Building a Case for Disability-Inclusive Local Climate Action

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Prepared by

Mikaela Patrick,

Head of Research and Delivery, Global Disability Innovation Hub.

Bala Nagendran Marimuthu,

Inclusive Climate Researcher, Global Disability Innovation Hub.

Global Disability Innovation Hub

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About the Global Disability Innovation Hub

Global Disability Innovation (GDI) Hub accelerates ideas into impact for a more just world—for disabled people and all people. We are a world-leading delivery and practice centre, an Academic Research Centre at University College London (UCL), and the first World Health Organization (WHO) Global Collaborating Centre on Assistive Technology. As an Academic Research Centre and Community Interest Company, our diverse portfolio and unique structure enable rapid translation of research into practice. GDI Hub is also home to the AT2030 programme, funded by UK International Development, which tests 'what works' to improve access to life-changing Assistive Technology (AT) for all.

Launched in 2016 as a legacy of the London 2012 Paralympic Games, our office and research lab continue to be based on the Queen Elizabeth Olympic Park, at UCL's East London campus. GDI Hub works in 40+ countries, with a reach of more than 64 million people since 2016, developing homegrown technologies alongside new knowledge and research. In collaboration with global partners, we deliver accelerators and market-shaping initiatives—building disability innovation ecosystems with a focus on Low-and Middle-Income Countries (LMICs).

Executive Summary

By 2050, over one billion people with disabilities are projected to be living in cities, which are hotspots for climate change impacts (UN Habitat, 2022; UCLG and WBU, 2024). As over 150 cities across the world now have a verified, Paris Agreement-compatible Climate Action Plan, with more cities joining the movement, there is a real need and an opportunity for simultaneously planning, implementing, and strengthening urban inclusion and urban resilience by integrating a disability lens within local climate action (C40 Cities, 2025; *Scores and A Lists - Cities A List*, 2025). The Global Disability Innovation Hub (GDI Hub) presents this White Paper titled **'Building a Case for Disability-Inclusive Local Climate Action'** as an effort to synthesise available insights at this intersection and frame a narrative for future research, innovation, and action.

A systematic narrative literature review at the intersection of disability rights and local climate action has revealed a list of sixteen disability rights, directly aligned with the articles of the United Nations Convention on the Rights of Persons with Disabilities (UN CRPD) (2008), as to be threatened or influenced by climate change impacts. Of these, **ten** with substantial evidence or arguments are discussed in Section 2. This includes: 1) the right to life, 2) the right to health, 3) the right to food, 4) the right to water and sanitation, 5) the right to accessibility, 6) the right to housing, 7) the right to work and livelihood, 8) the right to personal mobility, 9) the right to protection and safety under risk, and 10) the right to independent living and community inclusion.

To operationalise the above-listed rights and other relevant thematic areas to be uncovered in the upcoming stages of the research, and advance disability-inclusive local climate action, GDI Hub proposes the following three guiding principles:

1. **Position people with disabilities as equal rights-bearers** as against framing them merely as beneficiaries, stakeholders, or vulnerable individuals.
2. **Acknowledge the role of diversity, intersectionality, and intergenerational equity** in risks and needs assessment, and holistically address them.

3. **Embrace transformative whole-of-society approaches** that will address the root causes for excluding people with disabilities and accelerating emission-intensive urban development.

In alignment with these guiding principles, GDI Hub proposes that cities adopt and promote ***inclusive design and innovation*** as a mindset and methodology for local climate action, complemented by a framework covering pathways for participation, planning, and practice.

- **Participation pathway** shall cover strategies to enhance direct, equal, and meaningful engagement of people with disabilities and organisations of people with disabilities (OPDs) in local climate action.
- **Planning pathway** shall focus on co-creating and integrating inclusive tools, methodologies, and standards for disability-inclusive local climate action.
- **Practice pathway** shall aim to strengthen capacity, resources, and inclusive mechanisms for local climate action implementation.

Comprehensively, this will guide cities to embrace the strengths and lived experiences of diverse members of the community, including people with disabilities, and address their unique needs collaboratively in the context of climate change and exacerbated barriers.

GDI Hub's ongoing global research titled '**State of Disability Inclusion in Local Climate Action and the Pathways for Transformation'** will build on this White Paper and bring together insights from people with disabilities, climate practitioners, OPDs, and climate action plans from thirteen cities across the globe. Representing diverse geographic characteristics and scale, climate risks, and development contexts, the list includes Auckland (New Zealand), Dhaka (Bangladesh), Durban (South Africa), Honiara (Solomon Islands), Istanbul (Turkey), Kuala Lumpur (Malaysia), London (England), Mumbai (India), Nairobi (Kenya), New York City (United States of America), Sao Paulo (Brazil), Dakar (Senegal), and Toronto (Canada).

