# IMPACT OF CLIMATE CHANGE ON THE RIGHTS OF PEOPLE AFFECTED BY LEPROSY-RELATED DISABILITY: A HUMAN RIGHTS APPROACH

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## Abstract

*Climate change is one of the main threats facing humanity, yet people with disabilities have been practically absent from these discussions, and there is little literature on the impacts of climate change on their basic rights. The paper seeks to address the impact of climate change on the rights of people affected by leprosy-related disability vis-à-vis human rights approach. The paper highlights the nexus between climate change and the rights of people with leprosy-related disabilities and further argued how climate change affects leprosy patients among others. The paper adopted a doctrinal approach which is library oriented with reliance placed on analysis of contents of both primary and secondary source of information. The primary sources used are relevant international treaties and laws, while the secondary sources include relevant journals, articles, books, and material from the internet. The paper reveals the necessity of integrating crucial insights from disability studies into current understandings of climate change adaptation, the climate-related human rights approach, and the clinical manifestation of leprosy. The paper concluded that climate change is one of the main threats facing*

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*humanity, yet people with leprosy related disability and other disabilities impairment have been practically absent from these discussions.*

**Keywords:**

## 1.0. Introduction

Leprosy is considered as a serious public health problem due to its unhealthy, socio-economic, cultural, religious, political and psychosocial impacts, which are consequences of complications such as physical disabilities and deformities that develop during the clinical result of the virus.[1] The disease is chronic and infectious in nature and has the potential to cause physical disabilities including limitations of activities involving the use of hands, feet, eyes and restriction in social participation that may further lead to denial of rights to employment, education, mobility and medical facilities.[2] Other problems associated with the disease is decreased ability to work, limited social participation, and environmental factor which have both a direct and indirect impact on the effective enjoyment of a wide range of human rights, including the rights of persons with leprosy related disabilities.[3] Persons with leprosy related disabilities are often among those most adversely affected in an emergency, sustaining disproportionately

[1] A grawal, L Pandit, M Dalal, JP Shetty, 'Neurological manifestations of Hansen's disease and their management' (2005) 107 (6) CNJ 445; C Moschioni, CMF Antunes, MAF Grossi, JR Lambertucci, 'Risk factors for physical disability at diagnosis of 19,283 new cases of leprosy' (2010) 43 *RBMTJ* 19-22

[2] JT Jacob, *et al* 'Short Report: Five-year Experience with Type 1 and Type 2 Reactions in Hansen Disease at a US Travel Clinic' (2008) 79 (3) *AJTMH* 452; PMW Somar, MM Waltz, and WH Van Brakel,'The impact of leprosy on the mental wellbeing of leprosy-affected persons and their family members – a systematic review' (2020) 7 GMHJ 34.

[3] PMW Somar, MM Waltz, and WH, Van Brakel 'The impact of leprosy on the mental wellbeing of leprosy-affected persons and their family members – a systematic review' (2020) 7 GMHJ.

higher rates of morbidity and mortality, and at the same time being among those least able to have access to emergency support during the climate change.[4]

The adverse impacts of climate change on individuals with multiple vulnerability factors, including women, girls and elderly people with disabilities, require adequate measures that take into account their specific requirements and ensure their participation in disaster response planning for emergency situations and evacuations, humanitarian emergency response and healthcare services. The meaningful participation, inclusion and leadership of persons with disabilities and their representative organizations within disaster risk management and climate-related decision-making at the local, national, regional and global levels, lies at the heart of an approach to climate action that is respectful of the rights of persons with disabilities especially victims of leprosy disabilities. It is estimated that disabled people constitute the largest minority in the world; more than 650 million individuals, making 10 percent of the global total population suffer from different types of disabilities.[5] Approximately more than two million people worldwide are currently living with physical disabilities due to leprosy, and climate change has threatened their ways of life despite been marginalised, discriminated, stigmatize and other pre-existing inequalities.

## 2.0. Background to the study

The paper expatiates how leprosy-related climate change can cause increase in hardship for persons with leprosy related disability. Quality of life is likely to deteriorate. The ability to adapt, livelihood opportunities and resilience are all anticipated to decline in a changing environment. Climate

[4] MG Weiss, 'Stigma and the social burden of neglected tropical diseases' (2008) 2 (5) PNTD 2,3

[5] Global leprosy strategy 2016-2020<https://apps.who.int/iris/bitstream/handle/10665/208824/9789290225096_en.pdf>accessed 2 August, 2024.

