Policy Brief

OPEN DATA AND DISABILITY INCLUSION

December 2024

Prepared by
Open Development Cambodia Organization (ODC)

Disclaimer: This policy brief was funded by the Australian Department of Foreign Affairs and Trade through The Asia Foundation's Ponlok Chomnes: Data and Dialogue for Development in Cambodia program. The views expressed in this policy brief are the authors' alone and are not necessarily the views of the Australian Government and The Asia Foundation.

OPEN DATA AND DISABILITY INCLUSION

ODC Policy Brief

"Fostering the inclusive standardization and open accessibility of disability data in Cambodia."

EXECUTIVE SUMMARY

PURPOSE

Recognizing the fact that disability is a multidimensional and transdisciplinary topic, this policy brief is designed to inform target audiences not only from specialized but also from non-specialized backgrounds. They can be policymakers, NGO leaders and development agencies, whose work contributes to various areas of inclusive development, and embraces the use of inclusive quality data for programmatic information.

Additionally, it aims to help non-specialized audiences to be able to rethink and find their ground within the complex disability-inclusive data ecosystem. As a result, they will see the web of interconnected areas in disability data which best relate to their work. Instead of jumping directly to data-related discussion, this policy brief introduces disability as an evolving concept, with the introduction to inclusive data segregation highlighted. Finally, the policy brief aims to pinpoint key challenges and recommendations needed to leverage disability-inclusion data for successful outcomes.

SCOPE

Analytical discussions in this policy brief are limited to the importance of understanding the notion of disability from diverse conceptual frameworks, providing different conceptualizations of disability. Later discussions mainly touch on the inclusion-data nexus, showing some examples of inclusive data segregation as an emerging agenda in the current development sector. It further considers disability data from the perspective of statistical capacity and statistical significance in monitoring and evaluating the progress toward disability-inclusion frameworks and goals.

Challenges in disability data are discussed mainly from an ITC and digital perspective, whereas general challenges such as humanitarian or medical perspectives on disability are not highlighted. This policy brief is relevant to not only those working on disability-inclusive statistics and data collection, data protection and data storage, but also those who see and embrace disability in their work as a transdisciplinary concept rather than an isolated concept.

INTRODUCTION

Disability is multidimensional in the way that it cuts across other aspects of core development issues such as poverty, leading to a greater need for more comprehensive disability data. For example, 85.2% of Cambodian adults with functional difficulties experience poverty compared to 70.6% of adults without functional difficulties (Figure 1). The number is higher than for those adults in other ASEAN countries such as Myanmar, Viet Nam, Indonesia and the Philippines.

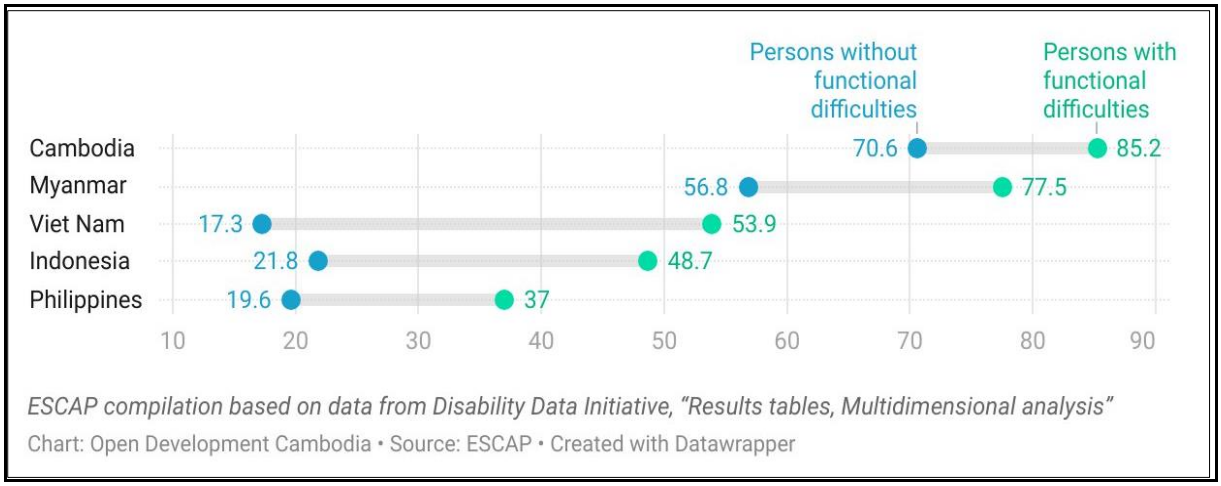


Figure 1: Percentage of adults experiencing multidimensional poverty, by functional difficulty, in Cambodia (Source: DDI)

Measurements of disability in Cambodia are far from flawless as various sources of data suggest different rates of disability prevalence across different years. Those sources include the Cambodia Socio-economic Survey (CSES), Cambodia Demographic and Health Survey (CDHS) and others (Figure 2).