Contents

1. Introduction

Globally, 80% of 1.3 billion people with disabilities live in low- and middle-income countries (LMICs), where climate risks are higher (WHO, 2022; Adil *et al.*, 2025). For example, in some regions of the Philippines, disability prevalence is estimated to be as high as 13.6% (2010), and the country is ranked 7th under the climate risk index (Marella *et al.*, 2016; Adil *et al.*, 2025). With rapid urbanisation, by 2050, over one billion people with disabilities are projected to be living in cities, which are hotspots for climate change impacts (UN Habitat, 2022; UCLG and WBU, 2024).

Climate change is a threat multiplier and disproportionately impacts people with disabilities, more so for those living in cities, leading to greater exposure, higher sensitivity, and lower resilience capacity due to systemic barriers for equal socio-economic participation (Kumar, 2023). However, there is currently limited evidence on the specific challenges of urban resilience and disability, and limited policies and solutions to advance disability-inclusive and -targeted climate action at the city level. The Global Disability Innovation Hub (GDI Hub) presents this White Paper as an effort to synthesise available insights at this intersection and frame a narrative for future research, innovation, and action.

At the global level, the United Nations Convention on the Rights of Persons with Disabilities (UN CRPD) (2008) and the Paris Agreement (2015) lay out the obligations and commitments of State Parties in implementing disability inclusion and climate action, respectively. The preamble of the UN CRPD emphasises the importance of mainstreaming disability issues as an integral part of relevant strategies of "sustainable development". In addition, Article 11 requires the states to take "…all necessary measures to ensure the protection and safety of persons with disabilities in situations of risk..." including during "…humanitarian emergencies and the occurrence of natural disasters." However, as the UN CRPD was developed and adopted prior to climate change being recognised as a human rights issue, there is no explicit reference to climate change or its impact. The UN CRPD also does not specifically discuss the measures to be prioritised in urban areas or cities ('Convention on the Rights of Persons with Disabilities', 2006).

The Paris Agreement mentions disability only once, in the preamble. It acknowledges climate change as a common concern of humankind and stresses that climate action should

respect, promote, and consider the respective human rights obligations for people in vulnerable situations, including people with disabilities. There is no direct and explicit mention of or provision for 'disability' within the articles. Notably, the position paper titled 'Rights of persons with disabilities and climate action', prepared by the European Disability Forum, highlights Articles 7 and 12 of the Paris Agreement as relevant to the disability inclusion movement, as they refer to "…a participatory and fully transparent approach [in climate adaptation], taking into consideration vulnerable groups, communities and ecosystems…" and pursuing measures to enhance "…public participation and public access to information [related to climate action]…" ('Rights of persons with disabilities and climate action - Final report', 2024). Also, while the Paris Agreement recognises the "…importance of the engagements of all levels of government and various actors…" there is no direct mention on the impact on and role of cities or urban areas ('The Paris Agreement | UNFCCC', 2015).

From this context of limited synergy between international disability inclusion and climate change obligations, particularly for action in cities, it is critical to co-develop a stronger evidence base on how climate change impacts the realisation of disability rights. Co-designing inclusive urban climate action tools and methods is also paramount to empower cities and communities to drive disability-inclusive local climate action.

Local climate action broadly refers to place-based climate adaptation and mitigation interventions led by sub-national actors—including municipal governments, community groups, and the private sector—in alignment with national carbon emissions reduction targets and the global temperature goal. This may cover projects, programmes, and policies at regional-, city-, neighbourhood-, block- or household-level that directly respond to the complex local socio-cultural, economic, environmental, and political contexts and make climate action a reality (Ehmsen Frederiksen and Damsø, 2023; Local Climate Action → Area, no date).

Over 150 cities across the world now have a verified, Paris Agreement-compatible Climate Action Plan, with more cities joining the movement (C40 Cities, 2025; *Scores and A Lists - Cities A List*, 2025). GDI Hub's inclusive infrastructure research conducted across six cities from LMICs has found climate change as an additional barrier for building inclusive cities (Patrick *et al.*, 2024a). This highlights a real need and an opportunity for simultaneously

planning, implementing, and strengthening urban inclusion and urban resilience by integrating a disability lens within local climate action. The 2025 Synthesis Report on Nationally Determined Contributions (NDCs) also reinforces the gaining momentum for local action and disability inclusion. Over two-thirds (69 per cent) of State Parties have consulted subnational entities (including cities and regions) in NDC planning and are "…embedding national targets into regional and local plans." Most Parties (89 per cent) have also acknowledged people with disabilities as "…vulnerable to climate change" ('Nationally determined contributions under the Paris Agreement - Synthesis report by the secretariat', 2025).

The White Paper titled **'Building a Case for Disability-Inclusive Local Climate Action'** is a foundational resource to establish the signification for local governments to include people with disabilities as they increasingly plan and implement climate initiatives. This also outlines GDI Hub's approach for supporting cities and communities to co-design inclusive and resilient climate projects, programmes, and policies at the local level.

2. Disability Rights and Local Climate Action

People with disabilities experience multi-dimensional climate impact relating to their direct physical susceptibility to climate emergencies, access to information and resources for navigating slow and sudden onset climate events, and long-term access to essentials including safe drinking water, food, sanitation, and assistive technology (AT) (Engelman, Craig and Iles, 2022).

