs in an ad hoc manner.

The existing data validates the critical need for a more inclusive and well-resourced rehabilitation infrastructure across Nepal. Key priorities should include the expansion of rehabilitation services within public health facilities, increased allocation of financial resources toward assistive technologies, and enhanced rehabilitation training across diverse professional domains. The strategic direction for Nepal's health sector emphasizes equitable access and

improved quality of services as fundamental to achieving universal health coverage, yet current rehabilitation provisions do not sufficiently reflect these priorities. Hence, it is important to understand the current situation of wheelchair provision in Nepal before carrying out any actions in this sector to ensure product and service sustainability now and in the future.

Vital Meaning to the People

This dimension utilizes the *Soft Systems Approach (SSA)*[13] by identifying and engaging with key stakeholders i.e. the people accessing, providing and procuring wheelchair services to understand perspectives.

Participants Selection

Wheelchair service providers in Nepal are either heavily centralized or scattered and hence hard to reach in remote areas of the country.

Stakeholder involvement was conducted in two stages:

Figure 6. Prof. Rosemary J Gowran presenting the SCOP framework and using SSA 'Rich Picture' methodology during an inclusive participatory workshop in Nepal.

Stage 1: Stakeholder identification and individual interviews (details provided in separate report)

In stage 1 participants were recruited first following purposive sampling and then through snowball sampling to identify stakeholders. Some of these stakeholders were *Hospital for rehabilitation of children with disabilities (HRDC), Spinal Injury Rehabilitation Centre (SIRC), Gorkha Welfare Trust (GWT), International Nepal Fellowship (INF), United Mission Nepal (UMN),* etc. for an individual interview (N=14). Individuals and institutions interviewed during

[13] Checkland, P., Scholes, J., 1999. Soft Systems Methodology in Action. Wiley, Chichester, UK.

stage one were consulted for provincial participants' identification. Some of these institutions included: *Centre for Disabled Children Assistance (CDCA); Kathmandu University Design Lab in Kathmandu; Infinity Lab at Chitwan, Karuna Foundation Nepal (KFN) in Koshi Province; Independent Living Centre (CIL) in Pokhara and Spinal Cord Injury Network Nepal* for Spinal Injury wheelchair user identification. These institutions have active presence in the disability sector, primarily in the wheelchair distribution and repairs in Nepal. Participants were informed through phone calls to wheelchair users and wheelchair suppliers, and by sending a formal invitation letter to the DPOs/NGOs and government offices.

Key themes were identified following analysis of individual interviews and presented as part of the introductory session during workshops in *stage 2.*

Stage 2: Provincial Participatory workshops with Rich Pictures: Gandaki Province

Stakeholders were invited to participate in a one-day workshop in Pokhara. The purpose of the workshop was to engage participants in reflection and collaborative discussion about wheelchair provision in the province, to identify service flow, bottlenecks, and systemic enablers, through facilitated discussion and *'Rich Pictures'*

Participants: There was a diverse and inclusive participation of 31 people in Pokhara, Gandaki Province *(See table 1)* with representation from Wheelchair User groups (n=7), the Local Government (n=10), Service Provider institutions (n=14) such as hospitals, OPDs, NGOs and rehabilitation centers. Among these, 42% were female and 13 people out of 31

participants stated they had a disability. Only one-third of the wheelchair users who attended the workshop were involved in occupation as a rehabilitation provider. 1 of the persons who had a disability was a wheelchair repair technician and 1 was active in sports and adventure.

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**

Workshop Delivery

Facilitators: The workshop was facilitated by researchers from University of Limerick, Ireland (RJG) the Global Disability Innovation Hub, UK (RCT) and Kathmandu University (AT). The sessions were conducted in both English and Nepali to enhance inclusivity and comprehension among participants.

Venue: An accessible venue (Hotel Utsab Himalaya) with ramp access to its hall and toilets was chosen for the workshop in Pokhara. This was the second venue chosen after facing accessibility issues in the other hotel.

Workshop: The workshop ran from 9am to 3pm (6 hours) with 1 hour of lunch break in between. The detailed itinerary of the workshop is outlined in *table 2* below. During the workshop, participants were divided into four small mixed stakeholder groups. including policymakers, representatives from non-governmental and organizations of the person with disability (NGOs/OPDs), and wheelchair users, to ensure a broader representation of perspectives.

Table 2. Structured itinerary of the Pokhara-based workshop aimed at understanding the current landscape of manual wheelchair provision in Nepal.

Time	Agenda
08:00 – 09:00 AM	Breakfast and Check-in
09:00 – 10:00 AM	Registration, Welcome, Introductions, Workshop Orientation
10:00 – 10:30 AM	Presentation of Preliminary Findings from the Interview Process and Observations (Introducing Key Concepts)
10:30 – 12:00 PM	Wheelchair Service Understanding (4 Questions) – Group Discussions (30 mins each)
11:10 – 11:30 AM	High Tea during Discussions
12:00 – 01:00 PM	Lunch Provided
01:00 – 02:00 PM	The 'Rich Picture' Activity – Group Work to Illustrate Wheelchair Service Experiences
02:00 – 02:30 PM	Reflection and Discussion – Group Presentations on Rich Pictures
02:30 – 02:45 PM	Plan of Action – Key Priorities and Next Steps for Consensus Building
02:45 – 03:00 PM	CDCA Presentation – Short Introduction
03:00 – 03:10 PM	Design Lab, Kathmandu University – Short Introduction
03:10 – 03:30 PM	Close and High Tea with Networking

The workshop consisted of two main sessions:

Session 1:

Participants were divided into small mixed groups on round tables and provided with flipcharts and materials, and engaged in discussions structured around four reflective questions to capture an understanding of wheelchair provision locally.

Prior to the discussion participants were introduced key concepts from the SCOP model (*figure 2)* and the WHO's '5P' people-centred model *(figure 7)* presented in the *Global Report on Assistive Technology (GReAT) – (UNICEF,2022)*[14].

Figure 7. The WHO '5P'People-centred assistive technology model: People, Products, Provision, Personnel and Policy extracted from WHO GReAT report (UNICEF, 2022)

Session 1 discussion questions focused on:

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

[14] Global report on assistive technology. Geneva: World Health Organization and the United Nations Children's Fund (UNICEF), 2022. Licence: CC BY-NC-SA 3.0 IGO.

- Each group nominated a spokesperson to present key reflections to the plenary. Participants had an opportunity to discuss after each presentation.

Session 2: Rich Picture Creation

Following the morning session discussion, participants engaged in creating rich pictures using tools for collage including coloured paper, pens, glue and scissors. The *'Rich Picture'* is a participatory activity where stakeholders produce a visual representing the current state of wheelchair provision in their region. Adapting this concept from the SSA, *Gowran et al. (2014)*[15] proposes the use of creative materials to create images that depict key stakeholder perspectives, identifying issues and service challenges, and interactions and linkages between keys actors.

The objective of the rich picture is to facilitate open dialogue and shared understanding, promoting a holistic view of the challenges and opportunities in the wheelchair service landscape, locally and nationally. This exercise is essential in grounding future action plans in lived realities and visual systems thinking.

Each group subsequently presented their findings to the larger workshop assembly. These presentations were recorded, transcribed, and analyzed using *Braun & Clarke's (2006)*

[15]Gowran RJ, McKay EA. & O'Regan B. Sustainable solutions for wheelchair and seating assistive technology provision: Presenting a cosmopolitan narrative with rich pictures. Technology and Disability. 2014;26(2-3):137-152. doi:10.3233/TAD-140408

thematic analysis approach[16]. This method allowed for the systematic identification of themes, providing a nuanced understanding of the wheelchair provision landscape in Gandaki Province. Findings and observations from the workshop are outlined in the sections below. The insights from this analysis contribute to actionable recommendations to improve wheelchair access and support systems in the region.

Viable Maintenance Affecting the Pace

This dimension depicts the current situation of wheelchair provision in the Gandaki province, identifying the bottlenecks and barriers affecting the flow or pace of provision and sustainability gaps.

This section summarizes the findings from workshop discussion based on the four key questions and Rich Pictures and presents emerging themes.

