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# Integrating Health & Climate Justice for a Resilient Future: a Program Brief

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## Introduction

Climate change is predicted to cause 250,000 additional deaths each year, between 2030 and 2050, due to malnutrition, malaria, diarrhea, and heat stress alone. Climate-related health risks disproportionately impact low-income countries and communities as well as marginalized sub-groups including women, children, migrants, displaced persons, ethnic minorities, older populations, and people with underlying health conditions. By 2030, health care costs attributed to climate change are expected to be between \$2 and \$4 billion USD a year ([WHO, 2021](#)). Women and children are more likely to suffer from climate-induced food shortages and malnutrition ([WFP, 2021](#)). In the event of a climate-change related disaster, women are less likely to survive and more likely to be injured ([UN Women, 2022a](#), [UNEP, 2011](#), [GCAN, 2022](#)). Limited access to services and health care during a disaster increases maternal and child health risks ([UN Women, 2022a](#)). Extreme heat can increase the incidence of stillbirth and the increase in spread of vector-borne illnesses (like malaria, dengue, zika, and chikungunya) which are linked to poor maternal and neonatal outcomes ([UN Women, 2022a](#); [UNFPA, 2021](#)). After a climate disaster, women are less able to access relief and assistance, increasing vulnerability to future disasters ([UN Women, 2022a](#)) and while climate change has become the biggest threat to public health, only 0.5% of climate funding is directed towards health projects (WHO 2018).

The linkages described above were significantly elevated at the UN Climate Conference held in the United Arab Emirates (UAE) in December 2023, resulting in the [COP28 UAE Declaration on Climate and Health](#). This Declaration emphasizes the need to transform health systems to be climate resilient, low carbon, sustainable, and equitable. Building on CARE global programming in climate justice and health equity and rights, in addition to key research and data from partners and academics, this brief highlights the important, yet often missing link, that health plays in gender responsive climate justice programming, with key recommendations for CARE and other global health actors to support resilient and adaptive health programming.

## Direct Impacts of Climate Change on Physical Health

**Vector, Water and Foodborne Disease:** As flooding, storms, and sea level rise, the exposure to and spread of vector, water and foodborne disease is increasing. Increased levels of warming, rainfall, and standing water from flooding can lead to higher rates of waterborne diseases, such as cholera, vector borne diseases, like malaria, and foodborne illness, such as norovirus infection, as warmer, wetter environments are more hospitable for pathogens to grow<sup>1,2</sup>. Climate change is shifting historic precipitation patterns, and the reach of these diseases is also expanding. Research shows that by 2050, mosquitos carrying disease will reach 500 million more people than they do today<sup>3</sup>. Even droughts can contribute to increases in vector and waterborne illnesses by creating pools of standing water in ecosystems that previously had running water<sup>4</sup>.

**Extreme Heat:** The risk of heat-related illnesses is very high as climate change increases temperatures to historic high levels. Between 2000 and 2017, deaths from heat-related illnesses rose by 68%<sup>5</sup>. Heat stroke, stress, and exhaustion can exacerbate existing medical conditions, and especially impacts vulnerable populations such as older populations, young children, pregnant women, Indigenous peoples, and communities living in informal housing. High heat can have devastating effects on maternal and child health, increasing dehydration among pregnant women and increasing the risk of preeclampsia, preterm birth and stillbirth<sup>6</sup>. Extreme heat can also impact health worker productivity, jeopardizing access to essential health care. Disruption in water supplies and access exacerbates heat-related conditions and increases the fatality of these conditions<sup>7</sup>. Urban populations are at a heightened risk of heat-related conditions due to the urban heat island effect, where cities experience higher temperatures due to the absorptive nature of city environments<sup>8</sup>.