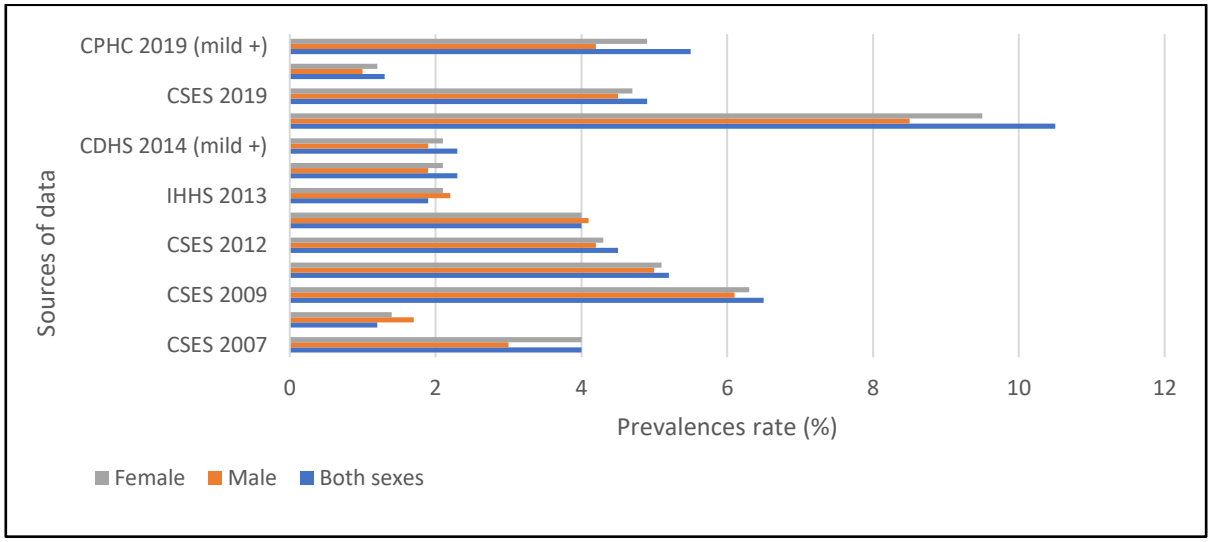


Figure 2: Disability prevalence rates in Cambodia by various censuses and surveys 2007-2019 (Source: NIS,2022)

Cambodian older individuals are significantly more likely to experience functional difficulties compared to younger individuals. The Cambodia Socio-Economic Survey 2021 (CSES) reported around 2% of Cambodian under the age of 40 experience at least one disability, compared to 34.6% of those 60 years old and older.

The Cambodia Demographic and Health Survey 2021 (CDHS) adapted the World Health Organization's International Classification of Functioning, Disability, and Health framework which categorized disabilities to 6 core domains such as seeing, hearing, communication, cognition, walking and selfcare. The result of the survey indicates that in 2021, difficulty seeing is the leading type of disability accounting for 15% of the survey population, followed by difficulty remembering or concentrating at 11.9%, difficulty walking 8.1%, difficulty hearing 5.9% and difficulty communicating stand at 3%. (Figure 3)

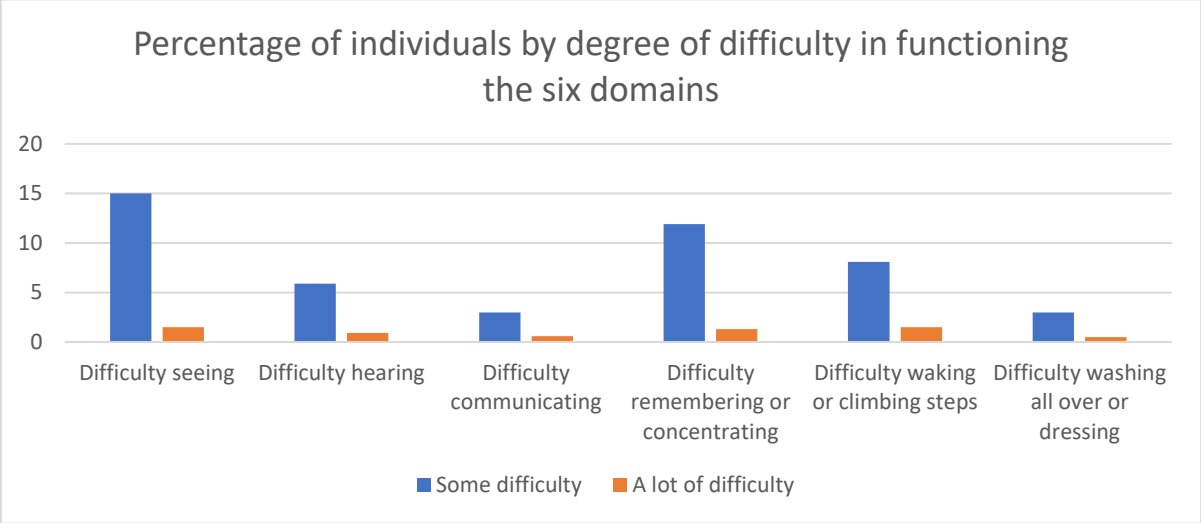
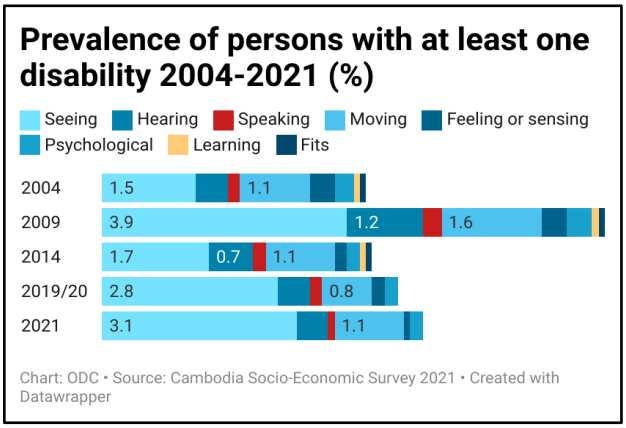
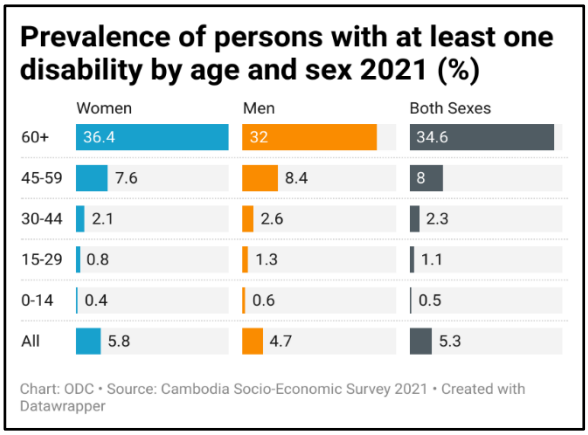