Current wheelchair services landscape

The wheelchair services in the Gandaki Province, as discussed in the workshop, are highly fragmented and primarily distribution-focused, with minimal attention to follow-up mechanisms such as repair, maintenance services and user training. The country's inaccessible physical infrastructure exacerbates the challenges faced by wheelchair users, as roads and public facilities (e.g., government offices) are often not wheelchair friendly. One team noted that

[16] Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

"service is distribution focused; inadequate follow up and repair and maintenance services in the communities" and that *"poor and inaccessible physical infrastructure is hampering the use of such distributed wheelchairs".* This sentiment was echoed by another team, which summarized the system bluntly as *"very weak/fragile/hopeless,"* indicating the absence of locally manufactured, terrain-appropriate devices or any sustainable maintenance network. Across all groups, there was consensus that supply remains misaligned with individual needs - *"wheelchair needs are not met based on case; there is a limitation in product availability in market"* and that distribution often defaults to a one-size-fits-all model unsuited to Gandaki's varied topography. This mismatch is most pronounced in rural areas, where medical wheelchairs - though widely distributed - are often unsuited to the terrain and the needs of users.

Stakeholder identification and roles

Participants identified a multi-layered network of actors whose roles, responsibilities, and influence vary considerably *(see figure 8)*. Key stakeholders identified include individuals, families, society, development institutions, local and federal government bodies, rehabilitation centers, local and international non-governmental organizations (NGOs and INGOs). The roles of these stakeholders vary from policy formulation and advocacy to technical support and demand-supply management. It is presented in the stakeholder diagram *figure 8* below. However, there is a notable lack of coordination and awareness among these entities, particularly at the local level, leading to ineffective service provision. At the center are wheelchair users themselves as one group shared,

"Users themselves are the first important stakeholder and need to be proactive for change. Without users' will and interest, no other stakeholders can bring change."

This group is followed by families and communities that, despite occasional support, frequently treat with stigma *("users are mistreated/humiliated in communities")*. Local governments were assigned a policy and oversight mandate such as issuing disability identity cards, disseminating information, and coordinating resource distribution but are hampered by *"limited decision-making power"* and *"predefined categories of support,"* which foster political bias in allocation decisions. NGOs and INGOs were criticized for a *"charity-distribution model"* prioritizing publicity over sustainability, with little follow-up once donor funding ends. Finally, technical actors such as wheelchair assessors, repair technicians, and supply-chain agents are crucial for sustainable service delivery, but they remain under resourced and unevenly distributed, particularly outside Pokhara's urban core.

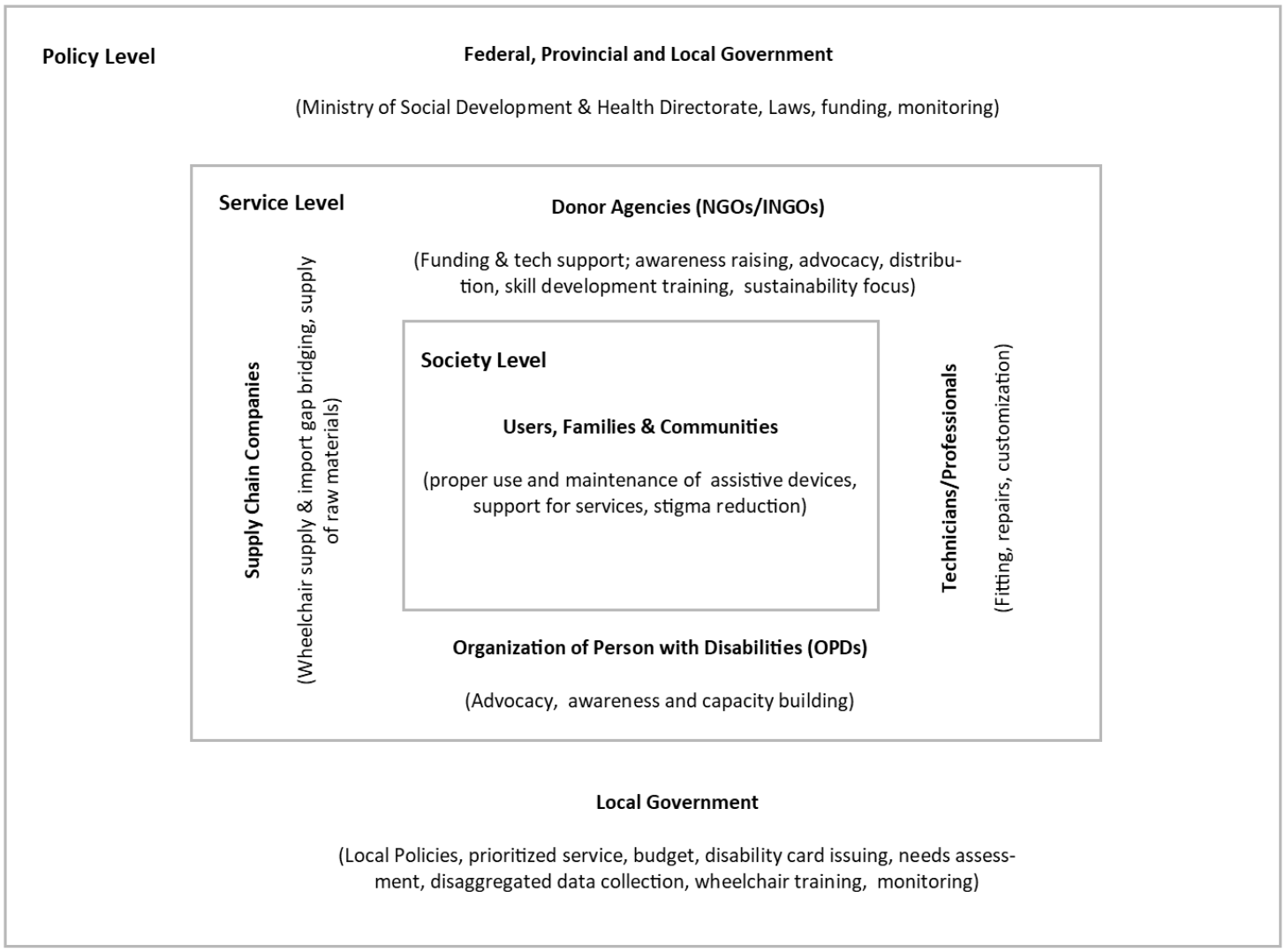


Figure 8. Framework illustrating the multi-stakeholder architecture in Gandaki Provincel's wheelchair provision ecosystem, identifying roles across policy, service delivery, rehabilitation, and end-user engagement.

Barriers affecting service flow

The wheelchair service process in Gandaki Province is inhibited by several interrelated issues. First, geographical and infrastructural obstacles:

"geographical challenges/tough terrain, physical challenges, inaccessible environment around users' home; service delivery is impacted depending on location of users,"

compounded by roads, buildings, and transport systems that remain largely non-compliant with accessibility standards. Second, information and coordination gaps –

"lack of data/database on users and service providers pose challenge in service delivery and planning" and *"there is no focal institution or one-door policy for wheelchair services"*

- result in ad-hoc, non-data-driven distribution.

Third, economic and policy constraints: *complex procurement processes, scarce household resources, and political favoritism* skew resource allocation away from genuine need.

Fourth, technical capacity and product quality gaps emerge from a shortage of trained manpower, absence of local manufacturing, and inappropriate *"medical wheelchairs [that] get damaged within two months,"* leaving users without repair or replacement options.

Stakeholder sentiments and perceptions

Emotional responses among workshop participants reveal profound frustration, anxiety, and a strong desire for dignity. Users and service providers described services as *"complex, unscientific, guesstimated distribution (not data driven),"* highlighting a lack of transparency and predictability in access. The rich-picture narrative dramatizes this dissonance: despite signage promising *"disabled-friendly services,"* officers *"only stare through their office windows,"* leading the beneficiary to ask, *"is it really disabled friendly in practice? Or is it only limited to a slogan?"*. One team poignantly summarized the collective sentiment:

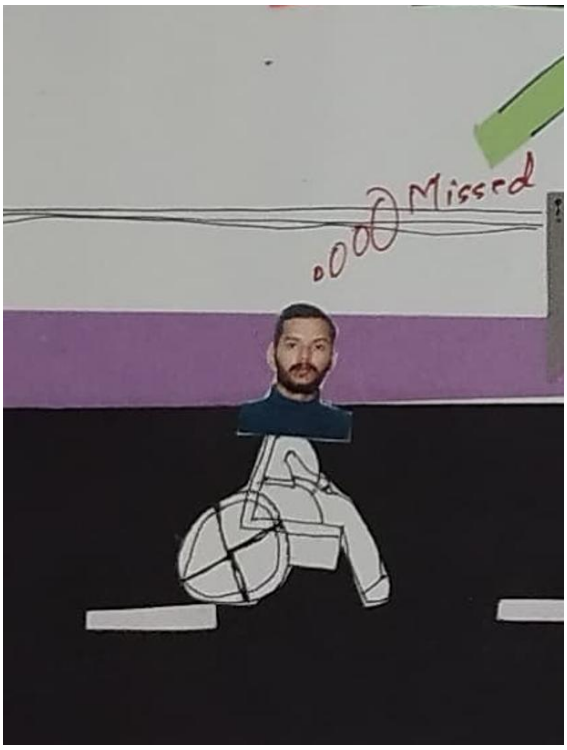


Figure 9. Users' sentiment drawn in the rich picture shows the feeling of 'missed out' or isolation.