To uncover these impacts, GDI Hub conducted a systematic narrative literature review at the intersection of disability rights and local climate action. From a list of 410 resources, identified through Scopus, Web of Science, and Google Scholar databases, and a general Google search, twenty-five resources—a mix of journal articles and grey literature—were shortlisted for full-text review through a rigorous screening process. The selected resources were reviewed to extract insights on how climate change impacts the realisation of disability rights and were indexed thematically. Please note that only open-source resources published after 2015, available in English, and were relating to urban contexts were included.

The literature review revealed a list of sixteen disability rights, directly aligned with the articles of the UN CRPD as to be threatened or influenced by climate change impacts. Of these, however, only **ten** of them were found to have evidence or arguments relating to local climate action. Sub-sections 2.1–2.10 present these with examples of specific opportunities for targeted disability-inclusive local climate action. These sub-sections have also been strengthened with additional data points uncovered through a flexible and iterative web search.

2.1 Right to Life

Article 10 – Right to Life, UN CRPD

The World Meteorological Organisation (WMO) declared 2024 as the warmest year; with a global mean temperature higher than 1.5°C above the 1850-1900 average, cities are experiencing extreme and frequent heat waves ('WMO confirms 2024 as warmest year on record at about 1.55°C above pre-industrial level', 2025). Alongside elevating emergency room visits and hospital admittance, heat-related climate events are linked to three times higher mortality risks for people with psychosocial and mental impairments (Stein *et al.*, 2024; Penelope J. S. Stein and Stein, 2022; Jodoin, Lofts and Ananthamoorthy, 2020). Of the 354 heatwave fatalities reported in Australia between 2001 and 2018, 316 (nearly 90%) of people had one or more disabilities (Coates *et al.*, 2022; Stein *et al.*, 2024). A World Bank study also highlights that people with disabilities are up to four times more likely to lose their lives under a climate-related disaster, like flooding and wildfires, compared to people without disabilities (Auerbach, Sacks and Yusupov, 2023).

Potential solutions: Inclusive energy access programmes to retrofit thermally inefficient homes of people with disabilities can enhance their resilience to extreme heat events and reduce energy poverty and risks of losing lives (Andreas Beavor *et al.*, 2023a). Disability-inclusive disaster risk reduction measures are also crucial to reach and rehabilitate people with disabilities during climate emergencies.

2.2 Right to Health

Article 25 – Health, UN CRPD

Extreme weather events, including frequent heatwaves, unprecedented rains and floodings, and increased wildfires, may directly impact Disability-Adjusted Life Years (DALYs), which represents the loss of one year of full health, as climate change worsens pre-existing medical conditions and directly impacts public health through malnutrition, non-communicable diseases, infectious diseases, and respiratory conditions (Kumar, 2023; UN HRC, 2020 Penelope J. S. Stein and Stein, 2022 Andreas Beavor *et al.*, 2023a). Rise in temperature impacts people with disabilities in diverse ways. An example is people with albinism facing a higher risk of skin cancer (Carew *et al.*, 2023). Over seventy million people who are living with autoimmune diseases, and people with multiple sclerosis, spinal cord injuries, and neurological disorders experience severe challenges in regulating body temperature(Engelman, Craig and Iles, 2022; Penelope J.S. Stein and Stein, 2022; Kim, 2024). Some medications, including injections for people with multiple sclerosis, require continuous refrigeration; however, frequent climate disasters lead to energy crises and power cuts, which affect physical health as well as trigger mental anxiety (Kumar, 2023). People with disabilities commonly experience unequal access to health services, and climate disasters further worsen this with disruption to health infrastructure, access to medication, and personal care assistance (Penelope J. S. Stein and Stein, 2022).

Potential solutions: Inclusive and innovative heat policies and projects, co-designed with people with diverse disabilities, can bring about public health responses that work for all (Stein *et al.*, 2024). City governments can also implement community-level cooling hubs with charging facilities for AT and life-supporting medical devices (Engelman, Craig and Iles, 2022). New York's Cooling Centre Finder is an example of digital solutions to tackle heat-related urban health challenges (A. Beavor *et al.*, 2023).

2.3 Right to Food

Article 28 (1) - Adequate standard of living and social protection, UN CRPD

Research from South Africa and Southern Ethiopia shows that people with disabilities, particularly those who face barriers to economic opportunities, are less likely to access nutritious and safe food (Melketo, 2023; Pillay *et al.*, 2025). The adverse impacts of climate change are projected to increase food insecurity and create new poverty traps in urban areas (UN HRC, 2020).

Potential solutions: Local governments can lead and fund research on disability-linked food insecurity and poverty at the household and community level (Stein *et al.*, 2024). In Bristol, England, through the 'Disability and Climate' programme, Redcatch Community Garden delivers a range of activities connecting gardening, art, and food for creating social opportunities and increasing food security for people with disabilities (*Bristol Climate & Nature Partnership*, 2022). The Municipality of Barcelona's rooftop gardens program (Horts al Terrat) also offers people with disabilities a chance for being in regular contact with urban nature ('Rooftop Gardens', no date).