**Air Pollution:** Increased air pollution from burning fossil fuels leads to toxic particles in the air that affect human health ([World Bank, 2022](#)). This can negatively impact maternal and child health and increase incidences of pulmonary and cardiovascular disease resulting in premature deaths. Studies have linked air pollution to increased risk of preterm births and low birthweight infants<sup>9</sup>. Particularly vulnerable populations at greatest risk include people with underlying health conditions, pregnant women, children, and older populations due to their weaker immune systems. Overall, countries with more severe air pollution are experiencing increases in related health ailments and may struggle to effectively manage these conditions, particularly in communities with weaker health systems<sup>10</sup>.

<sup>1</sup> [Climate Change Impacts on Waterborne Diseases: Moving Toward Designing Interventions | Current Environmental Health Reports \(springer.com\)](#)

<sup>2</sup> [https://www.niehs.nih.gov/research/programs/climatechange/health\\_impacts/foodborne\\_diseases](https://www.niehs.nih.gov/research/programs/climatechange/health_impacts/foodborne_diseases)

<sup>3</sup> [Global expansion and redistribution of Aedes-borne virus transmission risk with climate change | PLOS Neglected Tropical Diseases](#)

<sup>4</sup> [How climate change affects vector-borne diseases | News | Wellcome](#)

<sup>5</sup> [The 2022 report of the Lancet Countdown on health and climate change: health at the mercy of fossil fuels - The Lancet](#)

<sup>6</sup> <https://journals.co.za/doi/full/10.18772/26180197.2022.v4n3a7#:~:text=High%20temperatures%20can%20overwhelm%20thermoregulation,birth%2C%20stillbirth%20and%20prolonged%20labour>

<sup>7</sup> [Stories of Resilience: Lessons from Local Adaptation Practice \(gca.org\)](#)

<sup>8</sup> <https://doi.org/10.18063/ijps.v6i1.1069>

<sup>9</sup> <https://obgyn.onlinelibrary.wiley.com/doi/10.1111/aogs.14124>

<sup>10</sup> [https://www.usaid.gov/sites/default/files/2022-05/Climate\\_Change\\_Impacts\\_on\\_Human\\_Health\\_and\\_the\\_Health\\_Sector\\_508\\_Tagged\\_Mar\\_2022.pdf](https://www.usaid.gov/sites/default/files/2022-05/Climate_Change_Impacts_on_Human_Health_and_the_Health_Sector_508_Tagged_Mar_2022.pdf)

**Food Insecurity and Malnutrition:** Climate change impacts food security for women in a variety of ways. First, climate change is increasing the frequency and intensity of extreme weather events such as droughts, floods, and storms, which damage crops and reduce yields, affecting the availability of food (FAO, 2018). As women are often responsible for agricultural activities such as planting, weeding, and harvesting, they are particularly vulnerable to these changes (UN Women, 2018). Second, climate change is leading to changes in temperature and rainfall patterns, which negatively impact the growth and quality of crops (IFAD, 2021). This can lead to a decrease in the yield and nutritional value of crops, making them less suitable for consumption. Third, climate change can affect the availability and quality of water, making it more difficult for women to access clean water for cooking, and drinking. Finally, climate change can lead to or exacerbate conflict and displacement, which can disrupt and increase competition within food systems and make it difficult for women to access food and water (OCHA, 2020).

Droughts or floods may also lead to increased food insecurity which in turn impacts the nutritional status of women and girls. The recent FAO report on *The State of Food Security and Nutrition in the World*, presents data that more women have experienced food insecurity (both moderate and severe) than men over the last 5 years, and in 2021, there were 150 million more food insecure women than men in the world. Emerging evidence suggests temperatures increases may increase the prevalence of childhood anemia in sub-Saharan Africa<sup>11</sup>.

## Direct Impacts of Climate Change on Mental Health

Climate change shocks and stresses can affect mental health in addition to physical health. Disasters have been linked to anxiety, depression, post-traumatic stress disorder and suicidal thoughts because of the harm inflicted upon one's community, the damage to one's home, loss of livelihood, or any negative influences on one's quality of life/wellbeing<sup>12</sup>. Children, women including pregnant and postpartum women, older people, people living in poverty, emergency workers and first responders are among the particularly vulnerable groups at risk of experiencing adverse mental health impacts because of climate change<sup>13</sup>.