"We feel scarcity of appropriate wheelchairs which has resulted in exclusion from access to education and social exclusion,"

capturing how systemic failures translate into real-world marginalization.

Despite wider negative sentiments, some participants briefed local NGO initiative about wheelchair distribution and repairs in Pokhara by INF Green Pastures Hospital.

A visit to the INF wheelchair repair workshop was made after the program. It is worth highlighting this initiative in Pokhara based on an interview conversation with a wheelchair technician.

An Initiative: Wheelchair Repair Workshop Run by INF Green Pastures Hospital, Pokhara

Figure 10. Wheelchair repair workshop run by INF Green Pastures Hospital, Pokhara

Green Pastures Hospital - INF Pokhara operates an in-house wheelchair repair and maintenance service led by a technician with over a decade of experience in manual wheelchair assembly and repair. Common repair needs include brakes, caster wheels and bearings, and seat/cushion replacements, while key constraints are the untimely availability of spare parts and limited human resources. Repair costs can be substantial for extensive work when preventive measures are ignored by the users at home. The technician shared,

"We could easily repair wheelchair if we have timely availability of spare parts, materials and manpower….. Users also face challenges to transport wheelchair to repair centres."

To mitigate recurrent damage and reduce the service load, the technician provides ad hoc training to users' caregivers on basic maintenance (e.g., cleaning rust, clearing hair from hubs, inflating tyres). He advises clients to source readily available items such as inner tubes from a local bicycle shop and to photograph part numbers to ease procurement. The technician shared:

"I teach patient's caregivers in basic repairs/maintenance. It also reduces my workload if they do basic repairs at home."

Despite this, an estimated 70–75% of users neglect simple, early fixes and often incur higher transport and repair expenses. Currently, there is no systematic follow-up: users initiate contact when problems arise. Identified needs include a reliable supply chain for spare parts, additional financing to subsidize repairs, and welding capacity for aluminium frames.

"Gas welding for [damaged] Aluminium frames is the most required thing here for now. At the moment, such fixing is not possible here.

Overall, GPH wheelchair repair workshop initiative illustrates a pragmatic, resource-constrained model that blends centralized technical repair with informal, user-led maintenance education highlighting both the potential and the limitations of facility-based wheelchair servicing in Gandaki Province. More of such initiatives are recommended across Gandaki province for users benefits.

Based on workshop discussions and reviewing the Rich Pictures produced, the *WHO's 5P framework* was used to capture the key themes under the following headings: *People, Products, Provision, Personnel and Policy.*

People

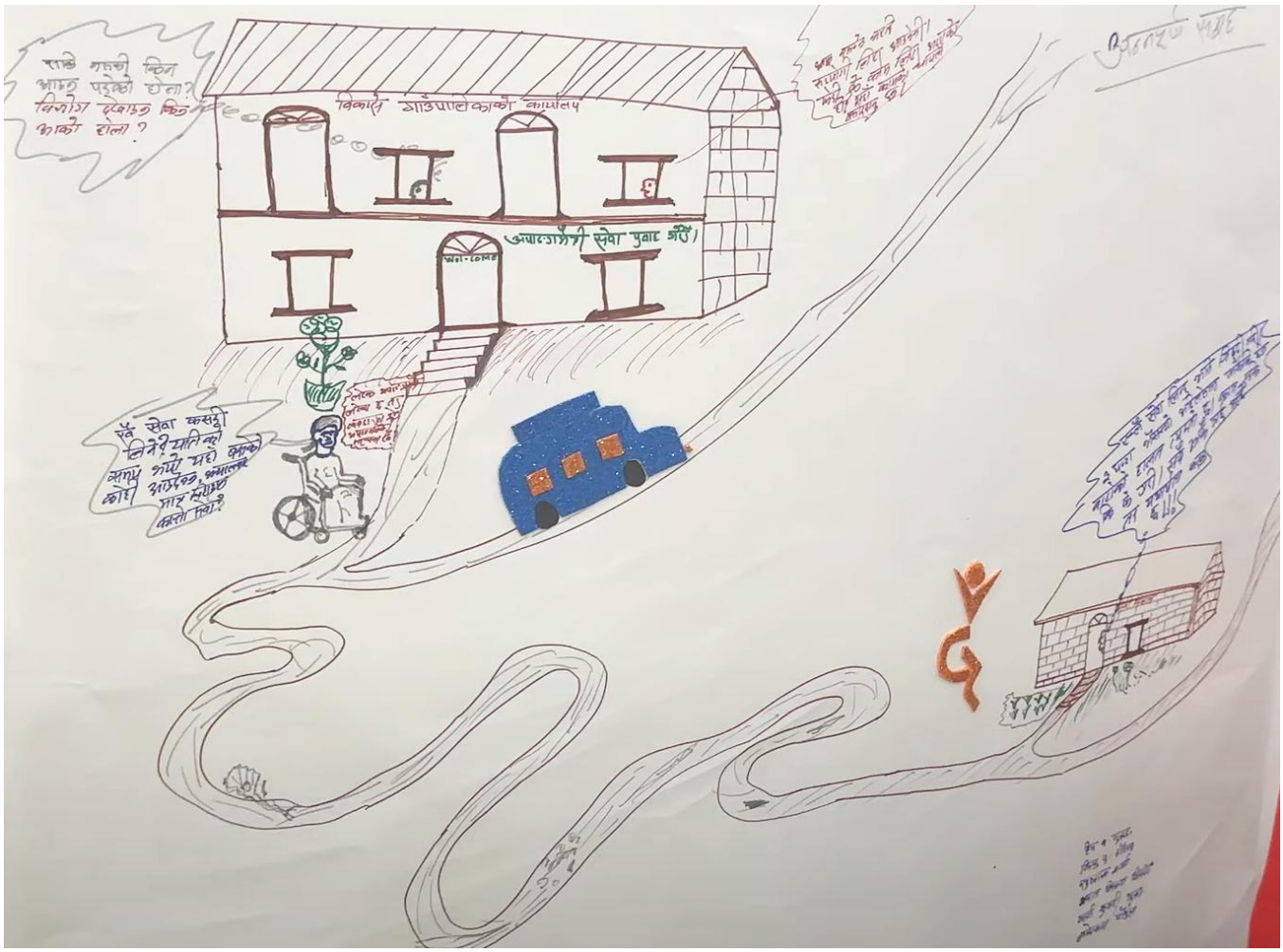


Figure 11. Rich picture 1 portraying challenges faced by wheelchair users at government offices.

Wheelchair users in Gandaki Province face numerous challenges, including poverty, lack of awareness about wheelchair usage and maintenance, and social stigma. Many users rely on charitable distributions and experience unequal access to wheelchairs, particularly in rural areas. Users often feel hopeless and dependent, with little knowledge of where to seek support.

The rich picture above *(figure 11)* was presented by the team Annapurna, in which the group has crafted a familiar narrative drawn from their life experience. The story follows a wheelchair user who leaves her accessible home each morning to seek services from the Rural Municipality. Despite prominently displayed signage proclaiming *"Let's provide disabled-friendly services. Welcome!",* she finds herself waiting for hours outside the office without assistance. From the upper floor, one officer muses, *"You should have brought a helper; we have so much work to finish,"* while another wonders, *"Why is she here today, showing her misery?"* Denied any clear guidance or support, she reflects,

"Is this slogan truly meant for us, or is it only words? No one comes down to help; they merely stare through the windows."

