

POLICY BRIEF

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Climate change and mental health series: Co-creating a resilient future

Policy Brief 2: Risk factors, vulnerabilities and inequalities

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Highlights

1. Climate change-driven gender-based violence and mental health problems are gender sensitive, especially in developing countries where coping strategies are limited by resource deficiencies.
2. Insufficient mental health support is negatively impacting the mental well-being of young individuals and children, particularly in the face of climate change impacts and disaster occurrences.
3. Water insecurity (including dry conditions or floods) that hampers access and availability is a major risk factor for mental health. It is more so for women and girls, especially in rural areas where they are often responsible for provisioning water.
4. Climate change is disproportionately harming the mental health of marginalized and vulnerable populations, including migrants and displaced populations.
5. Integrating mental health into climate change adaptation, mitigation and disaster recovery efforts remains key to reducing the risk of mental health problems.

This Policy Brief is the second in a series of three from the [United Nations University - Climate Resilience Initiative](#) (hosted by UNU institutes in Belgium, Germany and the Netherlands) proposing recommendations on the impact of climate change on mental health and well-being. The first policy brief of the series outlines the current, global state of affairs; the second assesses the risks that intensify the impact on mental health; and the third identifies policy opportunities and solutions.

Background

Existing population vulnerabilities – and impacts on mental health and well-being – are exacerbated by climate events and long-term climate risks, resulting in aggravated inequalities (WHO, 2021). Climate impacts fall most heavily on those oppressed by historic and existing social, economic, and political power dynamics (APA, 2020). Understanding the structures and contexts of vulnerabilities of target populations is key to evaluating targeted assessments (WHO, 2021; Cianconi P, Betrò S & Janiri L., 2020). This Policy Brief lays out vulnerabilities in different populations, and how climate change intensifies these risks.

Disaggregated impact on gender groups

Extreme weather events contribute to loss of life, food insecurity, destruction of livelihoods, displacement and deepening poverty, all of which tend to disproportionately impact women's physical and mental health.

Gender-based violence

A recent systematic review on extreme climate events and Gender-Based Violence (GBV), found an increase in reports of GBV. This was especially the case in the immediate aftermath of climate events, often in the context of food or economic insecurity and disrupted infrastructure (van Daalen, 2022). Moving testimonies predominantly given by women shed light on the prevalence of verbal and physical abuse within the community. There is, however, a lack of research on the full extent of the problem, suggesting that the relationship between climate change-induced extreme weather events and GBV could be even more pronounced than documented.

Concerns for children

Women often experience concerns and feelings of guilt, particularly when it comes to their children's well-being and the spectre of food insecurity (Glasgow Caledonian University, 2022). These challenges, in turn, would have a detrimental effect on a child's educational opportunities, health outcomes and psychosocial well-being.

Water insecurities and WASH

Human survival depends on access to an adequate supply of quality drinking water. In Malawi and Zambia, the ownership of water points is an ongoing challenge involving politicians, traditional leaders and communities (Scanlon, 2016). In Ghana, the distribution of water resources in cities is conditioned by inequality and is a key driver of psycho-emotional distress (Achore and Bisung, 2022). Water insecurities and gendered risk for depression were also recognized in rural Uganda (Cooper-Vince et al., 2018) and in Kenya suggested that household water and food insecurity are associated with diverse mental health outcomes (Miller, et al., 2021).

Women and girls are disproportionately affected by poor access to water, healthcare, sanitation, and hygiene services (UN Water). Water insecurities can take a tremendous toll on mental health across the Global South, especially in rural areas where women and girls are responsible for fetching water (UN Women, 2014; World Bank, 2019). Climate change impacts water provisioning, making it more time-consuming, tenuous and risk-ridden. It renders women and girls vulnerable to attack and often precludes them from going to school or earning an income. Significant WASH (water, sanitation and hygiene) inequalities in women and girls further manifest as health burdens over time, providing strong evidence that the

water-gender-nexus intersects with health (Pouramin, et al., 2020).