Children are particularly at risk of experiencing anxiety, distress and other adverse mental health effects following an extreme event. Factors such as a child's developmental age, the nature of exposure to the event and the well-being of their caregiver can impact how a child copes with a distressing event, including climate-related disasters. Studies have shown that children may be more prone to experience longer-term effects such as post-traumatic stress disorder (PTSD) compared to adults. More women experience PTSD and other mental health disorders after disasters compared to men<sup>14</sup>. Pregnant and postpartum women can be particularly vulnerable to disasters, especially when social supports are disrupted, and they experience danger, injury or illness. During Hurricane Katrina, research found that pregnant women with high exposure or severe experiences related to the hurricane were at significantly greater risk of developing PTSD and depression. Another study in Mexico City showed that air pollution exposure during pregnancy was positively associated with postpartum depression<sup>15</sup>.

Physical health ailments, such as those linked to climate change, are associated with the onset of mental health issues and air pollution has been linked to increased cognitive decline, particularly among older adults. Impoverished communities are at increased risk of exposure to harmful conditions such as extreme heat and air pollution paired with fewer resources to help adapt. People with low incomes experience more weather-related mental distress due to reduced mobility, low access to health care and low purchasing power to reduce

<sup>11</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7615260/>

<sup>12</sup> [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(22\)01540-9/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)01540-9/fulltext)

<sup>13</sup> <https://health2016.globalchange.gov/mental-health-and-well-being>

<sup>14</sup> <https://health2016.globalchange.gov/mental-health-and-well-being>

<sup>15</sup> <https://www.sciencedirect.com/science/article/pii/S0160412019323463?pes=vor>

the negative impact of disasters. Emergency workers and first responders are vulnerable to adverse mental health impacts from disasters due to their high exposure to traumatic events<sup>16</sup>. Evidence of links between climate change and its effect on the mental health of people of different genders, ages and other classifications is still emerging. New research will continue to provide a better understanding of these linkages and best practices to mitigate negative mental health outcomes.

## Indirect Impacts of Climate Change on Health

**Displacement and Protection Risks:** Climate change puts women and girls at greater risk of all forms of gender-based violence (GBV), including conflict-related sexual violence, human trafficking, and child marriage ([CARE, 2022](#); [UN Women, 2022a](#); [OHCHR, 2022](#)). In turn, GBV reduces women's adaptive capacity and resilience creating a negative feedback cycle ([UNFCCC, 2022](#)). It is estimated that women represent 80% of the people displaced due to impacts of climate change ([OHCHR, 2022](#); [UNFCCC, 2022](#)). During displacement, the risk of GBV, including sexual violence, increases ([CARE, 2020](#); [OHCHR, 2022](#)). Communities that are unable to mitigate the negative of impacts of climate change and weather-related disasters experience multiple stressors, such as the breakdown of systems and services, including health and police resources, which can lead to increases in gender inequality and incidences of GBV<sup>17</sup>. Temporary infrastructure in emergency shelters, tents, and refugee/migrant camps increase women and girls' vulnerability to violence while sleeping, washing, bathing, and dressing due to physical exposure ([OHCHR, 2022](#)).

With increasing scarcity of drinking water due to global heating, women and girls are forced to search farther and farther away for water sources increasing their risk of GBV by having to walk longer distances away from the protection of family and household structures ([OHCHR, 2022](#); [UNFCCC, 2022](#)). In a study in Botswana, 56% of the girls reported having to travel longer distances than usual to fetch water ([UN Women, 2022b](#)). Due to drought in Kenya, South Sudan, Ethiopia, and Somalia, women and girls spend up to eight hours a day fetching water ([Abuom, 2017](#)). Longer journeys mean longer time to complete the task and more time alone outside of the home, increasing the risk of GBV ([UNFCCC, 2022](#)).