change is also likely to cause an increase in the incidence and prevalence of many disabling impairments. This chronic infectious disease which has lived with mankind for thousands of years was described in an Egyptian Papyrus document written around 1550 B.C.[6] Indian writings around 600 B.C. described a disease that resembles leprosy. Leprosy first appeared in Europe in the ancient Greece after the army of Alexander the Great came back from India and then in Rome in 62 B.C. coinciding with the return of Pompeii's troops from Asia Minor.[7] During those days, neither the biological cause nor treatment of the disease was known.[8] Thus leprosy patients developed severe skin conditions leading to disabilities that terrified people and the society and this condition can also be associated with climate change.[9] It was believed that disease is caused by a curse or caused by sin against God or gods as believed by most cultures around the continents.[10] This belief has been widespread until the present day as shown in the studies of Alubo, *et al*.[11]They showed that communities perceived leprosy as a disease from God, the will of God or as a punishment by God.[12]The mycobacterium leprae was discovered by Gerhard Henrik Armauer Hansen (GHAH) a scientist from Norway in 1873. He took many years to understand that the disease of leprosy is not hereditary or a curse

[6]T Husain, 'Leprosy and tuberculosis: an insight-review' (2007) 33 CRMJ 15–66; S Silatham, & WH Van Brakel, 'Stigma in leprosy: concepts, causes and determinants' (2014) 85(1) LRJ 36-47.

[7] Ibid 3

[8] Ibid 3

[9] Ibid 3

[10] O Alubo, K Burathoki, C Idawani, *Gender, leprosy and leprosy control: A case study in Plateau State, Nigeria* ( KIT, Amsterdam, 2003), K Burathoki, C Varkevisser, P Lever, *Gender,leprosy and leprosy control: A case study in the far west and eastern development region Nepal.* (KIT, Amsterdam, 2004), W Brown 'Can social marketing approaches change community attitudes towards leprosy?' (2006) 77(2) LRJ 89

[11]*Ibid* 3

[12] C Idawani, M Yulizar, P Lever, C Varkevisser, *Gender, leprosy and leprosy control: A case study in Aceh, Indonesia* (KIT,Amsterdam, 2002).

from God or cursed from sin committed.[13] Until the late 1940s, leprosy doctors all over the world treated patients by injecting them with oil from the chaulmoogra nut.[14] This course of treatment was painful, and although some patients appeared to benefit its long-term effectiveness was questionable.[15] The use of multidrug therapy (MDT) which comprises rifampicin, clofazimine and dapsone is the best treatment for preventing nerve damage, deformity, disability and further transmission course by leprosy.[16] However, researchers are working on developing a vaccine and ways to detect leprosy sooner in order to start treatment earlier.[17] The stigma and discrimination attached to leprosy still persists in most countries especially in Nigeria.[18] Stigma is a serious obstacle, to case finding and to the effectiveness of treatment, which are the major concerns of disease control programmes.[19]

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[13]The history of leprosy <https://www.webmd.com/skin-problems-and-treatments/guide/leprosy-symptoms-treatments-history> accessed 2 August 2024

[14] S Arole, R, *et al* 'Social stigma: a comparative qualitative study of integrated and vertical care approaches to leprosy' (2002) 73 LRJ 186–196

[15] ML Heijnders, 'experiencing leprosy: perceiving and coping with leprosy and its treatment. A qualitative study conducted in Nepal' (2004) 75 LRJ 327

[16] SR Atre, *et al*, 'Perceptions, health seeking behaviour and access to diagnosis and treatment initiation among previously undetected leprosy cases in rural Maharashtra, India'(2011) 82 LRJ 222

[17]T Hussain, 'leprosy and tuberculosis: an insight-review' (2007) 33 CRMJ 15–66; World Health Organization 'Global leprosy situation 2009' (World Health Organization; 2009 Report No 33).

[18]C Idawani, M Yulizar, P Lever, C Varkevisser, *Leprosy and leprosy control: A case study in Aceh, Indonesia* (KIT, Amsterdam, 2002); ML Heijnders 'The dynamics of stigma in leprosy' (2004) 72 (4) *IJL* 45; J Ramakrishna, D Somma, 'Health-related stigma: rethinking concepts and interventions' (2006) 11 *PHMJ* 277–287

[19] O Alubo, *et al, Gender, leprosy and leprosy control: A case study in Plateau State, Nigeria* (KIT, Amsterdam, 2003); K Burathoki, C Varkevisser, P Lever, *Gender, leprosy and leprosy control: A case study in the far west and eastern development region, Nepal* (KIT, Amsterdam, 2004); C Idawani, M Yulizar, P Lever, C