2.4 Right to Water and Sanitation

Article 28 (2a) - Adequate standard of living and social protection, UN CRPD

While access to safe drinking water as a basic human right continues to be widely unmet, lack of accessible information on household water management and usage practices may further exacerbate the risk for people with disabilities (Jodoin, Lofts and Ananthamoorthy, 2020). For example, information on water contamination due to climate events or public health advisories to boil drinking water prior to use may not reach people with visual or cognitive impairments. Such instances can increase their chances of getting affected by gastrointestinal illnesses (Jodoin, Lofts and Ananthamoorthy, 2020). The World Bank Group notes that "people with disabilities make up a sizable portion" of 3.4 billion people without access to safely managed sanitation services globally (WB, 2022). The climate events like floods, sea-level rise, and wildfires may physically damage the limited existing sanitation infrastructure, rendering them unavailable or inaccessible for people with disabilities. Further, GDI Hub's research in Nairobi and Freetown has revealed that informal or

unmanaged sanitation systems pose a serious health risk and become a barrier for physical accessibility of urban environments (Patrick *et al.*, 2024b).

Potential solutions: Equal access to clean water is an essential component and a measure for ensuring social protection for people with disabilities (Jodoin, Lofts and Ananthamoorthy, 2020). This demands inclusive and integrated water, sanitation, and hygiene (WASH) solutions at the local level (Stein *et al.*, 2024). For example, raised hand pumps installed in India enable access to clean water for people with disabilities and keep the facility functional even during floods (UN HRC, 2020).

2.5 Right to Accessibility

Article 9 – Accessibility, UN CRPD

Accessibility, in the context of climate action, is often linked only to physical infrastructure like accessible emergency shelters, early warning systems, and evacuation routes; however, it also includes accessible climate information, as highlighted in Section 2.4 (Eriksen, Grøndahl and Sæbønes, 2021). For example, during climate disasters, any challenge in communication or miscommunication between a person with hearing impairment and a first respondent could increase risks for their timely evacuation and rehabilitation. Hence, integrating sign language interpretation, subtitles, easy-to-read formats, and other inclusive communication methods as part of disaster management and climate education becomes equally important (Eriksen, Grøndahl and Sæbønes, 2021; Stein *et al.*, 2024). More broadly, the lack of accessible and inclusive infrastructure and services in cities presents barriers to mobility which exacerbate climate risks for people with disabilities, for example, in the case of needing to evacuate (Patrick *et al.*, 2024b). This reinforces why inclusion and resilience planning in cities must be integrated. As infrastructure planning for climate adaptation and mitigation accelerates, if accessibility (at minimum) or inclusive design (as best practice) is not integrated, risks will amplify for people with disabilities.

Potential solutions: Embedding inclusive design principles and mandating accessibility standards across urban climate infrastructure is key to equitably distributing benefits for all (Andreas Beavor *et al.*, 2023c). For example, while constructing sponge parks for flood management or installing public charging facilities for e-vehicles, people with disabilities

should be engaged throughout planning and implementation. As local governments are increasingly investing in building stock to enhance energy efficiency, accessibility measures can also be bundled to embrace an integrated programme delivery approach. 'Advancing disability inclusive climate action', a resource Guide jointly developed by the Global Disability Innovation Hub (GDI Hub) and the Inclusion Advisory Group (IAG), offers specific recommendations and case studies across sub-themes including transport, green buildings, open green spaces, and technology-based solutions (Patrick *et al.*, 2025).

2.6 Right to Housing

Article 28 (1, 2d) - Adequate standard of living and social protection, UN CRPD

People with disabilities are more likely to spend a higher proportion of their disposable income for housing compared to people without disabilities, as both accessible housing is limited in stock and in high demand, and people with disabilities face barriers to higher income generation opportunities (A. Beavor *et al.*, 2023). In the European Union, 10.6% of people with disabilities were reported to spend more than 40% of their disposable income on housing, as against 8% of people without disabilities (*A crisis on the horizon: Ensuring affordable, accessible housing for people with disabilities*, 2021). This also reduces the chances of people with disabilities moving to neighbourhoods with lower climate risks and high-quality housing units (UN HRC, 2020).

Potential solutions: Increasing the availability of affordable, accessible, and energy-efficient homes is key to reducing the likelihood of people with disabilities experiencing housing insecurity, energy poverty, and climate risks. The "Tackle Energy Poverty in Households with Disabled People and Support Social Integration" project implemented by the Union of Cyprus Communities and the Cyprus Energy Agency subsidises small-scale energy renovation measures and energy-efficient appliances for households of people with disabilities (Kelly-Costello, 2023). Bristol Climate & Nature Partnership recently published a report, "Energy and Disability: Improving Home Retrofit for Disabled People and Caregivers," presenting guidance on household-level energy adaptation measures for people with disabilities and carers (*Energy and Disability: Improving home retrofit for Disabled people and caregivers*, 2025). The Eco-Inclusive House in Ulaanbaatar, Mongolia,

conceptualised by Oidov Vaanchig, an entrepreneur with a disability, is an example of integrating inclusive design principles with carbon footprint reduction strategies (Bringolf, 2023).