Increases in stressors such as climate-driven food insecurity and economic strain on households exacerbate gender inequality and GBV. CARE's report [Gender based Violence & Food Insecurity: What We Know and Why Gender Equality is the Answer](#) highlights the correlation between increased food insecurity and related economic strain on poor households, and increased incidents of intimate partner violence, sexual violence and child/early forced marriage. Additionally, a CARE 2022 Brief [Gender Equality and Food Security](#) presented data that showed a high correlation between rising gender inequality and food insecurity in 109 countries. As noted in CARE's 2020 [Scoping paper](#) gender inequality is both a cause and a consequence of food insecurity.

**Disruption of Livelihoods:** Climate hazards create risks that impact the ability to earn livelihoods and use community services. Reduced income from gaps in work, failed crops/livestock<sup>18</sup>, or lost jobs curtail a household's absorptive capacity, and put them at a higher risk of illness, malnutrition, or injury<sup>19</sup>. Disruptions in services from climate hazards can prevent households from receiving in-kind food transfers, nutritional supplements, vaccinations, medications, contraception, and other reproductive healthcare. Increased competition over resources multiplies the effects of socio-economic inequalities<sup>20,21</sup>.

<sup>16</sup> <https://health2016.globalchange.gov/mental-health-and-well-being>

<sup>17</sup> <https://biodiversitylinks.org/projects/current-global-projects/agent/resources/gender-based-violence-and-environment-linkages-the-violence-of-inequality.pdf>

<sup>18</sup> [docs.wfp.org/api/documents/WFP-0000129074/download/?\\_ga=2.237002624.1877875611.1674249109-2116280730.1674249109](https://docs.wfp.org/api/documents/WFP-0000129074/download/?_ga=2.237002624.1877875611.1674249109-2116280730.1674249109)

<sup>19</sup> [SuPER Paper Formatted compressed.pub \(care.org\)](#)

<sup>20</sup> [gbv\\_issues\\_brief\\_september\\_2020\\_final.pdf \(iucn.org\)](#)

<sup>21</sup> [wp152\\_2017.pdf \(un.org\)](#)



**Impacts on Water, Sanitation and Hygiene (WASH):** Clean water, adequate sanitation facilities, and good hygiene practices are crucial not only for ensuring health and safety for women and girls' menstrual health, but also for promoting sexual health, and preventing and treating infections and injuries. Climate disasters disrupt access to water and damage WASH infrastructure. With a lack of investment in permanent facilities and tenuous water supplies, climate hazards exacerbate this risk. Flooding or drought can make sanitation facilities like latrines unusable, increasing the likelihood of open defecation and water pollution<sup>22</sup>. These practices, and limited sanitation resources in general, contribute to the spread of infectious disease and make general hygienic practices, menstrual care, and caregiving for young children more difficult<sup>23</sup>.

In situations where schools are open but experiencing water shortages due to climate change, the impact affects WASH facilities in schools and girls are disproportionately affected. Inadequate WASH facilities in schools are a major driver for girls not attending school while menstruating<sup>24</sup>. Hazards can increase the impacts of "period poverty", making sanitation supplies, menstrual products, and education less accessible and thereby increasing stigma against the girl child<sup>25</sup>. Inadequate WASH in healthcare facilities increases the risks to women and newborns at delivery and can delay or prevent people from seeking sexual and reproductive health care. In turn, frontline health care workers face challenges in delivering emergency reproductive health care, such as emergency maternal obstetric and newborn care.

**Disruption in Access to Health Services:** Climate related disasters such as flooding can directly impact accessibility of health services where health facilities become cut-off during rainy seasons or sudden onset extreme weather events. This negatively impacts use of primary and preventive health care such as antenatal care and family planning due to disrupted access and commodity supply chains which include contraception and other essential supplies.