Impact of climate change on children and young people

Psychological development is a series of complex causal chains that begin before birth and continue into childhood. These can lead to problems with emotional regulation, cognition, learning, behaviour, language development and academic performance, and can create predispositions toward adverse mental health outcomes as adults (Burke et al., 2018). Stress triggered by adverse childhood experiences as well as larger-scale shocks including humanitarian disasters (Vergunst, 2022) can have long-term and cross-generational impacts.

Mental healthcare support frameworks for children are almost universally inadequate if they exist at all. Even in high-income countries, most children with psychological problems receive little support (Barican et al., 2022). Around 85%, or 2.2 billion of the world's children, live in low- and middle-income countries that are also the most vulnerable to climate risks (UNICEF, 2021). Although climate change is now recognised as a catastrophic harm to children's health, with more than 88% of the current burden of disease attributable to climate change occurring in children (Sheffield & Landrigan, 2011), very little attention has been given to mental health consequences of climate risks for children (Helldén et al., 2021).

A landmark study (Thompson, 2021) conducted in 10 different countries with 10,000 young people (aged 16 to 25) revealed that large numbers of young people globally regard governments as failing to acknowledge or act on the climate crisis in a coherent, urgent way. It also found that governments are not responding to their concerns, and subsequently young people experience feelings of betrayal and abandonment both individually and on behalf of future generations. Another study revealed that young people are already factoring climate-anxiety into their decisions on whether or not to have children (Schneider-Mayerson & Leong, 2020) with 97% saying they were concerned about the well-being of children they have or may have in future.

Marginalised and vulnerable populations

Other marginalised and vulnerable populations are also disproportionately affected by mental health impacts related to climate change, which can worsen inequalities, especially where healthcare is inadequate.

Displaced populations

Climate change-triggered human mobility could have significant negative implications for mental health. People are displaced when, typically, a sudden onset hazard such as a storm or flood forces them. More voluntary migration occurs as a result of slow onset processes, such as changes in rainfall. Any form of human mobility in this context can produce new challenges to mental health, particularly in vulnerable population groups (Ayebe-Karlsson, 2020). Those who have to move when their home becomes uninhabitable are likely to suffer from the disconnect to home (Oakes, 2019).

The psychological toll of climate change, including the increased frequency and intensity of natural disasters leading to displacement and loss of homes, livelihoods, and community connections, can lead to heightened stress, anxiety, depression and trauma. These mental health challenges are exacerbated by the unequal distribution of climate change impacts, limited access to resources and support systems and social inequalities.

Conversely, climate change can also reduce people's capacity to move. When changes in the environment erode people's options or exhaust their savings, they might be termed involuntary immobile, or trapped. Such people are in a double-bind, as the very people who most need to move to seek more secure livelihoods are those least able to take action. It is, of course, the structurally vulnerable who most often find themselves in this condition.

Indigenous groups and Small Island Developing States

Indigenous populations might also be more intensely affected by climate change-induced ecological breakdown (Farrell et al., 2021). Their livelihoods are often closely tied to natural resources and eroded ecosystems. In addition, the cultural importance of these ties means that they experience this sense of loss over and above material and other losses (Kelman, I. & Næss, M. W., 2013). Structural factors, including lack of financial and political capital, might mean that Indigenous groups are further constrained in adaptive means, although Indigenous knowledge can enable adaptation (Filho et al., 2022). In this regard, acknowledging and respecting traditional knowledge and solutions would be able to avoid top-down policy enforcement that dismisses local and Indigenous communities' knowledge and identity (UNESCO, 2018).

Small Island Developing States, which often have significant Indigenous populations, are saddled with disproportionately high burdens of the harmful impacts

of climate change. This includes multiple disruptions in economic activity, physical infrastructure and social systems exacerbated by other crises including COVID-19. Data from Anguilla's Ministry of Health demonstrated in 2019 that 50% of students struggled with undiagnosed anxiety and/or depression, and 30% of all students aged 13 to 17 had suicidal thoughts (Kentish-Rogers, 2023).

