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T20 POLICY BRIEF

Task Force 01

FIGHTING INEQUALITIES, POVERTY, AND HUNGER

Enhancing Maternal and Child Nutrition During Global Emergencies Amid Crisis: A Comprehensive Approach to Nurture Lives

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Abstract

Global crises, such as the COVID-19 pandemic, political unrest, and war, exacerbate resource constraints, leading to decreased revenue and a higher incidence of malnutrition. The State of Food Security and Nutrition in the World 2023 study underscores the alarming reality that global hunger is still far above pre-pandemic levels. It is estimated that between 690 and 783 million people in the world faced hunger in 2022. Policymakers must address these challenges by implementing a comprehensive strategic roadmap encompassing holistic food systems, promotion of good dietary behaviors, diverse, adequate, and affordable diets, health care delivery, social protection platforms, and effective health-related communication. They need to promote sustainable agriculture through cost-effective nutritious foods and improve food value chains through digital interventions.

Initiatives like the consumption of fortified foods, which aim to enhance global food security in low- and middle-income countries (LMICs), have been embraced by many governments. Consumption of fortified rice is cost-effective with positive outcomes such as reduced anemia, improved hemoglobin, ferritin, etc., and alleviated iron deficiency anemia (IDA). Research on consumption among school children and vulnerable Asian women showed a promising trend in combating micronutrient deficiencies.

In terms of achieving global health targets, maternal and child nutrition should be prioritized, particularly during the critical first 1,000 days of life. Policies should emphasize the dietary needs of children under the age of five as well as women during preconception, pregnancy, and postpartum periods.

Keywords: Food Security, Malnutrition, Food Fortification, Sustainable Food Systems, Micronutrient Deficiency Disorders (MNDs), South-South Collaboration, Policy Reforms

Global Food Security: An Introduction

Global food security has been significantly impacted due to the economic and social upheavals that followed the recent COVID-19 pandemic, conflict and unrest, and natural disasters. Tackling the substantial rise in global poverty is one of the world's pressing concerns today amidst rising political instability in many regions. These challenges compound existing concerns such as environmental degradation and food insecurity.¹

From September to December 2023, food price hikes drove inflation to double-digit figures in LMIC countries across global markets.² The repercussions of the crisis varied across regions³ with the most impact and political conflict in regions that were heavily reliant on food imports from Russia and/or Ukraine, notably in Sub-Saharan Africa and the Middle East and North Africa.⁴ The sharp escalation in prices of essential food items

¹ El Bilali, Hamid, and Tarek Ben Hassen. "Disrupted Harvests: How Ukraine – Russia War Influences Global Food Systems – a Systematic Review." *Policy Studies* 45, no. 3–4 (2024): 310–35. doi:10.1080/01442872.2024.2329587

² Rob Vos, Joseph Glauber, Soonho Kim, and Will Martin. "Despite improved global market conditions, high food price inflation persists." *IFTRI Blog*. (2023).
<https://www.ifpri.org/blog/despite-improved-global-market-conditions-high-food-price-inflation-persists>.

³ World Bank, Food security: update (LXXVI January 2023).Link:
<https://thedocs.worldbank.org/en/doc/40ebbf38f5a6b68bfc11e5273e1405d4-0090012022/related/Food-Security-Update-LXXVI-January-12-2023.pdf>

⁴ Wudil, AH, U Muhammad, J Rosak-Szyrocka, L Pilař, M Boye. Reversing years for global food security. *International Journal of Environmental Research and Public Health*

posed a threat, potentially pushing millions of people into poverty and famine.⁵ Underscoring the recommendations of the Global Hunger Index of 2023, there is an urgent need to re-evaluate policy norms and focus immediate attention on vulnerable groups who lack access to safe, nutritious, and culturally appropriate food.⁶ Conflict, disasters related to climate change, economic inequality, and inadequate access to health care and social services, including issues related to shifts in diet patterns, gender, and ethnicity, further exacerbate food insecurity and malnutrition. This dietary transition, often driven by globalization, urbanization, and aggressive food-marketing tactics, contributes significantly to the rise of diet-related noncommunicable diseases (NCDs). The dietary challenges require tackling the underlying social determinants of health, poverty, limited access to education, health care facilities, clean water, and sanitation. Multidimensional strategies based on a systems approach that encompasses environmental, social, and economic considerations with sustainable food systems need to be deployed to make progress towards healthier, more productive, and resilient societies.

