**UNICEF’s input to the Report on the adverse impact of climate change on the right to food**

UNICEF’s input focuses on child malnutrition. Though children are the least responsible for climate change, they will bear the greatest burden of its impact. From droughts to floods to wildfires to deforestation, climate change and environmental degradation is a direct threat to a child’s ability to survive, grow, learn and thrive. The world is suffering a triple burden of child malnutrition, combining undernutrition, micronutrient deficiencies, and overweight and obesity. 144 million children under 5 are stunted, 47 million children under 5 are wasted, 340 million children under 5 are micronutrient deficient, and 38 million children under 5 are overweight.[[1]](#footnote-1) These challenges are only exacerbated by the compounding effects of climate change and environmental degradation. Climate informed nutrition programming can play a critically optimistic role in both climate change mitigation and adaptation.

# The bi-directional relationship of nutrition and climate change

Climate variability and extremes are eroding and reversing progress in ending child hunger and malnutrition.[[2]](#footnote-2) Increases in temperature, heat waves, droughts, and floods result in declines in crop yields, livestock, fisheries, and agroforestry, thus affecting food quality, diversity, nutrient density, safety, and prices.[[3]](#footnote-3) This in turn affects all dimensions of food security and nutrition, including food availability, access, utilization and stability.2[[4]](#footnote-4) Estimates suggest that climate change will be linked to 500,000 additional deaths between 2010 and 2050 through its dietary effects on reduced food quantity and nutrition.[[5]](#footnote-5) The Intergovernmental Panel on Climate Change predicts that the biggest threat to health from climate change will be through the effects on nutrition outcomes.[[6]](#footnote-6) In addition, environmental degradation threatens food safety and nutrition through both the loss of biodiversity and the contamination of water, air, soil, and exposure to antibiotics and pesticides. Specifically, biodiversity supports critical dietary diversity, which is essential for food security and nutrition, but is increasingly difficult to guarantee due to the rise of homogenous diets where rice, wheat and maize represent 2/3rds of global caloric intake.[[7]](#footnote-7) Such homogenous diets limit children’s dietary intake of micronutrients while increasing the exposure to calorie dense foods prone to overweight and obesity.

Inversely, our global diets and their supporting food systems are not only driving the triple burden of malnutrition but are also driving deteriorating planetary health through increased greenhouse gas emissions, biodiversity loss, and environmental degradation.[[8]](#footnote-8) Our industrial food systems, especially the agriculture sector, are responsible for 30% of global greenhouse gases.[[9]](#footnote-9) Meanwhile, our food production’s heavy use of valuable fresh water, soil and water pollution from fertilizer and pesticides, and continued biodiversity loss also contributes to climate change.[[10]](#footnote-10) Coined the Global Syndemic by Swinburn, the three interconnected pandemics of obesity, undernutrition, and climate change affect most people in every country in the world.[[11]](#footnote-11)

The fragile bi-directional relationship between nutrition and climate change presents UNICEF with a unique opportunity to address this Global Syndemic through nutrition programming that improves food security and nutrition needs, while preserving the environment.

# Ways in which climate change exacerbates malnutrition

Firstly, climate change exacerbates malnutrition through **food**. Climate variability and extremes creates volatility in food availability, quality, price, and overall calorie consumption. This sort of instability can lead to stunting, wasting, and/or micronutrient deficiencies in children, adolescents, and women.[[12]](#footnote-12) In addition to exacerbating undernutrition and hidden hunger, climate change is fueling the “Global Nutrition Transition” of urbanization as rural communities bear the brunt of climate variability and extremes, and thus forced to migrate to urban centers. This rise in urbanization results in more modern unhealthy diets filled with sugary and fatty ultra-proceed foods that can lead to obesity.[[13]](#footnote-13)

Secondly, climate change exacerbates malnutrition through **feeding**. Women’s responses to climate variability and extremes can disrupt their labor allocation, which affects their precious time for child feeding and care practices.[[14]](#footnote-14) As women have less time to breastfeed and complementary feed their children, this can lead to stunting, wasting, and/or micronutrient deficiencies. Similarly, if women have less time to feed their children due their labor allocation in response to climate challenges, feeding practices could result in reliance on quick and cheap ultra-processed foods filled with saturated fats and added sugars. Such dietary shifts lead to overnutrition, and in more severe cases, obesity in children, adolescents and women.[[15]](#footnote-15)