Meanwhile, back at home, her elderly mother grows increasingly anxious as the hours pass. Having ensured their house is fully adapted, the mother worries aloud, *"It's been three hours since she set out alone on these rough roads. Has she managed to complete her task?"* Her concern underscores a stark contrast: while family members take responsibility for creating an

inclusive environment, public institutions fail to translate their disability-friendly promises into practice.

Together, these interwoven scenes expose the complexity of accessibility in the community, illustrating how well-intentioned rhetoric in government facilities often masks persistent barriers faced by people with disabilities in Nepal.

Following themes further expands on wider issues faced by wheelchair users and in general people involved in wheelchair provision both locally and nationally.

Poverty amongst users resulting in widespread charitable distribution

Wheelchair users and their families in Gandaki Province face profound economic hardship that both drives and is exacerbated by a charity-dominated distribution model. Living in poverty, many users lack the means to purchase appropriate wheelchairs or to fund essential maintenance, reinforcing *"dependence on external aid"* when devices break or wear out. As participants observed,

"the financial/economic situation of family/users affects service delivery, especially in remote areas,"

limiting access to follow-up or repair services even when wheelchairs are initially donated. At the same time, mass distributions by donor agencies - often carried out *"for publicity and media outreach"*, frequently dissolve once project funding phases out, leaving users without

sustainable support and rights-based care. This vicious cycle of economic vulnerability and charity undermines the goal of self-reliance, highlighting the urgent need for policies and financing mechanisms that ensure long-term maintenance, locally driven production, and genuine inclusion for people with disabilities.

Insufficient Data for Needs Assessment and Demand Forecasting

One of the significant barriers in Gandaki Province's wheelchair provision system is the absence of a centralized user database. In the words of a local policy representative,

"If you ask me how many people in our municipality need wheelchairs or currently use them, I have no answer."

Without accurate information on users' locations, functional requirements, or service access histories, provincial planners cannot reliably estimate demand or allocate resources efficiently. This data gap perpetuates service shortfalls - particularly in remote and rural districts by preventing targeted distribution, timely follow-up, and strategic procurement.

Access to Wheelchairs is Difficult and Unequal

The access to wheelchairs is highly unequal across the province, with users in urban areas having better access compared to those in rural communities. As one participant noted,

"There is no equal access to wheelchairs," and another confirmed, *"Wheelchairs are not easily available to users as per their needs."*

Geographic remoteness, limited infrastructure, and service gaps exacerbate these inequalities, leaving many users without access to basic mobility aids. This was evident in this user quote, *"Users in remote villages are far from benefitting from its use".*

Infrastructure, such as roads and public buildings, is largely inaccessible, especially for wheelchair users in rural areas. These issues are recurring themes in the rich pictures as well.

Information gaps regarding wheelchair availability, access, use and repairs

A critical challenge faced by wheelchair users in Gandaki Province is the lack of accessible, accurate, and centralized information regarding where and how to obtain wheelchairs or related services. As participants noted,

"users wouldn't know where to go/reach if they needed wheelchairs," and there is *"no focal institution/department to go to for wheelchairs."*

This absence of a coherent referral or coordination system leaves users in a state of uncertainty and disorientation when seeking assistance. Without a clearly designated service point or centralized platform to navigate available options, many are forced to rely on informal networks or sporadic NGO programmes, often with limited reliability or sustainability.

Compounding this institutional ambiguity is the lack of user-level training and awareness on wheelchair usage, maintenance, and repair. Participants emphasized that

"users lack training and awareness on proper wheelchair usage, repair, and maintenance,"

and that even basic information on procedures and service availability remains largely inaccessible. Without these skills, users are unable to perform routine upkeep or minor repairs, leading to rapid deterioration of their devices and heightened dependence on external actors. The combination of unclear service pathways and poor user education not only undermines device functionality but also reinforces a broader cycle of dependency and exclusion.

Establishing a provincial-level coordination mechanism or at minimum, a widely publicized one-door entry point could substantially reduce confusion and enhance access. Bridging these informational and institutional gaps is essential for fostering a more rights-based, user-centered wheelchair provision system in the province.

Shortage of Skilled Manpower/Professionals for Wheelchair Provisioning

A fundamental weakness in Nepal's wheelchair provision system, particularly pronounced in Gandaki Province is a severe shortage of trained professionals capable of conducting proper assessment, fitting, and repair. Workshop participants highlighted that

"there is a lack/shortage of technical manpower for proper assessment and measurement,"

particularly in rural areas where services are already sparse. One respondent critiqued institutional apathy, stating that

"institutions have less or no interest in hiring competent manpower,"

suggesting that recruitment and retention of skilled rehabilitation staff is not prioritized. This human resource deficit has direct consequences on service quality: users often receive ill-fitted

or inappropriate devices, and local systems lack the capacity for ongoing support, repair, and follow-up. Strengthening workforce development, including the training and deployment of physiotherapists, occupational therapists, and P&O technicians, is essential for delivering personalized wheelchair services.

Loss of Confidence and Sense of Helplessness Among Users

The psychosocial impact of service gaps and environmental inaccessibility was a recurring concern throughout the workshop. Participants described how users often feel disempowered and emotionally drained due to systemic neglect, with one group describing the state of wheelchair services as *"very weak, fragile, and hopeless."* In one presentation, it was noted that

"spinal injury patients lack self-confidence despite being mentally fit and having active upper body structure,"

illustrating how external limitations - not individual capacity restrict participation and well-being. The inaccessibility of public spaces, roads, and government offices, combined with societal stigma, reinforces users' sense of helplessness and invisibility. This emotional burden limits not only mobility but also social and economic participation. Addressing these intersecting challenges through empowerment programs, accessible infrastructure, and public sensitization could help foster autonomy, confidence, and dignity among wheelchair users.

Products

Issues such as supply-demand mismatches, limited availability of appropriate models, high costs, reliance on imports, and inadequate repair infrastructure collectively hinder the effectiveness of wheelchair services. Addressing these challenges requires a comprehensive strategy involving data-driven planning, investment in local manufacturing, diversified product offerings, and the establishment of accessible repair networks. By tackling these systemic issues, Nepal can move towards a more inclusive and sustainable model of assistive technology provision.

Wheelchair Supply-Demand Discrepancy Caused by Data Gaps

The gap between supply and demand for wheelchairs discussed in Gandaki Province stems largely from the absence of a comprehensive user database. This issue is illustrated in the statement:

“There is a wider gap between demand and supply of wheelchairs” and further emphasized by,

“Lack of data/database on users and service providers pose challenges in service delivery and planning”.

Not just the users but service providers too are unaware of who is doing what locally. *One team shared, “There is no coordination between various institutions/stakeholders within the same project area.”*

Without accurate data, service providers face challenges in aligning distribution with the actual needs of users. For example, oversupply in some areas can lead to wastage, while

undersupply in others leaves potential beneficiaries without access to critical mobility aids. A robust database would enable service providers to plan more effectively, ensuring the equitable distribution of wheelchairs based on localized needs.

Lack of Product Variety and Suitability

A significant challenge noted by workshop participants in Gandaki Province is the lack of product variety and suitability within wheelchair provision. Services are predominantly characterized by a *"one-size-fits-all"* approach, ignoring individual user needs, variations in disability type, and geographic constraints. One group emphasized this gap explicitly:

"Wheelchairs are not easily available to users as per their needs. Due to lack of product availability, there is a compulsion to distribute medical wheelchairs which are readily available in the market rather than what is required as per assessment".

This problem is further illustrated through the experience shared in rich pictures, where *"cerebral palsy (CP) wheelchairs with essential features like headrests and trunk supports are unavailable*", forcing caregivers to consider expensive imports, thus severely limiting appropriate support for users.

Poor Quality and Durability

Another major subtheme highlighted during the discussions was the poor quality and low durability of available wheelchairs. Participants frequently pointed out that medical wheelchairs distributed through charitable and institutional channels often deteriorate rapidly, with one participant specifically noting,

“medical wheelchairs get damaged within 2 months.”

This rapid deterioration is exacerbated by the absence of local repair services or the availability of essential spare parts and accessories such as cushions. Another team highlighted that,

“there are no repair centers to repair damaged wheelchairs, and even the available ones only repair specific models.”

As a result, wheelchair users face ongoing functional difficulties, significantly reducing the effectiveness and lifespan of their mobility aids.