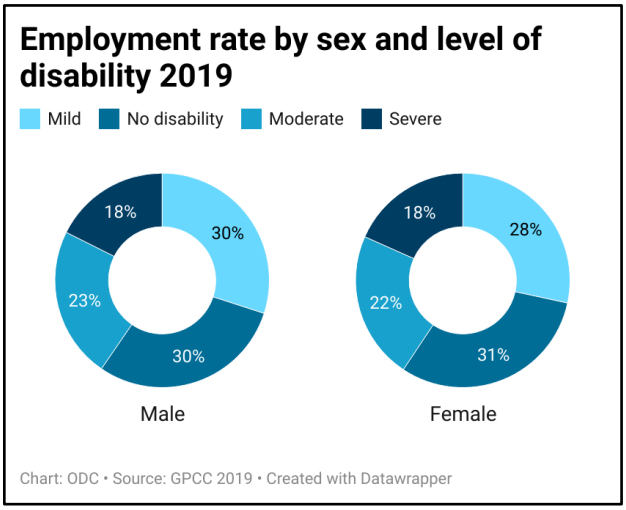
Figure 3 Percentage of individuals by degree of difficulty in functioning the six domains (source CDHS 2021)

In term of gender disparity, women tend to experience higher rates of disability than men across various background characteristics. Among divorced or separated individuals, the rate of having some difficulties in at least one domain is 30.4% for women and 17.6% for men. Similarly, 22% of women living in urban and 31.7% of women in rural areas report some level of difficulties, compared to 18.4% and 26.1% of men, respectively. Across provinces, the prevalence of functional difficulties varies significantly.

THE INCLUSION-DATA NEXUS







THE OVERVIEW OF DISABILITY LEGISLATION IN CAMBODIA

To better understand the disability legislation in Cambodia, it should be viewed from both a human rights-based perspective (non-digital), and from an ITC and data perspective (digital). In terms of a human rights-based perspective, Cambodia has ratified major international and regional policy instruments under United Nation bodies and the ASEAN framework, putting rights-based approaches for PWDs. In addition to these international and regional instruments, Cambodia has addressed disabilities in several national frameworks, ranging from the Constitution to laws and other legislation, which take PWDs into account. Figure 4 summarizes Cambodia's international, regional, and national instruments on disability.[1]