Thirdly, climate change exacerbates malnutrition through **health**. The transmission of vector-borne diseases is predicted to increase with rising global temperatures along with an increase in sanitation challenges and water-borne diseases. These climate induced health problems influence how nutrients from food are absorbed and used by a child’s body. Children with poor health status will have a more difficult time getting the required nutrients and can suffer from stunting, wasting, and/or micronutrient deficiencies.[[16]](#footnote-16) Climate shocks can further compound these issues through disruptions to health care facilities and services, preventing the appropriate treatment of such diseases or stunting, wasting, and/or micronutrient deficiencies.

As climate change can worsen overnutrition and obesity through the food and feeding pathways, this leads to a direct increase in diet-related non-communicable diseases such as cardiovascular disease, diabetes and hypertension. In addition to the independent health consequences of these non-communicable diseases, there is growing evidence that maternal obesity is a risk factor for child obesity through a pathway related to fetal overnutrition.[[17]](#footnote-17) (Popkin et al. 2012).

# Example 1: floods in Pakistan

In the aftermath of the devastating floods in Pakistan, health facilities are reporting alarming levels of severe acute malnutrition among children in affected areas. More than 1 in 9 children under five admitted to health facilities in flood-affected areas of Sindh and Balochistan were found to be suffering from severe acute malnutrition. In total, of the over 22,000 children screened by health professionals since September 2022 at health facilities in flood-affected regions, more than 2,630 were diagnosed with severe acute malnutrition, or more than 1 in 9 children. Estimates based on the pre-existing malnutrition prevalence of the latest National Nutrition Survey indicate that close to 1.6 million children could be suffering from severe acute malnutrition and in need of urgent treatment in flood-affected areas of Sindh and Balochistan provinces. Malnourished pregnant women are also at risk of giving birth to low birthweight babies who will be malnourished. [[18]](#footnote-18)

# Example 2: drought in Kenya

In Kenya, the last four failed rainy seasons have left 1.4 million children with reduced access to nutritious food, safe drinking water, health services, education, and protection from violence and neglect. A predicted fifth poor rainy season is expected to worsen the situation, leading to more children and families needing humanitarian assistance. Nearly 900,000 children under the age of 5 in affected counties are in need of treatment for life-threatening severe acute malnutrition.[[19]](#footnote-19)

# UNICEF’s 8 Priority Adaptation Actions to Build Climate-Resilient Nutrition

1. **Improve nutrition to reduce vulnerability to shocks and build climate resiliency**

Good nutrition status protects children against food and water-borne illnesses that can be more common after extreme climate events, and also protects against diet-related non-communicable diseases in later in life.[[20]](#footnote-20) Nutrition programs, working in synergy with supportive sectors including water, sanitation, and hygiene, social protection and health, reduce the likelihood of morbidity and mortality from climate shocks that threaten the nutrition of children, adolescents and women. These programs should contain short, medium, and long-term visions to protect the nutrition of children, adolescents and women today while also preparing and building resilience to the slower onset impacts of climate change.

1. **Incorporate disaster risk assessment into existing nutrition assessments and monitoring**

Assessments must be context specific and should understand the potential impacts of climate change on ongoing and future nutrition programs. Simultaneously, the nutrition sector should also provide inputs into national and community level disaster risk assessment.[[21]](#footnote-21)

1. **Enhance ongoing nutrition surveillance mechanisms within high-risk areas**

National nutrition surveillance systems are the primary data sources for child nutrition indicators and can provide early identification of worsening food insecurity or malnutrition in areas prone to climate variability and extremes.