## 3.0. Clinical Manifestation and Transmission of Leprosy

Leprosy is a chronic infectious disease caused by bacteria known as Mycobacterium leprae and if left untreated, the disease can progress and cause permanent disability to the skin, nerves, limb, and eyes, hands, feet and nose as well as other joints of the body.[20] The early signs include discoloration or light patches on the skin with loss of sensation.[21] When nerves in the arm are affected, part of the hand becomes insensitive and small muscles become paralyzed, leading to curling of the fingers and thumb.[22] When leprosy attacks nerves in the legs, it interrupts communication of sensation to the feet.[23] As a result, the person does not feel pain and can have injuries to their hands and feet without realising it.[24] The damaged nerves also lead to the skin peeling off, and the tissue under the skin is exposed. The signs and symptoms vary considerably, depending on the patient's resistance to the disease. They can be easily missed or

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Varkevisser, *Gender, leprosy and leprosy control: A case study in Aceh, Indonesia* (KIT, Amsterdam, 2002); MG Weiss, J Ramakrishna, D Somma, 'Health-related stigma: rethinking concepts and interventions' (2006) 11 PHMJ 277–287; WH Van Brakel, 'Measuring health-related stigma-a literature review' (2006) 11 PHMJ 307–334; S Arole, R Premkumar, M Maury, P Saunderson, 'Social stigma: a comparative qualitative study of integrated and vertical care approaches to leprosy' (2002) 73 *LRJ* 186–196

[20] WH Van Brakel, 'Peripheral neuropathy in leprosy and its consequences' (2000) 71 LRJ 146-153

[21] KV Desikan, & CK Job, 'A view of post-mortem findings in 37 cases of leprosy' (1968) 36 IJL 31

[22] Ibid 4

[23] PG Nicholls, RP Croft, JH Richardus, SG Withington, WCS Smith, 'Delay in presentation, an indicator for nerve function status at registration and for treatment outcome the experience of the Bangladesh Acute Nerve Damage Study cohort' (2003) 74 LRJ 349; NH Van Veen, A Meima, JH Richardus, 'The relationship between detection delay and impairment in leprosy control: a comparison of patient cohorts from Bangladesh and Ethiopia' (2006) 77 LRJ 356

[24] Ibid 5

mistaken for some other disease. It is also now known that M. leprae can remain alive in dried nasal secretions up to 7 days[25] and in moist soil at room temperature for 46 days.[26]

These findings are of great interest because they bring a different dimension to the understanding of the mode of communication.[27] It is imperative to study further the survival of M. leprae in different environments. M. leprae was thought to be only calmly infectious.[28] The study of Goda in 1976 has indicated that infectivity of M. leprae is very high.[29] About 50% of the subjects with occupational or household exposure to M. leprae for more than 1(one) year gave a positive immune response to M. leprae using lymphoblast transformation test.[30] However, it has been reported that only 5.8 % of close contacts as between spouses develop the disease.[31] It is clear that although the infectivity of M. leprae is high, the pathogenicity is very low.[32] Transmission of leprosy can be both direct and indirect.[33] In a study, the attack rate is 4 times more in contacts than in non-contacts.[34] In another study the attack rate among household contacts is 10 times higher than from the general population. This rate is doubled if there are multiple index

[25] TY Davey, Rees R.J.W, 'The nasal discharge in leprosy, clinical and bacteriological aspects' (1974) 45 LRJ 21.

[26] A Ramu, 'Central JALMA Institute for Leprosy Annual Report 1979 Leprosy in India' (1981) 53; CK Job, 'Leprosy - the source of infection and its mode of transmission' Symposium on the Epidemiology of Leprosy (1981) 52 LRJ 69.

[27] *Ibid* 5

[28] *Ibid* 5

[29] IT Goda, & K Negassi, 'Subclinical infection in leprosy' (1973) 2 BMJ 557

[30] *Ibid* 5

[31] Mohamed Ali P., 'A study of conjugal leprosy (1965) 33 IJL 223.

[32] *Ibid* 5

[33] *Ibid* 5

[34] RM Worth & KO Wong, 'Further notes on the incidence of leprosy in Hong Kong children living with lepromatous parents' (1971) 39 *IJL* 745.

patients in the same household.[35] It is reasonable to accept that direct contact is perhaps far more effective in conveying the disease than indirect contact.[36] Organisms may be carried live in clothes, objects used by the patient, food, water, dust and this could be as a result of climate change in an environment where people with leprosy victims reside.[37] The floor of the house or hospital or the ground where the infected material is shed, all contain live bacilli.[38] It must be conceded that indirect method of transport of bacilli is another important factor in the transmission of the disease and this can be associated with climate change. Some medical expert suggested that the blood sucking insects like fleas, bedbugs, lice and mosquitoes can carry M. leprae.[39] Acid- fast bacilli isolated from mosquitoes have been identified as M. leprae using mouse footpad culture.[40]

## 4.0. The Intersection Between People with Leprosy-Related Disability and Climate Change

The 2022 Intergovernmental Panel on Climate Change (IPCC) identifies that across sectors and regions the most vulnerable people and systems are observed to be disproportionately affected.[41] The UN Human Rights Council passed a landmark resolution (A/HRC/RES/41/21) on climate

[35] Rao P.S., Karat A.B.A., Kalieperumal V.A., Karat S. 'Transmission of leprosy with in household' [1975] 43 *IJL* 45.