Disaster risk reduction efforts

Integrating mental health considerations within adaptation, mitigation, and disaster risk reduction (DRR) efforts could both reduce climate change-related mental health risks and deliver mental health co-benefits (Romanello et al., 2022). The psychological support systems in case of disaster emergencies may be available, such as trauma clinics (Die Landesregierung NRW, 2021), but local deployment is often ineffective, even in richer countries. Our qualitative research in Belgium and the Netherlands also revealed that mental health issues after extreme weather events such as floods have longer-lasting impacts than expected (Hagenlocher et al., 2023). Including people with mental health pre-conditions and disabilities in contingency and evacuation planning as well as establishing sustainable and community-based services to facilitate recovery from climate-related hazards are necessary (WHO, 2022). Mental impacts could also affect informal and formal aid practitioners and volunteers.

Key points and recommendations

Climate change is worsening mental health problems for many vulnerable populations. A new approach is required if these problems are to be acknowledged, addressed, and reversed over time.

1. Research and acknowledge vulnerabilities and inequalities

Gender, age, socio-economic status, displacement, Indigenous status and other factors intensify the impacts of climate risks on mental health. Addressing the needs of affected populations remains key for developing integrated climate planning and policy interventions.

2. Empower and involve all stakeholders

Include the most vulnerable in the design and implementation of community-led evidence-based solutions at local, national and international levels to address the needs of diverse populations.

3. Develop participatory solutions

Creating a safe environment and building women's capacity to adapt to more climate-resilient lines of income, such as through robust networks of support, development of referral systems and victim-support facilities, will enhance mental health support by mitigating the social and economic impacts of climate change.

4. Consider the complete development cycle of a child

The full scope of the period from infancy to adulthood must be considered to design context-specific and psychosocial-integrated health mechanisms and support systems for the world's current and future young population in a way that is cognisant of threats to social and health equality posed by a changing climate.

5. Expand existing health systems

Integration of both short- and long-term mental health support into existing health systems and DRR planning is crucial for the psychosocial well-being of communities and people affected by the climate crises.

References

- Achore, M. & Bisung, E., 2022. Experiences of inequalities in access to safe water and psycho-emotional distress in Ghana. *Social Science & Medicine*, 301(114970).
- Ayeb-Karlsson, S., Kniveton, D. & Cannon, T., 2020. Trapped in the prison of the mind: Notions of climate-induced (im)mobility decision-making and wellbeing from an urban informal settlement in Bangladesh. *Palgrave Communications*, 6(62).
- Barican, J. L. et al., 2022. Prevalence of childhood mental disorders in high-income countries: a systematic review and meta-analysis to inform policymaking. *BMJ Mental Health*, 25(1), pp. 36-44.
- Borja-Vega, C. & Grabinsky, J., 2019. Gender and water collection responsibilities – A snapshot of Latin America. [Online] Available at: <https://blogs.worldbank.org/water/gender-and-water-collection-responsibilities-snapshot-latin-america> [Accessed 5th November 2023].
- Burke, M. et al., 2018. Higher temperatures increase suicide rates in the United States and Mexico. *Nature Climate Change*, Volume 8, p. 723-729.
- Cooper-Vince, C. C. E., Arachy, H. & Kakuhihire, B., 2018. Water insecurity and gendered risk for depression in rural Uganda: a hotspot analysis. *BMC Public Health*, 18(1143).
- Cianconi, P., Betrò, S. & Janiri, L., 2020. The Impact of Climate Change on Mental Health: A Systematic Descriptive Review. *Frontiers in Psychiatry*, 11(74).
- Clayton, S., Manning, C. M., Speiser, M. & Hill, A. N., 2021. *Mental Health and Our Changing Climate: Impacts, Inequities, Responses*, Washington, D.C.: American Psychological Association, and ecoAmerica.
- Die Landesregierung Nordrhein-Westfalen (2021). Trauma outpatient clinics: Those affected by the flood and storm catastrophe can take advantage of psychological help, 22 July (originally in German). Available at <https://www.land.nrw/pressemitteilung/traumaambulanzen-betroffene-der-flut-undunwetterkatastrophe-koennen>
- Farrell, F. et al., 2021. Effects of land dispossession and forced migration on Indigenous peoples in North America. *Science*, 374 (e. 4943).
- Filho, W. L. et al., 2022. The role of indigenous knowledge in climate change adaptation in Africa. *Environmental Science & Policy*, Volume 136, pp. 250 - 260.
- Glasgow Caledonian University, 2022. Climate change makes violence against women in Malawi worse, study finds. [Online] Available at: <https://www.gcu.ac.uk/aboutgcu/universitynews/climate-change-makes-violence-against-women-in-malawi-worse-study-finds> [Accessed 5th November 2023].
- Hagenlocher, M. et al., 2023. *Building Climate Resilience: Lessons from the 2021 Floods in Western Europe*, Bonn, Maastricht and Brugge: UNU-EHS ; UNU-MERIT ; UNU-CRIS.
- Helldén, D. et al., 2021. Climate change and child health: a scoping review and an expanded conceptual framework. *Lancet Planetary Health*, Volume 5, p. e. 164-175.
- Kelman, I. & Næss, M. W., 2013. *Climate Change and Displacement for Indigenous Communities in Arctic Scandinavia*, Washington D.C.: Brookings Institute.
- Kentish-Rogers, D.-A., 2023. Water for Climate Mental Health Resilience [Interview] (20 March 2023).
- Miller, J. D. et al., 2021. Household Water and Food Insecurity Are Positively Associated with Poor Mental and Physical Health among Adults Living with HIV in Western Kenya. *The Journal of Nutrition*, 151(6), pp. 1656 -1664.
- Nakashima, D., Krupnik, I. & Rubis, J. T., 2018. *Indigenous Knowledge for Climate Change Assessment and Adaptation. Local & Indigenous Knowledge 2 ed.* Cambridge and Paris: Cambridge University Press and UNESCO.
- Oakes, R., 2019. Culture, climate change and mobility decisions in Pacific Small Island Developing States. *Population and*