High Cost and Market Inaccessibility

Participants consistently cited the prohibitively high cost and market inaccessibility of suitable wheelchairs as a critical barrier. The limited availability of specialized or advanced wheelchairs in the local market forces reliance on expensive imports, as one participant noted,

“importing one [specialized wheelchair] would cost a lot of money.”

This reality is compounded by widespread poverty among wheelchair users and their families, making such imports effectively inaccessible. Consequently, wheelchair users must settle for less appropriate, lower-quality options provided through charity-driven distributions, limiting their autonomy and quality of life.

Lack of Local Production and Customization

The absence of local wheelchair manufacturing and customization facilities is another significant issue raised by participants. Workshop groups unanimously indicated,

“there is no local manufacturing of wheelchairs in Nepal,”

which severely restricts the possibility of tailoring wheelchairs to individual users’ physical and environmental needs. As one team described, the service model currently employed is *“one product fit for all kinds of distribution model,”* completely neglecting individual adjustments in terms of posture, size, or terrain-specific modifications. Without local production capabilities, the provision remains dependent on imported, generic products that fail to accommodate the diverse and challenging geographic conditions of Gandaki Province.

This lack of customization negatively affects the usability, comfort, and health outcomes of wheelchair users in the region. Efforts to design and distribute wheelchairs specifically for Nepal’s varied geographies and climates could address this issue. Several groups expressed that partnering with *‘local engineers and manufacturers’* to develop robust, contextually appropriate designs would enhance wheelchair longevity and reduce overall lifecycle costs.

Provision

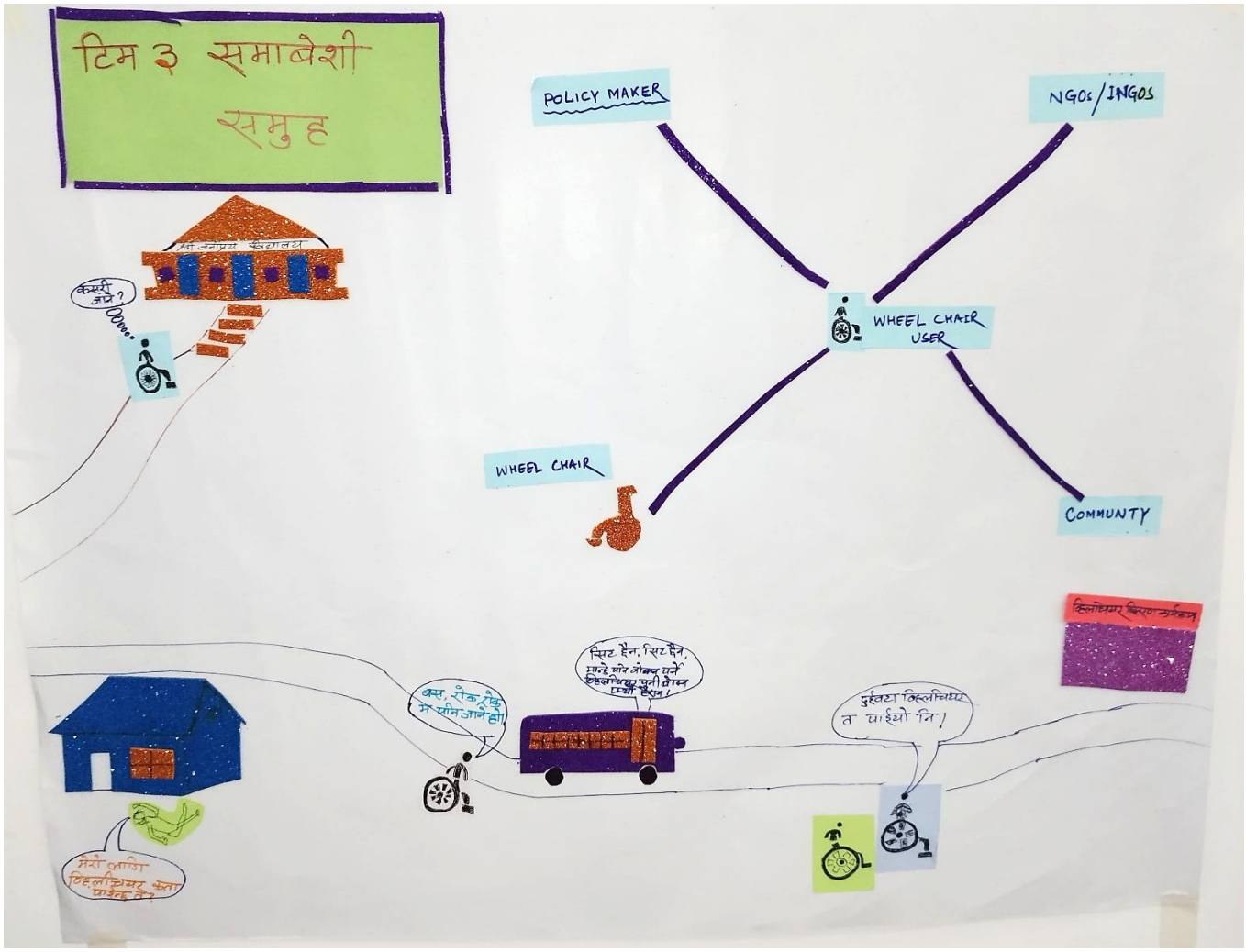


Figure 12. Rich picture 2 illustrating wheelchair users' exclusion in education and transportation.

This rich picture *(figure 12)* clearly illustrates multiple dimensions of exclusion, inequality, and systemic barriers faced by wheelchair users in Gandaki Province. At 'Jana Priya School,' a wheelchair-user student stands before stairs, anxiously questioning, *"How to Access?"* This symbolizes widespread infrastructural inaccessibility that restricts educational opportunities for

students with disability. In another scene, a person crawls on the floor at home, reflecting internal despair and isolation, wondering, *"Where can I find a wheelchair?"* - an explicit depiction of unmet demand and lack of awareness about available wheelchair services.

The scenario featuring a wheelchair user desperately calling out, *"Bus, please stop! Stop!! I too want to go,"* highlights severe public transportation barriers. The bus operator's dismissive response,

"There is no vacant seat! It's such a headache/hassle to carry both the passenger and the wheelchair,"

further captures negative societal attitudes and transportation exclusion. Moreover, the illustration of *"Received two wheelchairs"* provides critical commentary on inequitable distribution practices, suggesting that individuals with political or social connections disproportionately benefit, whereas others remain without access. Yet, even those with multiple wheelchairs still struggle with mobility due to the continued presence of inaccessible environments.

Finally, the central depiction of a wheelchair user linked explicitly to policymakers, NGOs/INGOs, products and the community underscores participants' advocacy for a more inclusive, user-centered approach to wheelchair provisioning. Collectively, this rich picture vividly presents systemic inequalities and emphasizes the urgency of integrating user perspectives into policy decisions, product provisioning, infrastructure planning, and community development to achieve genuine inclusion.

The following themes highlight the issues around wheelchair service provision in Gandaki Province.

Charity-Dominated and Project-Based Distribution is Unsustainable

Participants repeatedly emphasized that wheelchair distribution in Gandaki Province heavily relies on charity-based and donor-driven initiatives, which are often motivated by publicity rather than sustainable outcomes. This perspective was clearly articulated by a participant, who noted,

"charitable distribution is aimed primarily for publicity and media outreach,"

highlighting how these efforts frequently neglect long-term follow-up or ongoing support for wheelchair users. Another respondent reinforced this, observing,

"Donor agencies leave the project in limbo as they phase out,"

underscoring the inherent unsustainability of such models. Consequently, users become dependent on periodic, short-term projects rather than a consistent and reliable system that could meet their ongoing mobility needs.

Fragmented Service Delivery and Poor Coordination

A significant concern discussed extensively was the fragmented and poorly coordinated wheelchair provision system, lacking unified policies and integrated services. One representative from a rural municipality admitted,

"We also do not know who the service providers are here. There is a need for coordination and cooperation between service providers and local government."

This sentiment clearly illustrates how isolated stakeholders and independent projects fail to effectively collaborate, resulting in duplicated efforts or unmet needs. Participants explicitly stated, *"There is no proper system for distribution,"* and noted that service providers often operate in isolation from local government entities, weakening the effectiveness and accountability of wheelchair services across the province.