2.7 Right to Work and Livelihood

Article 27 – Work and Employment, UN CRPD

Climate change compounds the existing barriers to work for people with disabilities and all people due to the direct impacts of climate disasters and loss of jobs in sunset industries[1] related to energy transition (UN HRC, 2020). For example, recurring heat waves may turn outdoor-based jobs unsuitable or hazardous for people with certain impairments or pre-existing health conditions. Indigenous people with disabilities, particularly those living in the Pacific region, are commonly reliant on farming-related activities, which are disrupted by climate change, hindering their opportunity for independent living (UN HRC, 2020; Stein *et al.*, 2024).

Potential solution: The disaster risk reduction programme at Gaibandha District, Bangladesh, adopted an 'Inclusive Livelihoods for Resilience' approach to simultaneously prepare communities for flood resilience and empower households of people with disabilities with income-generating activities (UN HRC, 2020) (Rothe, Brown and Neuschäfer, 2018).

2.8 Right to Personal Mobility

Article 20 – Personal Mobility, UN CRPD

As more cities are now implementing climate mitigation measures in the transport sector, through low-emission zones, pedestrianisation, and transition to EVs, it is critical to recognise that walking, cycling, and public transport modes may not be feasible for all people with disabilities at all times of the year (Andreas Beavor *et al.*, 2023a). Last mile

[1] Sunset industries are generally understood as an older, formerly well-established industry managing large flows of financial and physical assets, which has started its decline and loses investors interest due to changing market and socio-economic conditions (Verrier and Strachan, 2022). In the context of energy transition, fossil fuel-based industries are often referred to as sunset industries.

transport is a common barrier to personal mobility for people with disabilities and requires innovative solutions to achieve a resilient and inclusive transport system within cities (Patrick *et al.*, 2024a). Removing wheelchair-accessible parking slots for cycle lanes or reducing the width of footpaths to accommodate micromobility stations or electric vehicle charging facilities reflects ableist attitudes and excludes people with disabilities (Attenburrow, 2025). An inclusive transportation system is the one that supports diverse needs and independent movement of people with disabilities, enables safe evacuation during climate emergencies, and improves urban air quality (Andreas Beavor *et al.*, 2023c). Interventions aligned with this goal shall also benefit elderly and pregnant women, and families with children (Stein *et al.*, 2024).

Potential solutions: To encourage and enable people with disabilities to make sustainable travel choices, when possible, local governments should integrate all transport modes, install accessible ticketing and information systems, offer priority boarding and seating, and ensure trained customer-facing staff (Andreas Beavor *et al.*, 2023c). Notably, the inclusive and low-carbon transport research being delivered in two Indonesian cities—Semarang and Makassar, through the Partnering for Accelerated Climate Transitions program (UK PACT)—engaged people with disabilities through journey mapping, photovoice workshops, night-time walks, and shadowing exercises (*Future Cities: Improving Low-Carbon Transport for All*, 2022).

2.9 Right to Protection and Safety Under Risk

Article 11 - Situations of risk and humanitarian emergencies, UN CRPD

According to the Food and Agriculture Organization of the United Nations (FAO), between 2000 and 2009 climate-related disasters have tripled, compared to 1980-1989 (Penelope J.S. Stein and Stein, 2022). This exponentially threatens disability rights, as people with disabilities are more likely to live in areas of higher climate risk—including low-lying coastal zones, informal settlements, and small island developing states—as highlighted in Section 2.6 and are up to four times more likely to lose their lives under a disaster, as discussed in Section 2.1 (UN HRC, 2020; Grant and Keogh, 2023). One example of this is people with

visual and mobility impairments facing heightened risks of getting trapped during floods (Andreas Beavor *et al.*, 2023a).

Potential solutions: Local climate action is an opportunity to ensure collaborative action among municipal staff, the disaster management department, and community volunteers to implement accessible early warning systems, build inclusive climate shelters, and mobilise care services (Stein *et al.*, 2024; Andreas Beavor *et al.*, 2023b). For example, San Francisco's SF72 initiative aims to create a new culture of "positive preparedness", where residents, organisations, and businesses are capable of handling the first 72 hours after a major emergency ('Preparing for Natural Disasters in San Francisco with SF72.org', no date; Andreas Beavor *et al.*, 2023a).

2.10 Right to Independent Living and Community Inclusion

Article 19 - Living independently and being included in the community, UN CRPD

Enabling independent living for people with disabilities links to realising all the above discussed rights and as quoted in the UN CRPD, "recognizing the importance for persons with disabilities of their individual autonomy and independence, including the freedom to make their own choices." Particularly, accessible urban green open spaces and inclusive recreational facilities play a key role in enhancing wellbeing and participation of people with disabilities in social life (Selanon and Chuangchai, 2023).