[36] *Ibid* 4

[37] *Ibid* 4

[38] *Ibid* 4

[39] N Dungal, 'Is leprosy transmitted by in sects?' (1960) 31 *LRJ* 25 – 34 & N Dungal, 'Is leprosy transmitted by arthropods?' [1961] 32 *LRJ* 28.

[40] L Narayanan, MK Shankara, WF Kirchheimer, MM Balasubrah, 'Occurrence of M. leprae in arthropods' (1972) 43 LRJ 194.

[41] Cited from Disability and Climate Change in the Pacific Findings from Kiribati, Solomon Islands, and Tuvalu (2022)<https://pacificdisability.org/wp-content/uploads/2022/08/PDF-Final-Report-on-Climate-Change-and-Persons-with-Disabilities.pdf. accessed 2 August 2024

change and the rights of people with disabilities in July 2020.[42] This resolution asks governments to address climate change in a way that is inclusive of people with disabilities. This marked the inaugural instance in which the council specifically tackled the rights of individuals with disabilities concerning climate change. People with disabilities have been largely absent from discussions surrounding climate action, despite the fact that women, Indigenous peoples, and youths have successfully entered the fray.[43] Consequently, disability has not received much attention in climate change policy. However, the IPCC states the following with clear relevance to persons with disabilities: Persons who are socially, economically, culturally, politically, institutionally, or otherwise marginalized are especially vulnerable to climate change and also to some adaptation and mitigation responses.[44] According to Wolbring[45] climate change will cause increasing hardship and likely deteriorate the quality of life and wellbeing for persons with disabilities and other marginalised groups. The ability to adapt to the available livelihood opportunities, and maintain resilience, are all expected to decline. Hydrometeorological hazards such as cyclones, floods, droughts, fires, and heat waves have negative consequences for societies.[46]

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[42] The UN Human Rights Council passed a landmark resolution (A/HRC/RES/41/21) on climate change and the rights of people with disabilities (2020) <https://www.ohchr.org/en/climate-change/human-rights-council-resolutions-human-rights-and-climate-change> accessed 2 August 2024

[43] *Ibid* 5

[44] Intergovernmental Panel on Climate Change (IPCC). (2018). Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. Manuscript in preparation.

[45] G Wolbring 'A culture of neglect: Climate discourse and disabled people.' (2009) 12(4) MCJ 56.

[46] *Ibid* 7

Yohe et al[47] notes that all of the major contemporary concepts and areas of focus for international development and poverty alleviation are impacted by the effects of climate change. These include forced relocation and evacuation, insufficient areas for evacuation after natural disasters, insufficient housing resources, a shortage of clean water, lower agricultural yields, harm to ecosystems, and unfavourable health effects.[48] These consequences and others are changing the health, economic, and physical landscape of societies and especially among the least prepared and most marginalised.[49] Due to increased exposure to extreme weather and natural disasters, which can lead to people sustaining disabilities through injuries and increased rates of disease, climate change is also expected to increase the incidence and prevalence of incapacitating impairments. For instance, it is believed that climate change contributed to Hurricane Harvey's intensity in the United States of America (USA) increasing by 15% to 38%, which in turn increased the hurricane's impact and subsequent devastation.[50] Numerous rural communities will face serious challenges as a result of climate change, which will also affect when and where specific economic activities can be carried out. The ideal locations for commodities, crops, and leisure activities will change due to variations in the timing of

[47] GW Yohe, RD Lasco, QK Ahmad, NW Arnell, SJ Cohen, C Hope, AC Janetos & RT Perez. *Perspectives on climate change and sustainability*. In ML Parry, OF Canziani, JP Palutikof, PJ van der Linden & CE Hanson. (Eds.). Climate change 2007: Impacts, adaptation and vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. (Cambridge, UK: Cambridge University Press) 811–841.