1. **Link nutrition actors and services to early warning systems**

This linkage at national, sub-national and community levels can support preparedness and contingency planning. Improved early warning systems are needed for both extreme weather and long-term shifts in temperature and rainfall in order to protect the nutrition of children, adolescents, and women. Data gathered from early warning systems can then be used to modify planting, harvest, and irrigation schedules, such information needs to be gender-sensitive and context specific.[[22]](#footnote-22)

1. **Strengthen community action nutrition planning and preparedness**

Nutrition programming should build the capacity of outreach programs with a focus on nutrition and pre-position nutrition related commodities in “at-risk” areas. The foundation of community preparedness will contribute to the success of nutrition program areas of early childhood nutrition, nutrition of school-aged children, adolescents and women, and care for children with severe acute malnutrition.[[23]](#footnote-23) During nutrition program design, community preparedness should be a core component for both development and humanitarian programming.

1. **Reinforce community health management of severe acute malnutrition.**

As the frequency of extreme climate shocks doubled between 1990 and 2016, so did the risk of child wasting, particularly as a result of severe droughts. The early diagnosis, referral, treatment and follow up of severe acute malnutrition cases are essential to providing lifesaving nutrition services (i.e. Ready-to-Use Therapeutic Foods) to the 47 million children under 5 suffering from wasting.

1. **Scale-up behavior change communication (BCC) on key lifesaving behaviors in high-risk areas.**

The ability to effectively communicate and encourage key lifesaving behaviors is critical to protecting the nutrition of children, adolescents and women. Behaviors such as hand washing, exclusive breastfeeding, and eating nutritious diets have the ability to enhance the resilience of individuals to future shocks.[[24]](#footnote-24)

1. **Bolster the linkages between UNICEF’s humanitarian and development nutrition programming**

Improving the coordination between both spheres in key to UNICEF’s international commitment to improve aid effectiveness as it reduces long-term risk, prevents future crises, and builds more resilient societies. Humanitarian responses should work to strengthen national capacities with both urgent and chronic vulnerabilities.