Unequal Access Across Geography Bringing in Urban-Rural Disparity

Geographical disparities in wheelchair access were strongly emphasized by workshop participants, who pointed out stark contrasts between urban centers and rural areas. One participant explicitly stated, *"There is no equal access to wheelchairs,"* noting the substantial differences between users residing in cities like Pokhra and those in remote villages. For instance, urban users in areas like Pokhara have relatively better access to wheelchairs and related services, while those in remote areas remain severely underserved, as described in this observation:

"Although access to wheelchair has benefited users in urban/city areas, users in remote villages are far from benefitting from its use."

Remote regions suffer from both distribution gaps and the near-complete absence of maintenance or repair services, further exacerbating inequalities.

Inaccessible Infrastructure and Transport

The pervasive inaccessibility of physical infrastructure and transportation was highlighted frequently by participants, who viewed these barriers as critically undermining wheelchair users' independence and social participation. The Annapurna team's rich picture vividly captured this challenge, depicting a wheelchair user forced to wait indefinitely outside an inaccessible government building labeled with an ironically inclusive slogan, yet entirely unreachable. Similarly, Team Praan's rich picture illustrated a wheelchair user stranded behind a public bus labeled *"missed,"* symbolizing how public transport services routinely exclude wheelchair users. Another rich picture illustration by team Samabesi (Inclusive) presents the transportation service providers' negative attitude towards wheelchair users with the statement:

"There is no vacant seat! It's such a headache/hassle to carry both the passenger and the wheelchair."

Workshop notes reinforced these illustrations:

"Poor and inaccessible physical infrastructure is hampering the use of distributed wheelchairs," and *"Wheelchair users have difficulties getting on and off public transportation,"*

highlighting the urgency of making public infrastructure truly accessible.

Lack of One-Stop Service System

A notable challenge identified in discussions was the absence of a centralized or one-stop system that users can approach for their wheelchair-related needs. This issue leaves

wheelchair users and their families uncertain and confused, as clearly noted by one participant:

"There is no focal institution/department to go to for wheelchairs."

Such ambiguity causes significant distress among users seeking assistance, captured effectively by the rich picture from Team Samabesi, where a disabled individual lying helplessly at home wondered, *"Where can I find a wheelchair for me?"* Participants also shared that 'Political biases' and 'favoritism' significantly affect the equitable distribution of wheelchairs. As this statement says,

"Distribution is based on nepotism/favouritism and relation to higher officials",

those with political connections are more likely to receive wheelchairs, while others are left underserved.

This scenario illustrates how the lack of clear information channels or established referral systems severely limits users' ability to seek timely assistance, thereby deepening their vulnerability and perpetuating cycles of dependence and exclusion.

Personnel

The shortage of skilled manpower, urban-centric service provision, coordination gaps among stakeholders, discriminatory attitudes, and lack of community support collectively hinder the effectiveness of wheelchair services.

Shortage of Skilled Human Resources for Wheelchair Provisioning

One of the critical challenges identified by workshop participants is the severe shortage of skilled human resources in wheelchair provision across Gandaki Province. Participants highlighted that there are insufficient certified assessors, prosthetic and orthotic (P&O) technicians, physiotherapists, occupational therapists, and wheelchair repair specialists. This shortage becomes even more acute in rural and remote areas, where professional expertise is virtually non-existent. As noted explicitly by one team, there is a clear

"lack or shortage of technical manpower for proper assessment and measurement,"

significantly impacting the suitability and quality of wheelchair services. Participants shared,

“Their roles are not adequate, and they are urban-centric” and *“There are limited or no service providers in remote places.”*

The absence of adequately trained personnel means users often receive wheelchairs without appropriate fitting or customization, thus severely compromising their mobility and comfort.

Institutional Apathy Toward Hiring and Capacity Building

Participants expressed significant concern regarding institutional attitudes toward hiring and building professional capacity. Institutions were criticized for showing

"less or no interest in hiring competent manpower,"

highlighting a prevailing institutional negligence in recruiting adequately trained wheelchair professionals. Participants also noted that there are currently no structured or dedicated training pathways for wheelchair service providers within Nepal, particularly within the province. This lack of investment in workforce development means that even where potential recruits exist, opportunities for professional growth and certification remain severely limited. This systemic neglect results in continued reliance on poorly trained staff, ultimately undermining service quality, effectiveness, and sustainability.

Insufficient Technical Assessment and Fitting

Workshop participants clearly identified the insufficiency of current wheelchair assessment and fitting procedures as a significant obstacle. Due to the lack of trained professionals and standardized protocols, wheelchair distribution often follows a generic, one-size-fits-all model, disregarding individual physical, medical, and environmental needs. This limitation was explicitly captured by one team's critique:

"There is no effort on customization, posture, and size."

Consequently, users frequently receive misfitted wheelchairs that fail to meet their specific needs, severely reducing wheelchair usability, comfort, and lifespan. The absence of

standardized procedures for technical assessment and adjustment further compounds these issues, resulting in widespread dissatisfaction, discomfort, and abandonment of mobility aids.

Inadequate Social Care/Support Available from Community Members

Beyond formal services, wheelchair users frequently lack sufficient social support from their communities. Participants remarked,

"Users are mistreated/humiliated in communities," while another observed, *"Some communities are supportive to disabled persons, but the majority carry a stigma."*

Most of these stigmas are associated to peoples' perception about disabled persons 'abilities and independence'. This lack of social acceptance and the prevalence of stigma contribute to the isolation of wheelchair users, undermining their ability to integrate into community life.

The role of communities is critical in supporting wheelchair users beyond institutional services. Stigma and indifference can significantly limit the effectiveness of any formal provisioning system by creating psychological barriers for users. Awareness programs aimed at reducing stigma and fostering community support, alongside initiatives to involve local community members in assisting wheelchair users, could address these gaps and enhance users' quality of life.

Policy:

Figure 13. Rich Picture 3

This rich picture *(figure 13)* vividly captures the multifaceted accessibility barriers experienced by wheelchair users in Gandaki Province. At the left, the user's home is shown as thoughtfully adapted, featuring ramp access that symbolizes personal and family commitment towards inclusion. In stark contrast, at the center of the picture, the *'Ward Office,'* an essential local government facility, remains inaccessible, underscoring a significant gap between domestic accessibility efforts and public institutional neglect.

The road infrastructure itself appears superficially developed, clearly marked, and accompanied by sidewalks. However, practical usability is compromised: a wheelchair user labeled *"Missed"* is depicted stranded in the middle of the road behind the *'Pokhara Metro Bus,'* symbolizing exclusion from public transportation services. This visual explicitly highlights systemic neglect, as the user is left behind either due to bus overcrowding, inaccessible bus design, or discriminatory attitudes of transportation providers. Further compounding this exclusion are the sidewalks, obstructed by haphazardly placed electric poles, posing substantial barriers to wheelchair movement.

The presence of a public toilet featuring stairs further emphasizes the widespread disregard for accessibility in public infrastructure. Collectively, these observations illustrate a reality where users continually face barriers despite surface-level infrastructural improvements. The abandoned wheelchair user on the street embodies the frustration of those regularly excluded from participation in public and civic life, powerfully summarized in one participant's statement:

"Wheelchair service is very weak/fragile/hopeless."

This depiction underscores the urgent need for comprehensive, user-focused urban planning, infrastructural adaptation, and attitudinal change within public services.

The following themes explains some of the policy issues discussed in the workshop:

Lack of Coordinated National and Provincial Policy

A prominent issue highlighted during the workshop is the absence of a unified, coordinated policy framework governing wheelchair provision at national and provincial levels. Participants specifically noted the lack of a clear *“one-door”* or central institutional approach, which results in fragmented responsibilities and inefficient service delivery. The workshop participants also characterized the distribution system as

“Complex, unscientific, guesstimated distribution (not data-driven),”

which reflects the inefficiencies caused by poorly structured and executed policies. As described explicitly by participants from one team, there is a pressing need for the government *"to enact one-door/unified approach for effective distribution,"* illustrating the disjointed nature of current policies and procedures. Additionally, participants emphasized that ministries and local governments operate independently, without coherent communication or cooperation. This disjointed policy landscape exacerbates confusion among wheelchair users, who remain uncertain about whom to approach for their mobility needs, as poignantly depicted in the rich picture where a disabled individual crawls helplessly at home, wondering, *"Where can I find a wheelchair?"*

Complicated Procurement and Weak Regulation

The complex and cumbersome procurement processes involved in acquiring wheelchairs were repeatedly criticized by participants. Discussions identified bureaucratic procurement rules as

a significant barrier discouraging local initiatives or efficient wheelchair provisioning. As articulated in the statement,

"There is a lack of clear and definitive acts/policies... and a complicated public procurement process."