Environment, Volume 40, p. 480–503.

Pouramin, P., Nagabhatla, N. & Miletto, M., 2020. A Systematic Review of Water and Gender Interlinkages: Assessing the Intersection With Health. *Frontiers in Water*, 2(6).

Romanello, M. et al., 2022. The 2022 report of the Lancet Countdown on health and climate change: health at the mercy of fossil fuels. *The Lancet*, 400(10363), pp. 1619 - 1654.

Scanlon, T., Uguru, O. P., Jafry, T. & Chisinga, B. e. a., 2016. The role of social actors in water access in Sub-Saharan Africa: Evidence from Malawi and Zambia. *Water Resources and Rural Development*, Volume 8, pp. 25-36.

Schneider-Mayerson, M. & Leong, K. L., 2020. Eco-reproductive concerns in the age of climate change. *Climatic Change*, Volume 163, pp. 1007 - 1023.

Sheffield, P. E. & Landrigan, P. J., 2011. Global climate change and children's health: threats and strategies for prevention. *Environmental Health Perspectives*, 119(3), pp. 291-298.

Thompson, T., 2021. Young people's climate anxiety revealed in landmark survey. *Nature*, 597(605).

UN WATER, 2023. Water and Gender. [Online]
Available at: <https://www.unwater.org/water-facts/water-and-gender> [Accessed 5th November 2023].

UN WOMEN, 2014. Collecting and carrying water, burdensome reality for women. [Online]
Available at: <https://www.unwomen.org/en/news/stories/2014/3/collecting-and-carrying-water-burdensome-reality-for-women> [Accessed 5th November 2023].

United Nations Children's Fund , 2021. The Climate Crisis is a Child Rights Crisis: Introducing the Children's Climate Risk Index, New York: UNICEF.

van Daalen, K. R. et al., 2022. Extreme events and gender-based violence: a mixed-methods systematic review. *Lancet Planetary Health*, 6(6), pp. e. 504 - 523.

Vergunst, F. & Berry,, H. L., 2022. Climate Change and Children's Mental Health: A Developmental Perspective. *Clinical Psychological Science*, 10(4), pp. 767-785.

World Health Organization, 2022. Mental health and Climate Change: Policy Brief, Geneva: WHO.

World Health Organization, 2021. Checklists to assess vulnerabilities in health care facilities in the context of climate change, Geneva: WHO.

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