1. UNICEF. 2019. “The State of the World’s Children (SOWC) Report 2019.” New York: UNICEF. [↑](#footnote-ref-1)
2. FAO, IFAD, UNICEF, WFP, and WHO, eds. 2018. The State of Food Security and Nutrition in the World. 2018. Rome: FAO. [↑](#footnote-ref-2)
3. Vermeulen, Sonja J., Bruce M. Campbell, and John S.I. Ingram. 2012. “Climate Change and Food Systems.” Annual Review of Environment and Resources 37 (1): 195–222. <https://doi.org/10.1146/annurev-environ-020411-130608>. [↑](#footnote-ref-3)
4. Above 2. [↑](#footnote-ref-4)
5. Springmann, Marco, Keith Wiebe, Daniel Mason-D’Croz, Timothy B Sulser, Mike Rayner, and Peter Scarborough. 2018. “Health and Nutritional Aspects of Sustainable Diet Strategies and Their Association with Environmental Impacts: A Global Modelling Analysis with Country-Level Detail.” The Lancet Planetary Health 2 (10): e451–61. [https://doi.org/10.1016/S2542-5196(18)30206-7](https://doi.org/10.1016/S2542-5196%2818%2930206-7). [↑](#footnote-ref-5)
6. 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.” [↑](#footnote-ref-6)
7. Above 1. [↑](#footnote-ref-7)
8. Swinburn, Boyd A, Vivica I Kraak, Steven Allender, Vincent J Atkins, Phillip I Baker, Jessica R Bogard, Hannah Brinsden, et al. 2019. “The Global Syndemic of Obesity, Undernutrition, and Climate Change: The Lancet Commission Report.” The Lancet 393 (10173): 791–846. [https://doi.org/10.1016/S0140-6736(18)32822-8](https://doi.org/10.1016/S0140-6736%2818%2932822-8). [↑](#footnote-ref-8)
9. Willett, Walter, Johan Rockström, Brent Loken, Marco Springmann, Tim Lang, Sonja Vermeulen, Tara Garnett, et al. 2019. “Food in the Anthropocene: The EAT–Lancet Commission on Healthy Diets from Sustainable Food Systems.” The Lancet 393 (10170): 447–92. [https://doi.org/10.1016/S0140-6736(18)31788-4](https://doi.org/10.1016/S0140-6736%2818%2931788-4); Above 5. [↑](#footnote-ref-9)
10. Above 1. [↑](#footnote-ref-10)
11. Above 8. [↑](#footnote-ref-11)
12. Nemecek, Thomas, Niels Jungbluth, Llorenç Milà i Canals, and Rita Schenck. 2016. “Environmental Impacts of Food Consumption and Nutrition: Where Are We and What Is Next?” The International Journal of Life Cycle Assessment 21 (5): 607–20. <https://doi.org/10.1007/s11367-016-1071-3>; Springmann, Marco, H. Charles J. Godfray, Mike Rayner, and Peter Scarborough. 2016. “Analysis and Valuation of the Health and Climate Change Cobenefits of Dietary Change.” Proceedings of the National Academy of Sciences 113 (15): 4146–51. <https://doi.org/10.1073/pnas.1523119113>; Whitmee, Sarah, Andy Haines, Chris Beyrer, Frederick Boltz, Anthony G Capon, Braulio Ferreira de Souza Dias, Alex Ezeh, et al. 2015. “Safeguarding Human Health in the Anthropocene Epoch: Report of The Rockefeller Foundation–Lancet Commission on Planetary Health.” The Lancet 386 (10007): 1973–2028. [https://doi.org/10.1016/S0140-6736(15)60901-1](https://doi.org/10.1016/S0140-6736%2815%2960901-1). [↑](#footnote-ref-12)
13. Popkin, Barry M, Linda S Adair, and Shu Wen Ng. 2012. “Global Nutrition Transition and the Pandemic of Obesity in Developing Countries.” Nutrition Reviews 70 (1): 3–21. <https://doi.org/10.1111/j.1753-4887.2011.00456.x>; Henderson, J. Vernon, Adam Storeygard, and Uwe Deichmann. 2017. “Has Climate Change Driven Urbanization in Africa?” Journal of Development Economics 124 (January): 60–82. <https://doi.org/10.1016/j.jdeveco.2016.09.001>; Above 8. [↑](#footnote-ref-13)
14. Bryan, Elizabeth, Sophie Theis, Jowel Choufani, Alessandro De Pinto, Ruth Meizen- Dick, and Claudia Ringler. 2017. “Gender-Sensitive, Climate-Smart Agriculture for Improved Nutrition in Africa South of the Sahara.” 0 ed. Washington, DC: International Food Policy Research Institute. <https://doi.org/10.2499/9780896292949_09>. [↑](#footnote-ref-14)
15. Above 8. [↑](#footnote-ref-15)
16. Met Office, and WFP. 2012. “Climate Impacts on Food Security and Nutrition: A Review of Existing Knowledge.” [↑](#footnote-ref-16)
17. Above 13. [↑](#footnote-ref-17)
18. UNICEF 2022. “More than 1 in 9 children in flood-affected areas of Pakistan suffering from severe acute malnutrition.” <https://www.unicef.org/press-releases/more-1-9-children-flood-affected-areas-pakistan-suffering-severe-acute-malnutrition> [↑](#footnote-ref-18)
19. UNICEF 2022. “UNICEF Goodwill Ambassador Priyanka Chopra Jonas meets children suffering from severe malnutrition in Kenya.” <https://www.unicef.org/press-releases/unicef-goodwill-ambassador-priyanka-chopra-jonas-meets-children-suffering-severe>. [↑](#footnote-ref-19)
20. Above 2. [↑](#footnote-ref-20)
21. UNICEF. 2018. “Guidance on Risk-Informed Programming.” New York: UNICEF. [↑](#footnote-ref-21)
22. Fanzo, Jessica, Claire Davis, Rebecca McLaren, and Jowel Choufani. 2018. “The Effect of Climate Change across Food Systems: Implications for Nutrition Outcomes.” Global Food Security 18 (September): 12–19. <https://doi.org/10.1016/j.gfs.2018.06.001>. [↑](#footnote-ref-22)
23. Above 21. [↑](#footnote-ref-23)
24. Above 21. [↑](#footnote-ref-24)