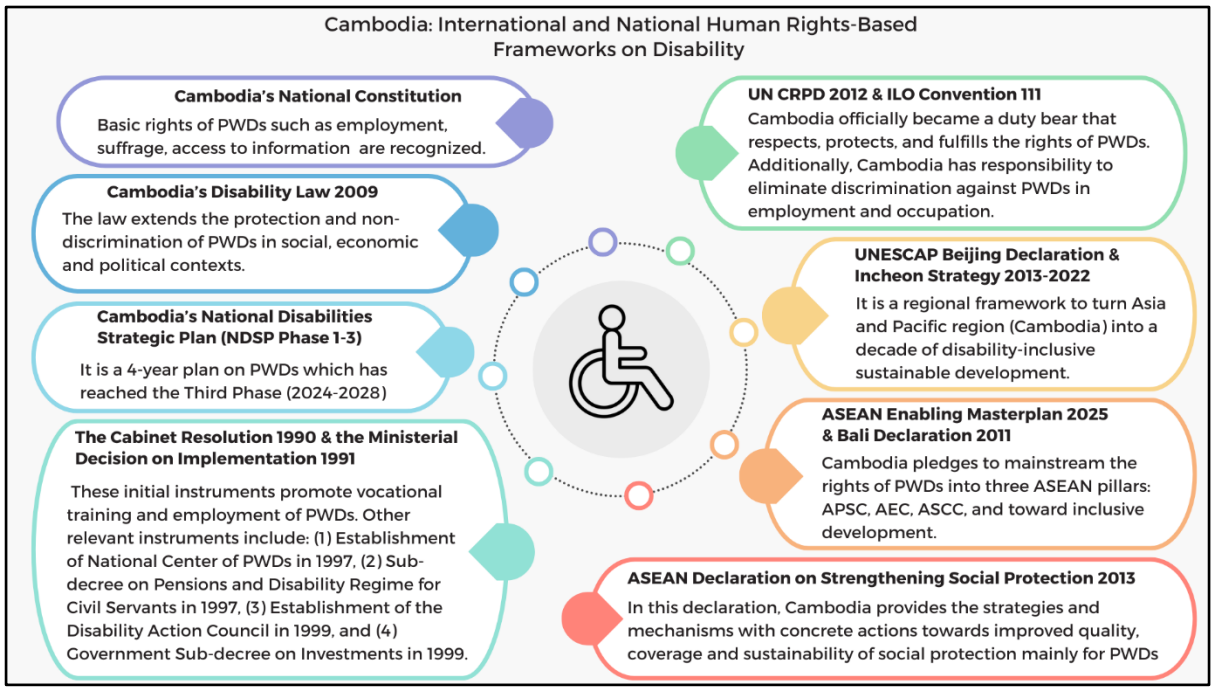


Figure 4: International, regional, and national frameworks on PWDs that Cambodia has ratified.

While Cambodia is making progress toward a digital society and economy, it is important to ensure that ITC, digital and data management systems pay more attention to ensuring disability-inclusive development. Table 1 captures some law and policy frameworks associated with disability from the perspective of digital and data management.

Table 1: Regulatory documents relevant to disability data in Cambodia

	Names of documents	Provision	Relevance to disability data
1	Digital Transformation Strategic Plan in Social Protection 2024-2028[2]	Goal 1 Priority 3-4	To eliminate data silos or data segregation, the Strategic Plan creates a centralized ecosystem of social protection, including disability in particular, allowing PWDs better identified and tailored social protection schemes. It reduces redundancy in registration of disability ID cards with respect of data protection and cybersecurity.
		Goal 2 Priority 3	This improves ITC systems and the digital infrastructure to allow greater internal exchange of data across institutions on a common platform such as CamDx. It supports the only-once principle for data entry across institutions and reduces inconsistency in disability data received from different institutions.

	Names of documents	Provision	Relevance to disability data
		Goal 4 Priority 2	This goal improves cooperation and facilitation between different stakeholders and practitioners concerning social protection, including development agencies and the private sector. It would help disability organisations be able to get connected with the private sector and donors.
2	National Strategy for the Development of Statistics[3] (NSDS 2019-2023)	SO1.	Expansion of datasets with high quality and disaggregated data by disability at subnational level as source of data needed for SDGs, NSDP, and ASEAN sectoral strategy plans. Quality assessment of data sets from non-government sources such as the private sector, research institutes, and NGOs. Questionnaires used for disability data collection are based on an international standard set by Washington Group on Disability Statistics.
		SO3.	Improvement of capacity-building for staff so that they can contribute to a better quality of inclusiveness, especially in disability datasets.
3	Cambodia Digital Economy and Society Policy Framework 2021-2035	Obj. 1 Direct. C	Since it aims to improve data-driven logistics and transportation systems with the principle of inclusiveness, it would give a positive impact on PWDs regarding mobility, logistics, and door-to-door delivery of products and services.
		Obj.2 Direct. A Direct. B	The Policy establishes a legal framework and strengthens the management of digital security and data protection, which would give a positive impact for PWDs whom most studies[4] have found to be more vulnerable to online scams and other internet-based harassment.
4	Pentagonal Strategy Phase I for Growth, Employment, Equity, Efficiency, and Sustainability	Pen. 1 Side 4	It promotes the use of information technology in social protection systems by improving the accuracy of identification for vulnerable individuals and households, such as those with PWD. Improving the wellbeing of military veterans with disabilities through granting of social land concessions (SLCs) is explicitly highlighted. Disability inclusive data is crucial as it helps promote accountability and accuracy in identification.
5	Sub-degree on Identification of Disabilities Following Social and Basic Rights Models (issued 2023)	Art. 1-4	It aims to improve technical and legal mechanisms used to identify PWDs, especially disability database management with respect of social and human rights perspectives. The role of sub-national officials such as commune and village chiefs, and DoSVY teams in all provinces is crucial since they have to directly engage with data collection and management of individuals and households with disabilities at the local level.
		Art. 19 - 21	The management and the use of disability data and disability ID cards are carried out by the Ministry of Social Affairs, Veterans and Youth Rehabilitation (MoSVY) with respect to the personal data protection of PWD. The updating and consistency of data must be aligned with a social protection registration code (under Ministry of Economy and Finance). It is explicitly stated that NGOs are able to request the data on disability identification from the MoSVY with a clear objective.