Participants described the procurement system explicitly as *"complicated,"* discouraging local governments and service providers from engaging proactively. Additionally, participants raised concerns about the absence of robust quality assurance mechanisms or regulatory oversight in procurement and distribution, often resulting in substandard or inappropriate wheelchairs entering the market. Without enforced quality standards or streamlined processes, users remain stuck with products that deteriorate quickly and fail to meet their functional needs.

Data Deficits and Planning Blindness

Participants strongly highlighted the severe data gaps within wheelchair provisioning, citing the lack of a centralized database or monitoring system to track wheelchair users, their needs, and service histories. One local government representative candidly admitted during discussions:

"If you ask me how many people in our municipality need wheelchairs or currently use them, I have no answer."

This statement underscores the profound lack of reliable information to inform planning, procurement, and distribution. and emphasized the

“Lack of data/database/statistics about wheelchair users and demand/need.”

This lack of accurate data results in inefficiencies, as resources cannot be allocated based on actual needs, leading to oversupply in some areas and severe shortages in others. Establishing a centralized database would enable policymakers and service providers to plan distribution effectively, track service delivery, and monitor outcomes, thereby ensuring a more equitable system.

Inequitable Distribution Influenced by Political Bias

Participants consistently pointed to politically influenced and inequitable wheelchair distribution as a critical concern. It was frequently mentioned that wheelchair provision decisions are heavily biased towards individuals with political connections or affiliations. A team explicitly stated that distribution-related decisions are *"politically biased,"* adding that

"users who have political affiliation or an acquaintance of senior leadership are favored, whether they need it or not."

This situation creates stark inequalities, exemplified visually in the rich picture that depicts an individual receiving two wheelchairs, symbolizing unfair distribution. Meanwhile, genuinely needy users are deprived entirely, further highlighting systemic biases and political patronage shaping resource allocation rather than objective, needs-based assessments.

Lack of Coordination, Monitoring, and Regulation

The lack of coordination between stakeholders- government entities, NGOs, and service providers- was repeatedly emphasized during the workshop. Statements such as,

"There is no proper coordination between various stakeholders in this sector," and *"Lack of coordination between wheelchair distributing/service provider institutions and government/policymakers,"*

illustrate the fragmented nature of service delivery. The absence of standardized distribution practices leads to mismatches between wheelchairs and user needs. As participants noted,

"Wheelchair service is provided without adhering to guidelines and standards," and *"Distribution is quantity-focused rather than quality-focused."*

This quantity-over-quality approach undermines the effectiveness of wheelchair services, with many users receiving products that are unsuitable for their physical or environmental needs. Establishing and enforcing distribution standards would ensure that wheelchairs are appropriate, durable, and suited to the specific requirements of users.

Insufficient Budget Allocation

Inadequate funding was identified as a persistent obstacle to effective wheelchair provisioning. Participants noted,

"Local governments have limited financial resources and do not allocate funds/budget for purchase and distribution of wheelchairs/assistive devices," and

"Donor agencies have not prioritized long-term support in this sector."

The lack of sufficient budgetary allocations limits the ability of local governments to procure and maintain wheelchairs, forcing them to rely heavily on donor-driven models, which are often

unsustainable. Advocating for increased governmental funding and encouraging long-term donor commitments would create a more sustainable framework for wheelchair service delivery.

Lack of Awareness Among Policymakers

The workshop revealed a significant gap in policymakers' understanding of effective wheelchair provisioning systems. Statements such as,

“Lack of awareness about appropriate wheelchair provision system amongst policymakers,” and *“Charitable distribution to right-based approach,”*

informs the disconnect between policy frameworks and the realities of wheelchair users.

This lack of awareness contributes to ineffective planning and resource allocation, with policymakers often defaulting to charity-based models rather than rights-based approaches. Educating policymakers on best practices in wheelchair provisioning and the importance of user-centered service delivery could drive meaningful change in policy formulation and implementation.

The texts below highlights Nepal’s progressive policy on AT sector.

In recent years, Nepal has taken several progressive policy steps to strengthen rehabilitation and assistive technology (AT) services, reflecting growing national commitment to inclusive

health systems. The *Situation Assessment of Rehabilitation in Nepal (EDCD, 2022)*[18] marked a pivotal moment by systematically documenting the state of rehabilitation services across the country, identifying key gaps in infrastructure, workforce, and service integration. Complementing this, Nepal has developed its own *National Priority Assistive Products List (PAPL, 2018)*[19] in alignment with WHO's global initiative, aiming to streamline procurement and ensure the availability of essential assistive products tailored to the country's needs.

Furthermore, the introduction of *National Standards for Assistive Technology (NSAT 2022)*[20] is a significant advancement toward ensuring quality, safety, and appropriateness of AT provision. Further reinforcing national capacity, Nepal has implemented the WHO's *Training in Assistive Products (TAP)*[21] - a modular online curriculum now available in Nepali - to equip primary healthcare and community workers with essential skills in identifying, prescribing, fitting, and following up on assistive devices.

These measures collectively represent a strategic shift towards evidence-based, people-centered rehabilitation services and highlight Nepal's alignment with global disability and health agendas.

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Visible Mindfulness for Effective Policy

Discussion and Recommendations

This dimension generates a shared or collective understanding of the situation, working in partnership to create actionable sustainability policy.

The insights gathered from the wheelchair provision workshop in Pokhara, Gandaki Province stresses the urgent need for a systemic, inclusive, and sustainable transformation of wheelchair services in Nepal. Participants highlighted numerous structural barriers - ranging from poor infrastructure and inaccessible services to lack of data, limited repair networks, and absence of user participation in policy decisions. However, the workshop also illuminated clear aspirations for change. This section translates those aspirations into actionable recommendations, aligning them with the best global practices.

Improving Stakeholder Coordination through Centralized Database

Participants consistently emphasized the critical need for greater collaboration among local governments, NGOs, INGOs, and service providers to eliminate existing inefficiencies and fragmented efforts. Current practices, characterized as uncoordinated and isolated, have led to unequal and ineffective wheelchair distribution. A participant explicitly stated: *"There is a need for coordination and cooperation between service providers and local government,"* underscoring the urgency of developing an integrated approach.

Recommendations:

- Establish a centralized system or platform facilitating transparent communication, regular stakeholder meetings, and shared access to user data.
- Implement a unified "one-door policy," creating a single institutional point of contact responsible for wheelchair services, including distribution, repair, and maintenance.
- Enhance regular engagement between local governments and NGOs to ensure resources are equitably allocated based on documented user needs.

Exploring Local Production for Customization and Suitability of Wheelchairs

Participants clearly articulated a need for wheelchair customization tailored to individual users' needs, geographic terrain, and medical conditions. Criticism was particularly strong regarding the prevailing *"one-size-fits-all"* model. Workshop discussions highlighted the inadequacy of generic medical wheelchairs, captured succinctly by participants: *"There is no effort on customization posture and size. There is a one product fit for all kind of distribution model."* Such mismatches severely limit wheelchair usability and negatively affect users' mobility.

Recommendations:

- Develop partnerships between local manufacturers, technical specialists, and international expertise to produce wheelchairs and its spare parts specifically adapted for Nepal's varied geography.

- Prioritize locally sourced, durable materials in wheelchair designs suitable for remote areas.
- Include customization processes such as posture adjustments, proper measurements, and fitting, ensuring individualized support to users.

Ensuring Accessibility and Infrastructure Development

Participants strongly aspired to see tangible improvements in physical infrastructure, noting that current infrastructure significantly restricts the effective use of wheelchairs. As clearly described by workshop participants, *"Poor and inaccessible physical infrastructure is hampering the use of such distributed wheelchairs."* Rich pictures vividly illustrated wheelchair users' daily struggles, depicting public buildings, transportation, and sidewalks as predominantly inaccessible.

Recommendations:

- Advocate at provincial and local levels for urban planning and infrastructure projects adhering strictly to universal design principles.
- Retroactively adapt existing public infrastructure to become wheelchair-accessible by adding ramps, lowering curbs, and removing obstacles.
- Establish monitoring mechanisms to ensure adherence to accessibility standards in new construction.