[48] *Ibid* 7

[49] JP Kossin 'A global slowdown of tropical cyclone translation speed' (2018) 12(1) NJ 2

[50] See K Emanuel, 'Assessing the present and future probability of Hurricane Harvey's rainfall. Proceedings of the National Academy of Sciences of the United States of America (2017) 14(48) ASUSAJ 681; GJ Van Oldenborgh, Van der Wiel, A S, R Singh, J Arrighi, F Otto, K Haustein, G Vecchi & H Cullen 'Attribution of extreme rainfall from Hurricane Harvey' (2017) 12(12) ERLJ 12; EC Miller, 'Climate change and Victorian studies: Introduction' (2017) 60 (4) VSJ 537–542

seasons, temperatures, and precipitation.[51] Changes in the viability of a traditional economic sector can place disproportionate stresses on community stability because many rural communities have less diverse economic activities than communities in urban areas.[52] Although, the possible effects of climate change are widely understood, little is known about how it will affect people with disabilities globally.

## 5.0. Intersection between Human Rights Approach and Climate Change

Article 23 of the Child Rights Convention (CRC) directly concerns children with disabilities and is, as such, an unusual provision among human rights treaties.[53] In summary, the provision provides for the responsibility of the state party to recognise that physically disabled children and to provide available resources for the maintenance, assistance and care for children with disability.[54] There are relevant applications in the convention that are related to children living with leprosy- related disability.[55] The Convention recognises the importance of the family in promoting the healthy development of children living with leprosy disease, there is evidence that children living with leprosy-related disability are rampant.[56] All children with leprosy-related disability are entitled to benefit from protection irrespective of their status.[57] It is imperative to know that article 19 provide

[51] JP Kossin 'A global slowdown of tropical cyclone translation speed' (2018) 12(1) NJ 2

[52] A Heslin, ND Deckard, R Oakes, & MA Colbert Displacement *and resettlement: Understanding the role of climate change in contemporary migration* (2019) In R Mechler, LM Bouwer, T Schinko, S Surminski, & J Linnerooth-Bayer (Eds.). Loss and damage from climate change: Concepts, methods and policy options (Cham, Switzerland: Springer Open).

[53] Art 23 CRC

[54] *Ibid*, Art 23 CRC

[55] *Ibid*, Art 23 CRC

[56] Lansdown, *It's Our World Too!*<http://www.daa.org.uk/uploads/pdf/It%20is%20Our%20World%20Too!.pdf>accessed 2 August 2024

[57] CRC Article 19

for living with physical disability due to leprosy should be protected, this provision include children living in leprosarium center and school.[58] Due to its effects of climate change on the frequency and intensity of extreme weather events as well as the slower onset of ecosystem degradation, climate change poses both direct and indirect risks to human health, especially for children with disabilities related to leprosy and their livelihoods. Climate change increases the likelihood of human mobility and compromises place habitability. Understanding the fundamental freedom of living conditions in the context of children with disabilities related to leprosy in light of climate change is therefore crucial.[59]

The effect of climate change on people with leprosy related disability can lead to poverty while poverty can lead to malnutrition and thus bring disability.[60]Although article 27, paragraph 2, places responsibility for the fulfilment of this right firmly on the shoulders of parents while paragraph 3 requires states to take appropriate measures to assist parents and others in its implementation of various policies.[61] With the Millennium Development Goals failing to recognise disability issues,[62] the Sustainable Development Goals seek to promote a stronger focus on the alleviation of poverty and inequality amongst disabled people. Since then, the vulnerability of disabled people has been highlighted within international climate change agreements, including the 2010 Cancun Agreements, the 2013 Warsaw International Mechanism for Loss and Damage, and the preamble to the 2015 Paris Agreement on Climate Change. Indeed, studies have identified

[58] Q Gerard, D Theresia, B Anna, B Christine, C Joshua, K Padraic, Ursula Kilkelly, Shivaun Q. *The current use and future potential of United Nations human rights instruments in the context of disability*, (United Nations New York and Geneva, 2002).
[59]Ibid 9
[60] Lansdown, *It's Our World Too!* <http://www.daa.org.uk/uploads/pdf/It%20is%20Our%20World%20Too!.pdf > accessed 2 August 2024
[61]CRC Article 23.
[62] LM Banks, H Kuper, and S Polack. 'Poverty and Disability in Low- and Middle-Income Countries: A Systematic Review' (2017) 12(2) PloS One 1

higher mortality rates among disabled people than others during natural disasters and extreme weather events.[63] The fundamental freedom of children with disease of leprosy-related disability are entitled to social security and social insurance, is recognised clearly by article 26, paragraph 1, which enjoin the responsibilities and the commitment of the state to take all necessary actions in achieving the full recognition of that right.[64] The significance of freedom to education within the context of children living with leprosy disease can be justified as the importance of the treaty. The convention contains two provisions on education, article 28 and article 29.