Having well-written frameworks on disability is important. However, having an effective statistical capacity to obtain data and measure the progress toward those frameworks is also important to guide implementation. Data-related studies suggest that low-resourced countries should pay closer

attention to the fact that the statistics "substantially misstate" the actual state of development affairs in those countries.[5]

Take the Millennium Development Goals (MDG) as an example. Governments of poor and low-resourced countries usually consider it an embarrassment to see low progress pointed out by statistical indicators. Datasets produced by those governments eventually face mistrust from development agencies.[6] For these reasons, it is important for Cambodia, as a developing country, to foster the role of open data in improving the reliability and quality of progress measurement which is a shared agenda for governments and non-government agencies. This is particularly true for disability-related policies, for the benefit of realizing Sustainable Development Goals (SDGs) in an inclusive manner for PWDs as promised by Envision Disability 2030.[7] The following cases provide some empirical challenges that PWDs are facing, leading to a need of effective data-driven measurement of disability-inclusion frameworks.

Case One: Monitoring the Labour and Employment of PWDs

The Royal Government of Cambodia (RGC) set targets for PWDs to make up to 2% of the workforce in state ministries and institutions, and 1% in the private sector. The result by 2022 shows that state institutions have employed 3,748 civil servants with disabilities while 5,839 PWDs are working in private-sector institutions.[8] However, Cambodians with disabilities, especially those living in rural areas, are continuously affected by the lack of decent work and just, favourable work conditions as shown in concerns raised by The Committee on Economic, Social and Cultural Rights.[9]

The role open data plays in fostering the likelihood of employment for people with disabilities is crucial. Open data enables effective monitoring and evaluation of the labour market for PWDs, as seen in ILO's open data platform on the labour market situation of people with and without disabilities in Cambodia[10] (Figure 5). Disability policymakers and practitioners can make use of this information to come up with effective and timely interventions driving PWDs to be more occupationally active and enjoy decent earnings closer to those of people without disabilities.

		Inactivity rate		Share employed with less than basic education		Share employed in informal employment		Share of youth not in employment, education or training (NEET)		Monthly earnings for persons with disabilities
Country	Reference year	Persons with disabilities	Persons without disabilities	Persons with disabilities	Persons without disabilities	Persons with disabilities	Persons without disabilities	Persons with disabilities	Persons without disabilities	(as % of earnings for persons without)
Indonesia	2021	89%	34%	41%	12%	90%	80%	80%	22%	65%
Cambodia	Varies ^2014-2019^	68%	23%	38%	15%	97%	89%	20%	11%	71%
Lao People's Democratic Republic	2017	81%	40%	46%	16%	97%	89%	67%	26%	89%
Myanmar	2015	86%	35%	50%	29%	81%	83%	80%	18%	0%
Thailand	2019	69%	29%	41%	23%	0%	0%	57%	12%	73%
Timor-Leste	2016	31%	33%	66%	42%	0%	0%	57%	20%	51%

Source: Disability Labour Market Indicators (DLMI) Database, ILOSTAT • Created with Datawrapper

Figure 5: Labour market situation of people with and without disabilities in Cambodia (Source: ILOSTAT)

Case Two: Monitoring the Government's Disability Identification

A survey study[11] suggests that limited political participation and civic engagement amongst PWDs is correlated with limited access to information shared by the government. This applies especially to

women with disabilities, people with cognitive disability and PWDs aged from 50 to 70. Regarding ownership of official documents, it is unfortunate that 20% of PWDs do not have ID cards, and it is even worse for people with cognitive disabilities as only one-third of them own ID cards.

Besides ID cards, 58% of PWDs do not own an Equity Card used to receive benefits from the government's IDPoor Program which allows them to enjoy free public services such as certain health services.[12]

The Ministry of Social Affairs, Veterans and Youth Rehabilitation's registration process for Disability Identification Cards remains slow given that only one third of Cambodia's estimated PWDs have been registered by 2023 – it was launched in 2020.[13] It becomes even more obvious that having open data will increase the likelihood for PWDs to access public documents and registration that enable them to benefit from state subsidies and public services, and take part in civic engagement activities.