Potential solutions: In the context of climate action, local governments should ensure that people with disabilities have access to equal sustainable lifestyle choices as people without disabilities. For example, public transport modes should be made equally accessible to people with and without disabilities, supported by equitable incentives encouraging sustainable choice ('Rights of persons with disabilities and climate action - Final report', 2024). Adopting inclusive design and affordability as guiding principles of emerging green, low-carbon, climate innovation is key to leaving no one behind in the journey to achieve the global temperature goal.

Reflections:

In addition to the above-discussed ten disability rights, the desk review also uncovered limited mention of the right to education (Article 24 – Education, UN CRPD), the right not to be displaced (Article 18 – Liberty of movement and nationality, UN CRPD), the right to justice (Article 13 – Access to justice, UN CRPD), the right to rehabilitation (Article 26 – Habilitation and rehabilitation, UN CRPD), the right to property ownership (Article 12 – Equal recognition before the law, UN CRPD), and the right to participation in cultural life (Article 30 – Participation in cultural life, recreation, leisure and sport, UN CRPD), as being related to climate change. However, there is a lack of substantive evidence to establish their significance in local climate action planning and implementation, based on the data mapped through this desk review. GDI Hub's next stages of research shall attempt to investigate them in depth.

3. Guiding Principles for Disability-Inclusive Local Climate Action

Approaching local climate action through the lens of disability rights is an avenue for cross-movement solidarity among local disability inclusion and climate change advocates (Kelly-Costello, 2023; Stein et al., 2024). The nexus of disability rights and climate action creates a dual and reinforcing benefit for local governments, as ensuring basic human rights for people with disabilities increases their and the community's climate resilience (Penelope J.S. Stein and Stein, 2022; Patrick *et al.*, 2024a). Further, cities' capacity to be centres of innovation and collaboration, and municipal governments' willingness to be agile and adaptive, reinforces the feasibility and impact potential to test new and inclusive ideas at the local level and learn with the community before scaling at the regional or national level.

GDI Hub proposes the following three guiding principles to advance disability-inclusive local climate action:

1. **Position people with disabilities as rights-bearers:** Local climate action plans, programmes, and projects should recognise people with disabilities as equal citizens and rights-bearers—as against framing them merely as beneficiaries, stakeholders, or vulnerable individuals—to align with rights-based approaches to

disability inclusion, and guarantee inclusive decision-making processes and legal remedies when climate action measures violate their rights (Jodoin, Lofts and Ananthamoorthy, 2020; Grant and Keogh, 2023; Bodansky 2010; Kett, Sriskanthan and Cole, 2021; Schlosberg and Collins 2014; Eriksen, Grøndahl and Sæbønes, 2021).

2. **Acknowledge and address diversity, intersectionality, and intergenerational equity:** As discussed across Section 2, people with certain disabilities may face heightened risks under climate change impacts, which reinforces the need to recognise diverse needs. Particularly, people with invisible, intellectual or cognitive impairments may have unique lived experiences of climate change but are commonly excluded from climate research and action planning (Watfern and Carnemolla, 2024). Further, the intersection of disabilities with other identities, including gender, caste, race, age, and socio-economic status or indigenous background, acts as a multiplying factor of exclusion and intensifies the impact of climate change. Recent research from the Lancet Planetary Health estimated five times higher climate-related risk for children with disabilities born in 2020, as compared to those born in 1960. Hence, local climate action should respond to the diverse and intersectional needs and ensure generational fairness (Watfern and Carnemolla, 2024; Eriksen, Grøndahl and Sæbønes, 2021; Stein et al., 2024; Ndopu, 2023; Bristol Climate & Nature Partnership, 2022).

3. **Embrace transformative whole-of-society approaches:** Moving beyond incremental adjustments to existing systems, disability-inclusive climate action measures led by local governments should identify and address the root causes for discrimination against people with disabilities and emission-intensive urban development (Kett, Sriskanthan and Cole, 2021; Park et al. 2012; Jodoin, Lofts and Ananthamoorthy, 2020; Kelly-Costello, 2023; UN HRC, 2020; Attenburrow, 2025; Penelope J.S. Stein and Stein, 2022). A whole-of-society approach shall bring together both public and private stakeholders, including organisations of people with disabilities (OPDs), to pursue long-term strategies for creating inclusive, liveable, and resilient cities.

4. Pathways for Advancing Disability-Inclusive Local Climate Action

Co-designing urban climate solutions is imperative to operationalise the disability rights presented in Section 2, in alignment with the guiding principles discussed in Section 3.