Developing Skilled Technical Manpower

Participants repeatedly expressed the urgent need for a larger workforce of qualified professionals skilled in proper wheelchair assessment, fitting, and repairs. The acute shortage of technically competent personnel was described explicitly: *"There is a lack/shortage of technical manpower for proper assessment and measurement."* Without proper staffing, wheelchair services remain incomplete and ineffective, particularly in rural areas.

Recommendations:

- Develop targeted vocational training programs in collaboration with international NGOs and local academic institutions to enhance technical capabilities.
- Establish a standardized certification program under the Council for Technical Education and Vocational Training (CTEVT) for wheelchair assessment, fitting, and repair specialists.
- Incentivize local health and rehabilitation institutions to hire and retain certified wheelchair technicians, especially in rural and remote areas.

Developing Standard Services with Continuous Support and Follow-up Services

Participants highlighted the crucial importance of comprehensive follow-up services, including repair, maintenance, and user training, beyond initial wheelchair distribution. The lack of such

continuous support was sharply summarized by one participant's statement: *"There are no repair centers to repair damaged wheelchairs. Even at available centers they only do repairs of specific models,"* pointing to the gap in after-distribution service provision.

Ensuring accessibility in the built environment is a foundational step toward inclusive development and equitable access to services for persons with disabilities. Nepal's regulatory framework provides a solid starting point, but greater emphasis on enforcement and institutional coordination is needed to bridge the gap between policy and practice. The highlighted box below gives an overview of *National Building Code (NBC 206-2015): Architectural Design Requirements and its practical implications*[22].

Recommendations:

- Establish community-level wheelchair repair and maintenance centers in both urban and rural settings to provide accessible, affordable services for all wheelchair types.
- Develop mobile repair units staffed by trained technicians, capable of reaching users in remote areas, offering onsite repair and maintenance.
- Provide structured training programs for users and their caregivers on basic wheelchair care, regular maintenance routines, and minor repair skills, enhancing wheelchair longevity and user autonomy.
- Ensuring accessibility in the built environment is a foundational step toward inclusive development and equitable access to services for persons with disabilities.

The highlighted box below gives an overview of *National Building Code (NBC 206-2015):*

Nepal's commitment to universal design is enshrined in its *National Building Code (NBC 206-2015): Architectural Design Requirements*, which mandates progressive accessibility standards for public and semi-public buildings. Under the NBC:

- Buildings are categorized into three accessibility levels (Minimally, Partially, and Fully Accessible), each with clear, measurable criteria for ramps, entrances, toilets, lifts, and other access features.
- **Category 1 (plinth <100 m²)** requires at least one accessible entrance, reception area, and toilet located on the ground floor, with ramps having a gentle slope (1:8 for ≤450 mm rise, and 1:12 above) and minimum width of 1 m.
- **Category 2 (100–500 m²)** adds standards for handrails, non-slippery surfaces, and fully compliant lifts when provided, ensuring at least one accessible primary entrance and washroom per building.
- **Category 3 (>500 m²)** mandates full accessibility throughout, including lift access to all floors, accessible toilets with sufficient clearance, and clear signage using international symbols.

Additional NBC provisions include minimum door clearances (≥800 mm), turning spaces (1.8 m diameter), accessible parking, and detailed dimensions for elements like ATMs, counters, and telephones. Despite these provisions, research shows significant gaps in implementation across government offices, schools, health facilities, and hotels - highlighting a persistent “policy–practice” divide.

These building regulation standards represent a significant legislative step towards inclusivity in Nepal’s built environment. However, the effectiveness of this framework depends critically on enforcement, monitoring, and capacity-building at provincial and municipal levels to ensure that accessibility transitions from legal text to lived experience.

Architectural Design Requirements and its practical implications[23].

Reference:

[22] Nepal National Building Code (NBC 206: 2015). Architectural Design Requirements. (2015). Available at: https://www.moud.gov.np/storage/listies/July2019/NBC_206_2015_ARCHITECTURAL_DESIGN_REQUIREMENTS.pdf.

[23] Preparation Of Design Guidelines For Disable Friendly Building Design In Government Office Buildings For All Types Of Disabilities In Nepal. (n.d.). Available at: https://giwmscdnone.gov.np/media/pdf_upload/2._PREPARATION_OF_DESIGN_GUIDELINES_FOR_DISABLE_FRIENDLY_BUILDING_DESIGN_IN_GOVERNMENT_OFFICE_BUILDINGS_FOR_ALL_TYPES_OF_DISABILITIES_IN_NEPAL.docx.pdf

Way Forward – Consensus Workshop

The above recommendations should inform strategic development provincially and nationally. Participants across the four provinces will be invited to participate in a consensus workshop to see if themes generated represent the views of participants and that recommendations are articulated to support the development of a strategy. As a way forward participants will work together to propose a plan to build sustainable wheelchair provision service delivery systems, based on the findings, which are clearly defined and modeled to feasibly take action to improve the situation and address the real world challenge, i.e. wheelchair provision. Through consensus-based development of a 'root definition' - a structured articulation of what needs to change and why *(Checkland, 1999)*. This collaborative process allows stakeholders to co-create a conceptual model for improving wheelchair services that is rooted in local realities and aspirations. As reflected in the previous research *by Gowran et al. (2019)*, stakeholder engagement through SSA fosters a 'community of practice', where mutual understanding, knowledge exchange, and long-term commitment are essential to sustainable system transformation.

Participants will also have the opportunity to review a proposed 'Richest Picture' which represents wheelchair provision, its importance and challenges, presented in a form of traditional Nepali 'Thanka Art'. The art can be done through wheelchair user Thanka artists who were the participants of the workshop itself (See *figure 14 below).*

Figure 14. Figure 14. Male (left) and Female (right) artists who also participated in the workshop as a wheelchair user showcasing traditional Nepali Thanka Art BIA foundation at BIA, Jorpati, Kathmandu.

Conclusion

The wheelchair provision ecosystem in Gandaki Province, Nepal, is marked by significant systemic challenges that hinder equitable access, usability, and sustainability of services for persons with disabilities. The findings from the Pokhara workshop reveal a fragmented service landscape dominated by distribution-focused models, with minimal attention to follow-up care, repair, and user training. Infrastructural inaccessibility, lack of coordination among stakeholders, and inadequate customization of wheelchairs further exacerbate the exclusion of users, particularly in rural and remote areas.

Despite these challenges, the workshop discussions also illuminated a collective aspiration for transformative change. Stakeholders emphasized the need for a centralized coordination mechanism, locally adapted wheelchair production, improved physical infrastructure, and the development of skilled technical manpower. The initiative by INF Green Pastures Hospital in Pokhara serves as a promising example of how localized, resource-conscious models can address repair and maintenance gaps while empowering users through basic training.

The Sustainable Community of Practice Model (SCOP-M) and the application of the Soft Systems Approach (SSA), in this study, offers a structured yet flexible approach for facilitating systemic change. By engaging stakeholders in reflective inquiry, the methodology enables identification of shared concerns and system inefficiencies, followed by consensus-based development.

To move toward a more inclusive and sustainable wheelchair service system, it is imperative to institutionalize continuous support mechanisms, enforce accessibility standards, and foster meaningful collaboration among government bodies, NGOs, technical experts, and users themselves. The recommendations outlined in this report provide a strategic roadmap for achieving these goals, aligning local efforts with global best practices in assistive technology provision. Ultimately, the success of wheelchair services in Gandaki Province will depend on a paradigm shift - from charity-based distribution to rights-based, user-cantered service delivery.

By situating wheelchair provision as a basic human rights issue and aligning future strategies with the *United Nations (2015)* Sustainable Development Goals (SDGs), especially SDG 3 (Good Health and Well-being), SDG 10 (Reduced Inequalities), and SDG 11 (Sustainable Cities and Communities)[24], Nepal can position itself as a regional leader in inclusive assistive technology systems. The way forward demands political will, inclusive governance, and continuous engagement with those who understand and are directly affected by the wheelchair provision system. Only through such integrated and inclusive processes can sustainable, equitable, and appropriate wheelchair services be realized.

Reference:

[24] United Nations (2015). *The 17 Sustainable Development Goals*. [online] United Nations. Available at: https://sdgs.un.org/goals.