19, 22 (2022): 14836; ESCWA. FAO. UNEP. WFP, 2022, Impacts of the war in Ukraine on the Arab Region. <https://www.unescwa.org/news/war->

⁵ Wudil, Abdulazeez Hudu, Muhammad Usman, Joanna Rosak-Szyrocka, Ladislav Pilař, and Mortala Boye. "Reversing Years for Global Food Security: A Review of the Food Security Situation in Sub-Saharan Africa (SSA)," *International Journal of Environmental Research and Public Health* 19, no. 22 (2022), 14836. <https://doi.org/10.3390/ijerph192214836>

⁶ Welthungerhilfe & Concern Worldwide. Global Hunger Index of 2023. <https://www.welthungerhilfe.org/hunger/global-hunger-index>

MNDs adversely affect economic development, significantly impacting anemia in women and children. Food fortification plays a vital role in improving nutritional outcomes, particularly with limited access to diverse and nutritious foods. Policy reforms are essential to accelerate the transition towards environmentally friendly behaviors, encouraging innovation, and ensuring equitable access to healthy food. To address this, the Food and Agriculture Organization (FAO) and the International Panel of Experts on Sustainable Food Systems (IPES-Food) advocate for agroecology, which emphasizes ecological principles in agri-production, crop diversity, pest management, and soil conservation. Agroecological practices can enhance soil health, biodiversity, and climate resilience while improving food quality and reducing reliance on synthetic fertilizers and pesticides.⁷

Collaboration among governments, international organizations, civil society, academia, and the private sector can shape market dynamics affecting food supply, accessibility, affordability, and nutritional value, a critical factor in creating more productive and inclusive communities.⁸

⁷ Allam, Zaheer, Simon Elias Bibri, and Samantha A. Sharpe. "The Rising Impacts of the COVID-19 Pandemic and the Russia–Ukraine War: Energy Transition, Climate Justice, Global Inequality, and Supply Chain Disruption," *Resources* 11, no. 11: (2022), 99. <https://doi.org/10.3390/resources11110099>

⁸ Manger, Mari S., Kenneth H. Brown, Saskia J. M. Osendarp, Reed A. Atkin, and Christine M. McDonald. "Barriers to and Enablers of the Inclusion of Micronutrient Biomarkers in National Surveys and Surveillance Systems in Low- and Middle-Income Countries" *Nutrients* 14, no. 10: (2022) 2009. <https://doi.org/10.3390/nu14102009>.

Recommendations

This policy brief provides specific recommendations to advance sustainable food systems through effective reforms by emphasizing the potential of South–South collaboration.

Recommendation 1# Ensure system strengthening approach for collaboration and policy formulation. The food system should play a central role in collaborating with education, social protection, health, safe drinking water, and sanitation. It should provide nutritious, safe, affordable, and sustainable diets for beneficiaries. Promoting optimal nutrition services and positive nutrition practices throughout the life cycle should be emphasized. Nutrition-responsive development can be achieved by implementing these measures. This will include working alongside market forces, with responsible investments, inclusive governance, transparency, and open dialogue fueled by consumer demand and trust. Creating windows of opportunity by updating and/or re-designing policies related to social protection, rural development, food security, and agriculture can help drive a cohesive policy agenda. Policy champions should be well-informed and connected so that they can advocate for issues, facilitate development, and forge strategic alliances. This will ensure that newly created policies and reforms are politically feasible and sustainable. Regional and global commitments should be leveraged to build coherence on the political and policy agenda.

Recommendation 2# Link food systems and adopt food fortification to enhance dietary nutrition: Food systems are linked to the nutritional well-being and health of individuals and populations through the nutrients and other bioactive components

contained in the foods they supply.⁹ Micronutrient fortification of staple foods, widely consumed by the population, is recognized as one of the most cost-effective and sustainable post-harvest complementary nutrition-specific intervention approaches to improve community health. Correcting iron deficiency through fortification enhances cognitive abilities and boosts the endurance and work capacity of adults, yielding an estimated benefit-to-cost ratio of 8:1 for overall fortification interventions (Figure 1).¹⁰