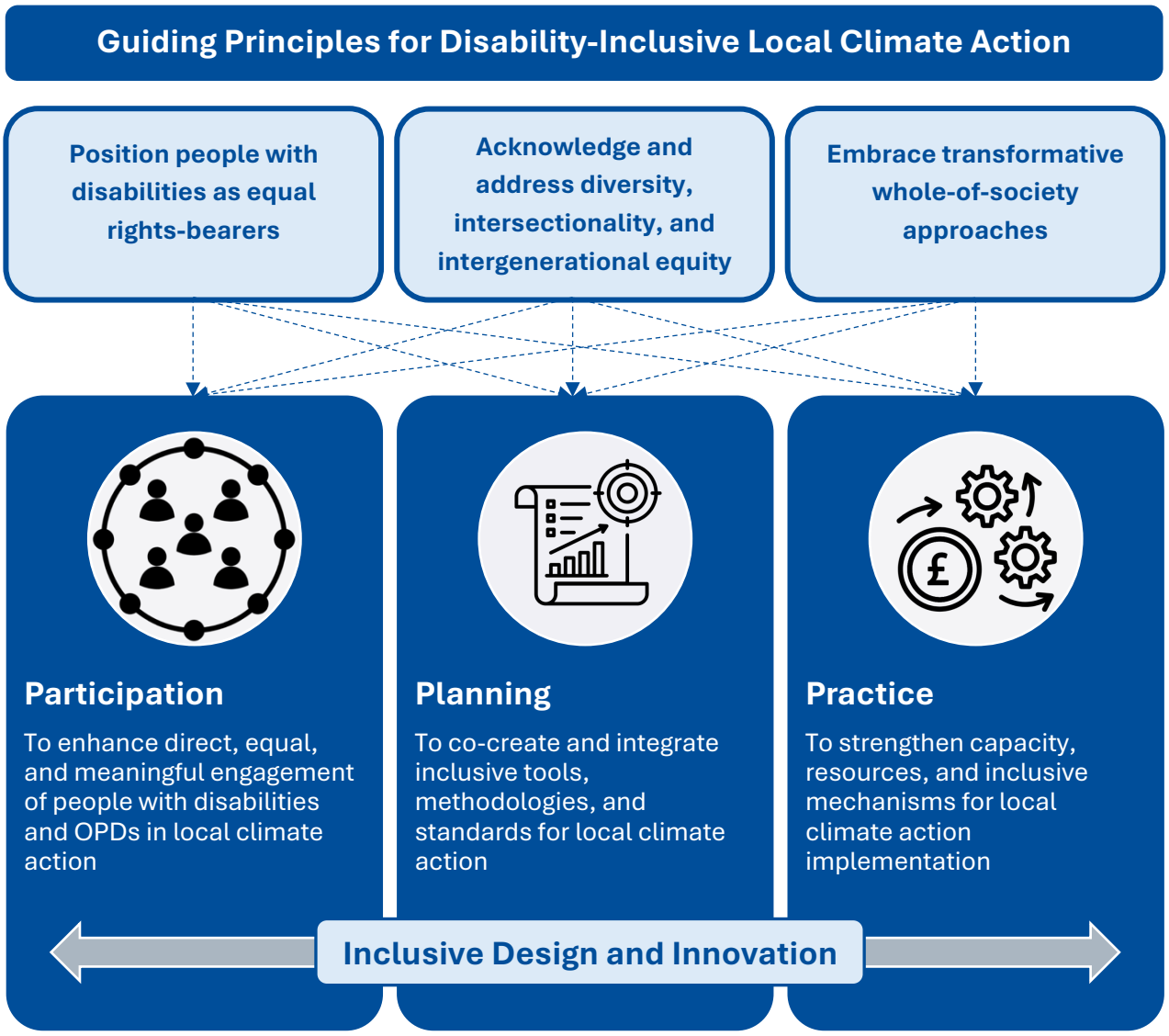

Figure 1: Proposed framework for disability-inclusive local climate action, combining principles and pathways *(Credit for icons: Lulis Dian RP, Liberus PJ, and Laxouri Studio, from Noun Project)*

To enable such a holistic transformation, GDI Hub proposes that cities adopt and promote ***inclusive design and innovation*** as a mindset and methodology for local climate action, complemented by a framework covering pathways for participation, planning, and practice. This will guide cities to embrace the strengths and lived experiences of diverse members of

the community, including people with disabilities, and address their unique needs collaboratively in the context of climate change and exacerbated barriers.

4.1 Participation Pathway

The Participation Pathway shall explore targeted strategies to enhance direct, equal, and meaningful participation of people with disabilities and OPDs in local climate action decision-making across planning, development, and implementation stages. This is to recognise people with disabilities as experts best placed to shape solutions and ensure their knowledge and agency directly informs action (Jodoin, Lofts and Ananthamoorthy, 2020). Enabling people with disabilities to engage in climate decision-making is a principle—"Full and effective participation and inclusion in society" (Article 3)—and an obligation —"…in other decision-making processes concerning issues relating to persons with disabilities, States Parties shall closely consult with and actively involve persons with disabilities…" (Article 4: 3)—under the UN CRPD (2008).

For example, strategies may include delivering inclusive climate education and advocacy training for OPDs and people with disabilities, hosting inclusive citizens' climate assemblies, and creating dedicated jobs for inclusive climate action within local governments.