Article 28 discuss the role of the state's parties recognition of the fundamental freedom of child to educational rights and with a aim of achieving this right gradually and on equal basis of abled children, they must ensure primary education are mandatorily and to be free to all in respective of status; state parties are also encourage to develop different forms of secondary education and include vocational education and to accessible to every children, and they also encourage take appropriate method to introduce free education and as well offering financial supports when the needs arisen; they also to ensure higher education to well accessible to disabled children.[65] While Article 29 deal with States Parties agrees that fundamental freedom to child education shall be directed to the well development of the personality, this provision is important to children living with physical disability due to leprosy related to climate change. The CRPD is another unique treaty that is a legally binding instrument devoted to the inclusiveness of disabled persons rights and it also spell out that states should not exclude disabled people, and also sets out explicitly many steps that states must take to create an enabling environment so that persons with

[63] CJD Gaskin, *et al* 'Factors Associated with the Climate Change Vulnerability and the Adaptive Capacity of People with Disability: A Systematic Review. (2017) WCSJ

[64] CRC Article 26.

[65] CRC Art 28.

disabilities can enjoy full equality in the society.[66]The convention mandates that states parties shall takes all suitable process to provide person with disabilities the access and the support they may require in exercising their legal capacity.[67]

The preamble to the CPRD highlights the 'importance of mainstreaming disability issues as an integral part of relevant strategies of sustainable development' and advocates for disabled people to be 'actively involved in decision-making processes about policies and programmes, including those directly concerning them. Whilst the perceived vulnerabilities of leprosy related disability people have garnered increasing attention within disaster risk management policies and programmes, a critical disability lens is largely lacking from broader aspects of climate change adaptation planning and there is a need to better integrate insights from disability studies into current understandings of climate mobility and adaptation if we are to facilitate more inclusive, democratic and equitable adaptation in the face of climate change. Scholars have argued for a focus on the albeit dynamics that perpetuate vulnerable situations, rather than framing leprosy related vulnerability as an inevitable consequence of impairment, and have challenged disability related to climate change discourses.[68] The Principles and Guidelines of the United Nations Human Rights Council on

[66]YL Bryan, 'the U.N. Convention on the Rights of Persons with Disabilities and Its Impact upon Involuntary Civil Commitment of Individuals with Developmental. Disabilities' (2011) (36) 44 CJLSP 393; Hoffman & Gyorgy Konczei, 'Legal Regulations Related to the Passive and Active Legal Capacity of persons with Intellectual and Psychosocial Disabilities in Light of the Convention on the Rights of Persons with Disabilities and the Impending Reform of the Hungarian Civil Code' (2010) 33 Loy. L.A. Int'l & Comp. L. Rev. 143.

[67] L Michael, & A Perlin 'I Might Need a Good Lawyer, Could Be Your Funeral, My Trial: A Global Perspective on the Right to Counsel in Civil Commitment Cases, and Its Implications for Clinical Legal Education' (2008) 28 Wash. U. J. L. & Socl Poly 241.

[68] A Baldwin. 'Racialization and the Figure of the Climate-Change Migrant.' (2013) 23(1) EPES 34

Elimination of discrimination against persons affected by leprosy and their family members can also be related toward the impact of climate change affecting leprosy people and the principle and guideline can consist of two parts: the first part titled *Principles* recognises the basic rights for people living with leprosy related disability and their family members are already enshrined in the UDHR, ICESCR, ICCPR and CRPD which can be regarded as a bill of international rights. The second part entitled *Guidelines* translates the provisions set in the principles in concrete terms by providing the responsibilities of states to promote, respect, protect and ensure the full realisation of all human rights for all people living with leprosy and their family members. The essence of the Principles and Guidelines is to meet up the interest of the actor.

Principle 6 of the United Nations Human Rights Council Elimination of discrimination against persons affected by leprosy and their family members Resolution provide for atmospheric environment of work for people living with physical disability of leprosy.[69] For instance in many communities' persons with leprosy related-disabilities and their families already face food shortages on a daily basis due to their poverty. While the issue of climate change is projected to exacerbate food shortages and malnutrition in the world's poorest regions especially people with leprosy related disabilities.[70] The increases in the frequency of droughts and floods including from rising sea levels are projected to cause decreases in local

[69] United Nations Human Rights Council Elimination of discrimination against persons affected by leprosy and their family members Resolution' <https://www.ohchr.org/EN/HRBodies/HRC/AdvisoryCommittee/Pages/Leprosy.aspx> accessed 2 August 2024

[70] See A Campbell, V Kapos, JPW Scharlemann, P Bubb, A Chenery, L Coad, B Dickson, N Doswald, MSI Khan, F Kershaw and M Rashid, 'Review of the Literature on the Links between Biodiversity and Climate Change: Impacts, Adaptation and Mitigation' (2009) 2 CBD 124

crop production, especially in subsistence sectors at low latitudes, in seasonally dry and tropical regions.