CHALLENGES AND LIMITATIONS OF DISABILITY DATA IN CAMBODIA

a. *Meaningful cooperation and engagement of non-governmental organizations, playing an intermediary role in supporting the government to foster disability data, is still limited.* The Royal Government of Cambodia (RGC), through the Ministry of Social Affairs, Veterans and Youth Rehabilitation (MoSVY), has recently introduced a new disability management system and dataset. However, the existing capacity of government officials, especially at sub-national levels, is limited. For instance, although the Department of Disability Welfare at MoSVY has worked to enhance the technical capabilities of sub-national officials in enabling better disability identification based on social norms and basic rights, the work has taken places in only a few provinces such as Kratie, Stung Treng and Preah Vihear.[14] In this situation, it would be useful to create collaboration and engagement with open data intermediaries[15] such as data-related NGOs, which provide technical and financial supports (funds and regular training) to frontline government officials working with disability data collection, analysis, and management, to be able to make progress with disability datasets.

b. *Disability data collection, according to experiences from the General Population Census of Cambodia (GPCC 2019), still remains constrained for the following reasons:*[16] (1) Persistent stigmatization and sociocultural factors prevent both enumerators and respondents from providing accurate information. (2) Data on disability is not collected for children under the age of five.[17] (3) Local focal persons in charge of issuing birth certificates tend to delay the registration process for children with severe disabilities, which influences the national data of PWD. (4) The way disability questions were placed in the questionnaire appears to have confused a number of enumerators, resulting in a collection of disability data that is not comprehensive. For example, based on the experience of the *GPCC 2019: Thematic Report on Disability in Cambodia*, all six questions[18] of the Washington Group Short Set on Functioning (WG-SS) were compacted to one question in an abbreviated manner instead of being presented separately. Unfortunately, presenting six questions in this way led to field enumerators misunderstanding that it was a screening question rather than addressing the functioning difficulties of PWDs. It also ended up that one respondent could be coded as having all six functioning difficulties.[19]

c. *Other aspects of disability, especially psychosocial disability, are omitted due to the limitation of Washington Group on Disability Statistics Question Sets (WG-SS).* [20] Even though WG-SS contained questions to capture psychosocial disability, these questions were mainly developed for household surveys and are impractical to use in population censuses.

d. *The harmonization of statistical and administrative data on people with disabilities is still limited, leading to inconsistency and difficulties in tracking disability-inclusive development.* For example, data around people with disability is mainly managed by MoSVY but it is not always meaningful to other institutions with different areas of specialization. Sportspeople and athletes with disabilities require more in-depth medical and physical assessment. As a result, there are inconsistencies in disability prevalence from different sources of data which presents a problem for quantitative study on disability in Cambodia.[21]

e. *Adults with disability are one thing, but children with disability need another degree of special attention, especially when it comes to online child protection standards and openness in data*. Some local organizations working around children with disabilities express a concern about their limited capacity to use data-driven storytelling while juggling with the personal data protection for children. With limited capacity in open data driven storytelling, those organizations appear to be less visible and unable to communicate their impact to major donors.

f. *In response to the rise of urbanization, transformation and residential management, it remains a challenge when it comes to the availability and accessibility of open data which is particularly related to trajectories and patterns of mobility and routes of PWD*. There has been a recent study[22] on assessing and improving urban transport infrastructure and the public bus service to be more friendly and accessible for PWDs in Phnom Penh. It is obvious from the study that disability data at the community level, e.g. Sangkat, plays a very important role in enabling the urban landscape to be more accessible for PWDs, allowing them greater mobility. However, there can be a limitation in the availability of community-based data in other urban areas or towns besides Phnom Penh.

g. *Data on violence against women and girl with disabilities are not well-disclosed* to the public. Women and girls with learning difficulties face greater risk to violence. Violence are often misunderstood violence as disciplinary activities. Women do not have the voice to talk or speak up to the lack of information and empowerment.

POLICY RECOMMENDATIONS

a. *Utilization of ITC tools and innovation to improve accessibility and preventiveness of PWDs in statistical data*. Representativeness of PWDs in censuses or surveys depends very much on the extent to which field enumerators (data collectors) reach out to PWDs in person. Unfortunately, due to geographical and mobility constraints, PWDs may not be reached by data collectors. In this situation, the utilization of ITC and digital tools such as mobile applications for data collection should be promoted for the representativeness and accuracy of disability data since more PWDs are able to participate in data collection. Additionally, the use of innovative and inclusive communication materials that allow both specialized and non-specialized audiences (PWDs, data collectors, users, etc.) to well digest disability-related content should be considered.

b. *Promotion of media, information and digital literacy (MIDL) for main stakeholders in disability data ecosystem.* The utilization of ITC tools and innovation as mentioned above goes hand in hand with improved capacity development on MIDL competencies to relevant stakeholders including data controllers (NIS, NGOs, or private research firm), data collectors (enumerators or field researchers) and data subjects (PWDs). MIDL competencies allow those stakeholders to collect, share, and store disability data in ethical and responsible manners.

c. *Vitalization of the role of non-government organizations as open data intermediaries.* In the current situation where disability data frontline workers such as enumerators, local community chiefs and provincial officials are demanding more capacity building in statistical skills and data literacy, it is important to lift the quantity and quality of data literacy training. To do so requires not only government but also non-governmental organizations (NGOs) as open data intermediaries providing technical and financial support. NGOs also play a key role in building trust in the government from the private sector and the general public, because NGOs serve as a third party to cross check or correct the reliability of disability data produced by the government.