4.2 Planning Pathway

While the strategies from the participation pathway may create an enabling environment for people with disabilities to get involved in local climate action, without inclusive planning tools, methodologies, and standards, people with disabilities may continue to be excluded from the benefits of climate action measures. As the local climate action frameworks and guidelines are still evolving globally and most cities are yet to adopt them, we perceive a timely opportunity to test innovative and inclusive ways of planning. Even a simple step like embedding the Washington Group Short Set of six questions on functioning within climate action planning could enable cities to collect disability-disaggregated data on climate impacts, alongside capturing and analysing intersectional characteristics including gender, age, and socio-economic background (Andreas Beavor *et al.*, 2023b; Andreas Beavor *et al.*, 2023c).

Other strategies may include organising OPD-led household-level climate data collection exercises, hosting participatory climate action workshops, and developing inclusive climate infrastructure design guidelines.

4.3 Practice Pathway

Disability-inclusive local climate action in practice refers to the resources and capacity of local governments and other urban climate actors, and the operational and accountability mechanisms that cover implementation, maintenance, and monitoring, evaluation, and learning (Engelman, Craig and Iles, 2022). Recent research found that the Kenyan government's allocation to the National Fund for the Disabled of Kenya (NFDK) was reduced by over 70 per cent during the COVID-19 pandemic, though the originally allocated 4 million USD was insufficient and the accessibility needs of people with disabilities would have likely been higher during the crisis (Grant and Keogh, 2023). This shows how resources for disability inclusion are limited and may be further constrained under climate emergencies or other global emergencies, which reflects a concerning idea that people with disabilities are not prioritised within global challenges.

To tackle such challenges, strategies may include mainstreaming inclusive climate budgeting, testing innovative climate finance mechanisms with accessibility mandates, and institutionalising disability inclusion policies and capacity building activities.

5. Way Forward

To address the gaps in evidence presented within this paper—for example in understanding the role of urban open green spaces, impact of climate change on medication and AT, and health-related challenges related to pollution—and to identify opportunities for inclusive action, GDI Hub is now conducting research titled **'State of Disability Inclusion in Local Climate Action and the Pathways for Transformation'**. This will bring together insights from people with disabilities, climate practitioners, OPDs, and climate action plans from thirteen cities across the globe. Representing diverse geographic characteristics and scale, climate risks, and development contexts, the list includes Auckland (New Zealand), Dhaka (Bangladesh), Durban (South Africa), Honiara (Solomon Islands), Istanbul (Turkey), Kuala

Lumpur (Malaysia), London (England), Mumbai (India), Nairobi (Kenya), New York City (United States of America), Sao Paulo (Brazil), Dakar (Senegal), and Toronto (Canada).

The three guiding principles and the three pathways shall inform GDI Hub's approach to developing practical and evidence-based tools and recommendations for supporting cities and communities to advance disability-inclusive local climate action.

If your city is on the list above and you would like to share any insights, or if you would like to nominate your city for future research, write to b.nagendran@ucl.ac.uk.

6. Definitions

Approaches to and understandings of disability inclusion are constantly—and importantly —evolving. To support the integration of disability inclusion and local climate action, the following definitions are adopted.

People with disabilities or persons with disabilities or disabled people

As defined by the United Nations Convention on the Rights of Persons with Disabilities (CRPD) “persons with disabilities include those who have long-term physical, mental, intellectual, or sensory impairments which in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others(United Nations, 2006a).”

Note that there are different preferences regarding terminology, with disabled people used more commonly in the United Kingdom (UK) and people with disabilities used more commonly internationally. Terms can be chosen on a case-by-case basis and, if possible, in consultation with disabled people in the context within which work is taking place. This document adopts ‘people with disabilities,’ unless referring to a quote.

Accessibility

Refers to enabling access to infrastructure, products, services, and facilities for all people with disabilities. Accessibility is driven by technical standards or design guidelines for the physical and digital infrastructure. Accessibility delivers access to equal participation, whereas inclusive design goes beyond access and delivers systemic inclusion.

Assistive technology

Assistive technology (AT) is the application of organised knowledge and skills related to assistive products, systems, and services designed to maintain or improve an individual’s functioning and independence and thereby promote their well-being (World Health Organisation, 2024).

Disability

Disability is an evolving concept and results from the interaction between people with impairments and attitudinal and environmental barriers that hinder their full and effective participation in society on an equal basis with others (United Nations, 2006b).

Disability-disaggregated data

Information on climate action objectives, performance indicators, impact measurements, and other characteristics as disaggregated according to disability.

Disabled People's Organisations (DPOs) or Organisations of Persons with Disabilities (OPDs)

A Disabled People's Organisations (DPO), sometimes called, Organisations of Persons with Disabilities (OPD), is "a representative organisation or group of persons with disabilities, where persons with disabilities constitute a majority of the overall staff, board, and volunteers in all levels of the organisation"(DRF, no date).

The Washington Group questions

Standardised questions designed to globally identify individuals who might be considered to have a disability by asking respondents to what extent they have trouble performing different activities.

Access question sets here: www.washingtongroup-disability.com/question-sets/

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