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EFFECT OF CLIMATE CHANGE ON FOOD SYSTEMS

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Food systems encompass all aspects of food production, including trade and marketing, postharvest storage, transportation, processing, distribution, regulation, and food consumption. It impacts the population's environment and socioeconomic and nutritional status (WHO, 2017; Demaio & Branca, 2018; Turner et al., 2020). They are made up of two essential domains: the personal domain (accessibility, affordability, convenience, and desirability) and the external domain (food availability, product attributes, prices, marketing, and regulation), both of which have an impact on food acquisition, consumption, and ultimately nutrition and health outcomes (Turner et al., 2018, 2020; UNSCN, 2019). Food supply networks and transportation are disrupted by climate change, which leads to volatility in food prices and jeopardizes food security, human health, and nutrition (FAO, 2020). Climate change and food systems interact reciprocally and cyclically. Global food supply systems have emerged, and agricultural productivity has doubled over the past forty years (Niles et al., 2017; Von Braun, 2018). Food production reduction follows increased greenhouse gas emissions and ensuing climate change caused by mass food production practices (e.g., fertilizer use, expanded crop and livestock output) and deforestation (Niles et al., 2017). Food systems have been affected by meteorological events like heat waves, droughts, and flooding, which have resulted in deaths, disruptions to livelihoods, and decreased output due to low soil fertility, irregular rainfall patterns, and acid rain from excessive fertilizer use (Niles et al., 2017; Von Braun, 2018). Food instability and malnourishment in all its forms, environmental harm, water scarcity, and the appearance of novel diseases in humans, plants, and animals are all consequences of this vicious cycle (Tirado et al., 2010; Niles et al., 2017; Von Braun, 2018; Popkin et al., 2020). Initiatives should be

implemented to improve the food systems to be more climate-smart and nutrition-sensitive, from production to consumption (Bryan et al., 2019; UNSCN, 2020b). Food-based dietary recommendations that consider sustainability factors can support diets that are beneficial to both human and environmental health (UNSCN, 2020a; UN, 2021).

References

1. Bryan, E., Chase, C., & Schulte, M. (2019). Nutrition-Sensitive Irrigation and Water Management. Nutrition-Sensitive Irrigation and Water Management. World Bank, Washington, DC. https://doi.org/10.1596/32309
2. Demaio, A. R., & Branca, F. (2018, January 1). Decade of action on nutrition: Our window to act on the double burden of malnutrition. *BMJ Global Health*. BMJ Publishing Group. https://doi.org/10.1136/bmjgh-2017-000492
3. FAO, U. (2020). Toolkit for Value Chain Analysis and Market Development Integrating Climate Resilience and Gender Responsiveness - Integrating Agriculture in National Adaptation Plans (NAP-Ag) Programme. Bangkok. Retrieved from : https://doi.org/10.4060/cb0699en
4. Niles, M. T., Ahuja, R., Esquivel, J. M., Mango, N., Duncan, M., Heller, M., et al. (2017). Climate change and food systems: Assessing impacts and opportunities. Washington, DC: Meridian Institute.
5. Popkin, B. M., Corvalan, C., and Grummer-Strawn, L. M. (2020). Dynamics of the double burden of malnutrition and the changing nutrition reality. *Lancet*, 395, 65–74. doi: 10.1016/S0140-6736(19)32497-3
6. Tirado, M. C., Cohen, M. J., Aberman, N., Meerman, J., & Thompson, B. (2010). Addressing the challenges of climate change and biofuel production for food and nutrition security. *Food Research International*, *43*(7), 1729–1744. https://doi.org/10.1016/j.foodres.2010.03.010

7. Turner, C., Kalamatianou, S., Drewnowski, A., Kulkarni, B., Kinra, S., and Kadiyala, S. (2020). Food environment research in low-and middle income countries: a systematic scoping review. *Advances in Nutrition, 11* (2), 387–397.
8. Turner, C., Aggarwal, A., Walls, H., Herforth, A., Drewnowski, A., Coates, J., et al. (2018). Concepts and critical perspectives for food environment research: a global framework with implications for action in low-and middle-income countries. *Global Food Security,* 18, 93–101.
9. UNSCN (2019). Food Environments: Where People Meet the food System. UNSCN Nutrition. Retrieved from: https://www.unscn.org/en/resource-center/Unscn-news?idnews=1976
10. UNSCN (2020a). UNSCN Discussion Paper - Sustainable Diets for Healthy People and a Healthy Planet. Retrieved from: https://scalingupnutrition.org/news/sustainable-diets-healthy-people-and-healthy-planet
11. UNSCN (2020b). UNSCN, Water and Nutrition Discussion Paper. Retrieved from: https://www.unscn.org/en/topics/climate-change-and-nutrition?idnews=2029
12. UN (2021). UN Discussion Paper: Nutrition Aquatic Foods. Retrieved from: https://www.unnutrition.org/wp-content/uploads/FINAL-UN-Nutrition-Aquatic-foods-Paper_EN_.pdf
13. Von Braun, J. (2018). Economic and for political innovation nutritional improvement. *World Review of Nutrition and Dietetics*, 118, 1–9.
14. WHO (2017). United Nations Decade of Action on Nutrition 2016 - 2025: Work Programme. Retrieved from: https://www.un.org/nutrition/