Regional changes are expected to have adverse effects on food production from aquaculture and fisheries and many of the world's poorest people depend on ocean and inland fish as a significant part of their diet. Malnutrition is estimated to cause approximately 20% of impairments worldwide.[71] With increasing malnutrition, it is expected that more children including those of parents with disabilities will acquire disabling impairments. 'Fuel poverty' of firewood and other fuels for cooking is an increasing cause of malnutrition in many parts of globe. It can be difficult to obtain adequate nutrition from uncooked food.[72] As climate change and resource shortages advance it is anticipated that access to cooking fuel will be an increasing concern for vulnerable groups in many parts of the world. Guideline 5 requires states to provide adequate living and housing standard to persons affected by leprosy and their family members including taking measures such as ensuring that persons affected with leprosy are reintegrated into the community, provision of social support and ensuring that they be allowed to live in leprosarium's and hospitals if they so wish.

Article 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) [73]Covenant provide for medical health standard. The article provides for government responsibility in providing medical service for the masses during health crisis and climate change can led to health crisis either within a community or globally. With regards to General Comment No. 14 provide for adoption and implement a national public

[71] DFID (Department for International Development) 2000, 'Disability, Poverty and Development', DFID, UK, http://handicap-international.fr/bibliographiehandicap/4PolitiqueHandicap/hand_pauvrete/DFID_disability.pdf> accessed 2 August 2024

[72] *Ibid* 11

[73] Art 12 of the ICESCR

health strategy and plan against any epidemic, tackling health problem of the populace, thereby given opportunity for disabled people.[74] Persons with disabilities fall within the category under the comment. The right to health is linked with other social supports e.g. food, housing, education, human dignity etc. This right include *availability, accessibility, acceptability* and *quality*. With respect to accessibility, this includes health facilities.[75]

This therefore, reiterating Rule 2, paragraph 3, of the United Nation Standard Rules of Equal Opportunity (UNSREOPD) which provides that all persons including people living with physical disability are entitled to same level of medical care service in society.[76] Rule 2 (6) of the (UNSREOPD) states the responsibility of a state in ensuring people living with leprosy-related disability are provided with medical treatment so as to improve their standard of life. In order to fulfil these obligations, states should work towards the provision of programmes and policies which could prevent, reduce or eliminate disabling effects.[77]According to Rule 3 on rehabilitation states that states should ensure that the provision are put in place for rehabilitation or treatment facility to people living with physical disabilities so that they can reach and sustain their optimum level of independence and functioning.[78]

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[74] UN Committee on Economic, Social and Cultural Rights (CESCR), General Comment No. 14: 'The Right to the Highest Attainable Standard of Health article 12 of the Covenant' <http://www.refworld.org/docid/4538838d0.html> accessed 2 August 2024

[75]UN Committee on Economic, Social and Cultural Rights (CESCR), 'General Comment No. 5: Persons with Disabilities' <http://www.refworld.org/docid/4538838f0.html> accessed 2 August 2024

[76] Ibid 12

[77] The Standard Rules on the Equalization of Opportunities for Persons with Disabilities (SREOPD) Rule 2 (1).

[78] The Standard Rules on the Equalization of Opportunities for Persons with Disabilities (SREOPD) Rule 3.

## 6.0. Inclusion and consideration of People with Leprosy-related Disability in Climate Change

The WHO Global Leprosy Strategy 2021–2030, which was developed through a consultative process with all major stakeholders, reflects these epidemiological changes.[79] Whereas previous strategies focused on the elimination of leprosy as a public health problem, defined as less than one case on treatment per 10000 populations, the new strategy focuses on interrupting transmission and achieving zero autochthonous cases. In doing so, the strategy aims to motivate high-burden countries to accelerate activities while compelling low-burden countries to complete the unfinished task of making leprosy history. Notably, the strategy is aligned with broader global health trends, including the move towards multi-disease service integration, digitalization and accountability, and addresses key challenges, such as human resource capacity, surveillance and antimicrobial resistance.[80] The strategy promotes innovative approaches such as the use of targeted active case detection and the potential introduction of a safe and effective vaccine, and calls on countries to develop "zero-leprosy roadmaps" and provide chemoprophylaxis to all contacts of confirmed cases.[81] Crucially, the Strategy redefines the burden of leprosy to not only includes persons in need of physical treatment and socio-economic rehabilitation, but also persons suffering from the mental health impact of leprosy.[82] The implementation of the Global Leprosy Strategy 2021–2030 will drive rapid and sustained progress in all leprosy-endemic countries, advancing progress on the WHO Roadmap for

[79]Towards Zero Leprosy Global Leprosy (Hansen's disease) Strategy 2021–2030 file:///C:/Users/user/AppData/Local/Temp/9789290228509-eng.pdf> accessed 2 August 2024