d. *Harmonization of disability definitions and disability data management.* It is important to facilitate inclusive data production, data management, and data exchange between different institutions with different agendas concerning PWDs. There should be regular cross-sectoral forums or conferences on open data and disability where stakeholders of disability-inclusive data gather and reflect on challenges preventing the harmonization and synchronization of data.

e. *Attention to underlying determinants of disability data*. Paying attention to underlying issues that affect open data on disability is also a key recommendation. Child protection principles, online harassment, digital support, and access to remedy. are issues that must be addressed with open data on disability, especially around children with disabilities.

f. *Rejuvenation of data responsibility among a wider range of responsibility bearers.* In 2015 there was an international coalition amongst scientists, known as Science International. This acted as a global voice against the tendency towards the privatisation of knowledge, promoting the openness of scientific data and other publicly-funded projects.[23] Based on this logic, it is recommended that a wide range of disability stakeholders in Cambodia, including the private sector,[24] NGOs, development agencies and government agencies should understand and respect the principles of data responsibility.

g. *Enhancing the availability and quality of disaggregated disability data especially for vulnerable and marginalized groups through collaboration and coordination.* Data on disability a multi-facet approach that require involvement from different stakeholders including relevant ministries, non-governmental organizations and local communities. There should be a joint-working group that are capable of developing context-specific data collection tools tailored to fit different groups such as women with disabilities, girl with disabilities, children with disabilities, ethnic minorities, etc. With specific data collection tools for specific group, it would ensure accurate representation of the issues, what they need and necessary and effective approach to address the problem they have faced.

h. *Intelligent openness of data through strategic communication*. Open data, especially in the areas of scientific innovation, is ideally “intelligently open”, meaning that the data is effectively communicated to the right audience, e.g. scientists or innovators, at the right time.[25] For example, when there was a case of pandemic outbreak in Hamburg, an old claim about the cause of the outbreak was wrong, but luckily the medical data was open early to a wider group of researchers and scientists who managed to locate the actual cause, leading to the development of vaccines to stop the outbreak.[26] Likewise, in order to make timely and effective interventions for PWDs, data directly and indirectly associated with disability must also be intelligently open with effective and strategic communication. For example, in light of the fact that non-communicable diseases (NCDs)

such as diabetes are the main causes of disability[27] in Cambodia, data related to NCDs should also be communicated strategically, effectively and on time before it is too late to intervene.[28]

CONCLUSION

It is important for Cambodia to promote open, disability-inclusive data that can serve several purposes:

- Disability data provides motivation for development policies by documenting the scale and type of exclusions that PWDs are facing.
- Having this information enables deep dives to identify the underlying barriers and exclusions that need to be addressed.
- Open disability data helps monitor the extent to which the implementation of development policies is carried out in a timely and appropriate manner.
- With open disability data, we are able to identify and justify the impact of those policies with showcases of good and bad practice.

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[1] There is another disability instrument called "The Marrakesh Treaty", which has a clear humanitarian purpose to it easier for blind, visually impaired and print-disabled people to access print works protected by copyright. Within this spirit, Cambodia is working on amendments of some legislations such as Law on Copyright and Related Rights, and National Disability Strategic Plan.

[2] National Social Protection Council (NSPC). "Digital Transformation Strategic Plan in Social Protection 2024-2028". NSPC. Phnom Penh. 2024.

[3] National Institute of Statistics. "National Strategy for the Development of Statistics 2019-2023". 2018. Phnom Penh. Accessed. https://www.nis.gov.kh/nis/NSDS/NSDS%20book.pdf

[4] For instance, a joint study by UNICEF, INTERPOL and ECPAT suggests the Government of Cambodia to have special attention to children with disabilities since they are more vulnerable to online child sexual exploitation (OCSE). *See* ECPAT, INTERPOL and UNICEF. *Disrupting Harm in Cambodia: Evidence on Online Child Sexual Exploitation and Abuse*: *Global Partnership to End Violence Against Children*. 2022.

[5] Jerven, M. *Poor Numbers: How We Are Misled by African Development Statistics and What to Do about It*. Ithaca: Cornell University Press. 2013

[6] McDonald, John. "The Quality of Data, Statistics and Records Used to Measure Progress towards Achieving the SDGs: A Fictional Situation Analysis." In *A Matter of Trust: Building Integrity into Data, Statistics and Records to Support the Achievement of the Sustainable Development Goals*, edited by Anne Thurston, 211–42. University of London Press, 2020.