## Key Recommendations

CARE has extensive experience in delivering and advocating for climate justice and the right to health across humanitarian and development programming. This breadth of expertise is being leveraged to promote integrated health and climate justice work that centers the needs of women and girls. CARE is working to:

- Enhance efforts to prevent, detect and rapidly respond to disease outbreaks using CARE's public health in emergencies strategies, including community-based surveillance and risk communication and community engagement supported by frontline health workers and other community actors
- Engage communities in developing locally led adaptation plans (or other relevant disaster risk reduction plans) that integrate health using CARE adapted tools such as the Climate Vulnerability and Capacity Analysis (CVCA) and Community Score Card (CSC)
- Support government and/or community early warning systems linked to health systems to anticipate, prepare for and respond to droughts and floods
- Expand multisectoral collaboration and draw upon CARE's global expertise in WASH, protection/GBV, nutrition and food security to support integrated approaches to respond to climate-driven shocks, build health resilience and influence policy
- Strengthen preparedness to implement the [Minimum Initial Service Package \(MISP\) for SRH in crisis situations](#) as a basis for planning for uninterrupted essential SRHR services, including addressing menstrual health needs during rainy seasons, droughts and other climate related events

<sup>22</sup> [Climate Resilient Urban Sanitation in Indonesia: Hazards, Impacts and Responses in Four Cities.pdf \(unicef.org\)](#)

<sup>23</sup> [gwp\\_unicef\\_strategic\\_framework\\_web\\_artwork.pdf](#)

<sup>24</sup> [SRHR: What's water, sanitation, and hygiene got to do with it? - Women Deliver \(deliverforgood.org\)](#)

<sup>25</sup> [Period poverty and menstrual belonging: a matter of climate justice - The Lancet Planetary Health](#)

- Collaborate with GBV colleagues to integrate GBV risk mitigation measures into health responses to climate-related disasters
- Collaborate with WASH and logistics colleagues to mainstream climate adaptive infrastructure that can handle fluctuating water levels in times of flooding and provide water in times of drought (i.e. latrines, handwashing/bathing stations, pipes) and health commodity storage facilities that can withstand climate events
- Support preparedness for climate change impacts in public health in emergencies through capacity strengthening of frontline health care workers, multisectoral government officials, local partners, and community actors to anticipate, prepare for and respond to droughts and floods
- Support locally led efforts to influence national policy for climate and health justice by amplifying voices of community leaders, particularly frontline health care workers, women, adolescent girls, and other marginalized groups
- Ensure adaptation finance reaches local levels and supports health related responses to climate change

## Conclusion

Climate change will continue to create new threats and uncertainties, with the most vulnerable communities experiencing the greatest impact. Floods, droughts, storms, heatwaves, sea-level rise and wildfires put pressure on existing systems, increase disease spread and transmission, and make it harder for community members to absorb additional strain. Negative health outcomes will continue to disproportionately affect women, girls and other vulnerable populations unless concerted actions are taken to mitigate this impact. Working with communities, government partners and other stakeholders to integrate gender responsive health and climate considerations into action plans is crucial to supporting more resilient, adaptive health systems that can deliver continued, equitable access to essential services to those that need them the most.

By integrating CARE's expertise to increase the resilience of health systems and communities by mitigating the adverse effects of climate change, we can build a more resilient and equitable future for all. This requires collaboration and a coordinated effort within CARE and from governments, civil society organizations, healthcare providers, and communities. By investing in climate resilient health systems and partnering with communities to promote access to essential information and resources, we can support communities to adapt and thrive in a changing climate.

*This brief was co-written by CARE USA's Health, Equity & Rights and Climate Justice teams.  
To learn more visit: [CARE Health](#) and [CARE Climate Justice](#)*

### Contacts:

#### Health, Equity & Rights Team:

Joyce Sepenoo, Senior Director: [joyce.sepenoo@care.org](mailto:joyce.sepenoo@care.org)

Rebecca Davidson, Director of Programs, Innovations & Impact: [rebecca.davidson@care.org](mailto:rebecca.davidson@care.org)

Allison Prather, Senior Technical Advisor: [allison.prather@care.org](mailto:allison.prather@care.org)

#### Climate Justice Team:

Karl Deering, Senior Director: [karl.deering@care.org](mailto:karl.deering@care.org)

Moushumi Chaudhury, Senior Technical Advisor: [moushumi.chaudhury@care.org](mailto:moushumi.chaudhury@care.org)