[80]Towards Zero Leprosy Global Leprosy (Hansen's disease) Strategy 2021–2030 <file:///C:/Users/user/AppData/Local/Temp/9789290228509-eng.pdf> accessed 2 August 2024

[81]*Ibid* 13

[82] *Ibid* 13

Neglected Tropical Diseases 2021–2030 and the Sustainable Development Goal targets.[83] A world with zero leprosy infection and disease, zero disability, and zero leprosy-related stigma and discrimination, is possible.[84] The Global Leprosy Strategy 2021–2030 is one of the disease-specific strategies underpinning the WHO Road map for Neglected Tropical Disease (NTDs) 2021–2030. The road map, its companion documents and the related strategies are a significant contribution to the Sustainable Development Goals (SDGs), especially SDG 3 which is healthy lives and wellbeing, including the goal of universal health coverage, SDG 10 that is reduced inequalities and SDG 17 that is partnerships. The commitments of the SDGs are to leave no one behind and to endeavour to reach the utmost behind first.[85] Through the combination of disability and stigma, persons affected by leprosy are consistently among the most left behind.

## 7.0.Way forward

It is unfortunate that the 2021-2030 strategic plans highlighted key areas which needs to be focus and how to achieve the eradication of leprosy but did not specifically mention leprosy related to climate change but logically one can infra from the 2021-2030 strategic plan to justify the inclusion of people with leprosy.

Firstly, the implement Integrated, Country-Owned Zero Leprosy Roadmaps in all Endemic Countries this implementation includes; political commitment with adequate resources for leprosy in integrated context, National partnerships for zero leprosy and zero leprosy roadmaps engaging all stakeholders, Capacity building in the healthcare system for quality services, Effective surveillance and improved data management systems

[83] *Ibid* 13

[84] *Ibid* 13

[85] Transforming our world: the 2030 agenda for sustainable development' <https://sustainabledevelopment.un.org/post2015/>transforming our world/publication > accessed 2 August 2024

and Monitoring of Antimicrobial Resistance (AMR) and adverse drug reactions. Government ownership, national policies and strategies are the essential foundation for progress towards zero leprosy. Health, education, social development and law ministries may all share responsibility for leprosy activities, so continuous advocacy and communication within and across ministries are essential to the wellbeing of persons affected by leprosy during and after treatment.[86]

Second is the scale Up Leprosy Prevention alongside Integrated Active Case Detection. This include Contact tracing for all new cases, preventive chemotherapy scaled up, Integrated active case-finding in targeted populations and existing and potential new vaccines, passive case detection and treatment with MDT alone have proven insufficient to interrupt transmission. To boost the prevention of leprosy with the consent of the index case, WHO recommends tracing household contact along with 25-50 neighbour and social contacts of each patient, accompanied by the offer of single dose of rifampicin as preventive chemotherapy[87] ongoing research may produce a more effective regimen during the period of the strategy.[88] Up to five years' retrospective contact tracing will boost opportunities for case finding and prevention. Defined populations such as islands, institutions, urban slums, villages or even districts with known high transmission may benefit from blanket preventive chemotherapy.[89]

Thirdly combat stigma and ensure human rights are respected, In combating sigma this includes; Adoption of Principles and Guidelines for elimination of discrimination against persons affected by leprosy and their family members, Inclusion of organisations and networks of persons affected by

[86] *Ibid* 14

[87] Leprosy/Hansen disease: 'Contact tracing and post exposure prophylaxis'< https://www.who.int/publications/i/item/9789290228073> accessed 2 August 2024

[88] *Ibid* 14

[89] *Ibid* 14

leprosy, Repeal or amendment of discriminatory laws, Interventions and processes to reduce and monitor leprosy-related stigma in communities and access to social support and rehabilitation. Stigma and discrimination against persons affected by leprosy and their families are almost as old as recorded history. Effects may include social exclusion, loss of income, reduced access to healthcare and education, and reduced mental well-being. Changing beliefs and prejudices is not easy, though school children may be more receptive than adults to messages about changing behaviour and attitudes. Reduction in community prejudice promotes early detection of leprosy and improves acceptance of diagnosis and adherence to treatment and self-care practices.

## 8.0. Conclusion

The thrust of this paper has been to and has thrown some light on the objectives of the study; the intersection between people affected by leprosy related disability and climate change and how climate change affect the fundamental human rights of victim of leprosy related disability. It has been shown that climate change is one of the main threats facing humanity, yet people with disabilities have been practically absent from these discussions and it is high time the international communities begin to consider various challenges facing people with different form of disabilities during climate change so that inclusive participation will be appreciated across the board.