[7] UNDESA. "#Envision2030: 17 Goals To Transform The World For Persons With Disabilities". Accessed https://social.desa.un.org/issues/disability/envision-2030/17goals-pwds

[8] UN Human Rights Council, *National Report Submitted Pursuant to Human Rights Council Resolutions 5/1 and 16/21: Cambodia*, A/HRC/WG.6/46/KHM/1, 15 February 2024, https://undocs.org/en/A/HRC/WG.6/46/KHM/1 [accessed 27 June 2024]

[9] UN Human Rights Council, *Cambodia: Compilation of Information Prepared by the Office of the United Nations High Commissioner for Human Rights*, A/HRC/WG.6/46/KHM/2, 22 February 2024, https://undocs.org/en/A/HRC/WG.6/46/KHM/2 [accessed 27 June 2024]

[10] The ILOSTAT database Disability Labour Market Indicators (DLMI) is a set of indicators describing the gaps in the labour market outcomes between persons with and without disabilities. It covers the labour force, employment, unemployment, working time and earnings. DLMI database can be fully accessed via https://ilostat.ilo.org/data/

[11] Light for the World and Disability Development Services Program (DDSP). "*Information Matters! How People with Disabilities Access Information in Cambodia*". Phnom Penh. 2020. Accessed https://www.licht-fuer-die-welt.at/app/uploads/sites/8/2023/07/Information-matters_EN.pdf [Accessed 27 June 2024].

[12] Ibid.

[13] Seoung Nimol and Hel Komsan. "*Only One Third of Disabled People Identified for Government Assistance Program Since 2020*". CAMBOJA News. 12 September 2023. https://cambojanews.com/only-one-third-of-disabled-people-identified-for-government-assistance-program-since-registrations-began-in-2020/ [Accessed 27 June 2024]

[14] Ministry of Social Affairs, Veterans and Youth Rehabilitation (MoSVY). "Ministry of Social Affairs Leads Nationwide Disability Identification". MoSVY. Phnom Penh. 19 October 2023. Accessed https://mosvy.gov.kh/en/october-18 [Accessed 17 December 2024]

[15] The argument here echoes the recommendations suggested in Pak, Kimchoeun. "*Open Data Intermediaries for Non-State Actors in Cambodia*". The Asia Foundation. Phnom Penh. 2023. (pg. 27-28).

[16] National Institute of Statistics. "General Population Census of Cambodia 2019: Thematic Report on Disability in Cambodia". 2022. Phnom Penh. Accessed https://www.nis.gov.kh/nis/Census2019/Cambodia_census_report_Disability_ENG_FINAL.pdf
[17] It is common that clinicians have to diagnose disability conditions in children from the age 0 to 5 years old. Some disability conditions such as autism spectrum disorders (ASD) and cerebral palsy can be diagnosed at the age of 3 years.
[18] Washington Group on Disability Statistics. "The Washington Group Short Set on Functioning (WG-SS)". Washington. 2022.
[19] For the further detail of this example, refer to page 147 in *GPCC 2019: Thematic Report on Disability in Cambodia*. Phnom Penh. NIS. 2022. Accessed https://www.nis.gov.kh/nis/Census2019/Cambodia_census_report_Disability_ENG_FINAL.pdf
[20] Washington Group on Disability Statistics. *"An Introduction to the Washington Group on Disability Statistics Question Sets"*. Washington. 2020. Accessed https://www.washingtongroup-disability.com/fileadmin/uploads/wg/Documents/primer.pdf
[21] Australia-Cambodia Cooperation for Equitable Sustainable Services (ACCESS). "*Social Protection-a Situational Analysis of Persons with Disabilities in Cambodia*". ACCESS. Phnom Penh. 2022.
[22] Humanity & Inclusion. "*Accessibility and Disability Inclusion on the Public Transport System in Phnom Penh". The Asia Foundation. Phnom Penh.* 2023. https://asiafoundation.org/publication/accessibility-and-disability-inclusion-on-the-public-transport-system-in-phnom-penh/ [Accessed 27 June 2024]
[23] International Science Council. *"Science International to Agree International Accord on Open Data"*. 12. Oct.2015. Accessed https://council.science/current/news/science-international-to-agree-international-accord-on-open-data/
[24] In the literature of cooperate social responsibility (CSR), there has been an emerging trend in discussion on a growing phenomenon called cooperate digital responsibility (CDR) associated with ethics and adequacy in pursuit of data responsibility. The gap is that private firms' compliance to CDR is not reliable, so it needs new approaches that are more comprehensive and well-cooperated amongst various societal agents. (*See* Merwe, J., and Ziad A. "Data Responsibility, Corporate Social Responsibility, and Corporate Digital Responsibility." Data & Policy 4 (2022): e12. https://doi.org/10.1017/dap.2022.2)
[25][25] The Royal Society Science Policy Centre. *"Science as an Open Enterprise".* London. The Royal Society. 2012.
[26] Ibid.
[27] Recognizing NCDs as a root cause of disability, the Ministry of Health created the *National Multisectoral Action Plan for Noncommunicable Diseases 2018 – 2027*.
[28] From the prevention perspective, it can be too late in the way that NDCs in pregnancy create intergenerational impact on offspring's disability and other medical complication. Some scientific papers in medical journals have proven this evidence. See Battista MC. et al. (2011); Hussein J. (2017); Wilkins, E. (2021)

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