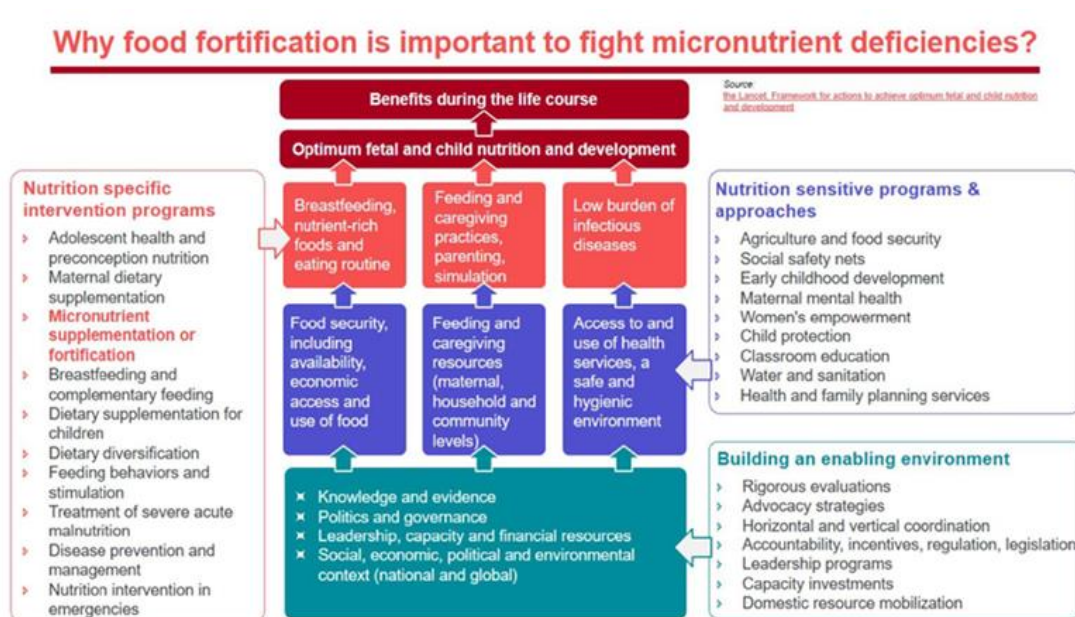


FIGURE 1. Why food fortification is important to fight micronutrient diseases.

⁹ By Dennis D. Miller, Ross M. Welch. "Food system strategies for preventing micronutrient malnutrition ."Food Policy. 42, (2013), 115.

<https://www.sciencedirect.com/science/article/abs/pii/S0306919213000742>

¹⁰ Executive Summary of The Lancet Maternal and Child Nutrition Series. The Lancet.

(n.a.) <https://www.thelancet.com/pb/assets/raw/Lancet/stories/series/nutrition-eng.pdf>

Signaling a crucial milestone in establishing and reinforcing large-scale food fortification (LSFF) programs, the World Health Organization (WHO) – World Health Assembly (WHA) passed a resolution on food fortification in May 2023.¹¹

The Copenhagen Consensus Center, in 2012, highlighted the effectiveness of micronutrient interventions and the immense benefits achievable at minimal costs.¹² Countries like India have embraced fortified rice as a preventive health strategy, integrating it into all government-funded food safety net programs. Design thinking can be utilized to draft policies that improve access and affordability of nutritious diets while contributing to reductions in GHG emissions. These policies would need to focus on reducing the cost of nutritious foods, adding nutritional value, and promoting the use of sustainable agricultural practices. This could be done through food production, food value chain optimization, food fortification, and the creation of healthy food environments. As we navigate food system transformation to deliver better nutrition to the most vulnerable in a climate-challenged world, unleashing the full potential of large-scale food fortification stands out as a swift and high-impact action. Hence, it is recommended that G20 countries introduce fortification programs in their respective countries and seamlessly integrate them into national nutrition policies and food laws. Collaborative efforts involving multi-stakeholders and government agencies are proven strategies in the implementation of fortification initiatives.

¹¹ World Health Organization. New WHA resolution to accelerate efforts on food micronutrient fortification. (2023).

https://apps.who.int/gb/ebwha/pdf_files/EB152/B152_CONF5-en.pdf.

¹² Copenhagen Consensus. Third Copenhagen Consensus: Hunger and Malnutrition Assessment, Hoddinott Rosegrant Torero. (2012). <https://copenhagenconsensus.com/>

Recommendation 3# Repurpose food waste to enhance nutrients. Addressing maternal and child nutrition demands innovative solutions as well as sustainable and practical strategies. One such example is that of repurposing eggshells, typically discarded, as they contain valuable calcium carbonate, vital for bone health in pregnant women and growing children. Cleaned and sterilized powdered eggshells can be added to various food products like bread, biscuits, or fortified beverages, which can then be distributed as part of emergency aid packages or community feeding programs.¹³ It is recommended that the G20 countries explore such food waste utilization mechanisms to enhance the nutritive value of diets with long-term sustainability built in. Such innovation and resourcefulness can be instrumental in nurturing lives during crises.

Recommendation 4# Foster South-South collaboration for achieving sustainable food systems. Cooperation between developing countries facilitates the sharing of knowledge, resources, and experiences, leading to mutual benefits and advancements in addressing common challenges related to food security, environmental conservation, and climate resilience. G20 countries can build adaptive capacity on food production and livelihoods by sharing best practices in climate-smart agricultural practices and natural resource conservation. By harnessing digital solutions, agroecological practices, and knowledge-sharing platforms, countries can enhance food and nutritional security, reduce food waste, ensure food safety, and minimize environmental degradation. Collaborations generate economic opportunities and promote inclusive growth by fostering trade and

¹³ Aditya Sanprit, S Jaspin, R Mahendran. Utilization of eggshell waste in calcium-fortified foods and other industrial applications: A review. *Trends in Food Science and Technology*, 115, (September 2021), 422. <https://doi.org/10.1016/j.tifs.2021.06.047>

investment partnerships, creating value chains. Supporting the local enterprises of smallholder farmers can boost rural livelihoods, create employment opportunities, and strengthen food systems' resilience to global shocks, thus supporting the United Nations Sustainable Development Goals (SDGs).

Recommendation 5 # Leverage private sector collaboration for streamlining manufacturing and supply chain networks. A resilient supply chain is essential for ensuring fortified and nutritious food products are accessible to those who are vulnerable, even during emergencies. Private sector resources can be leveraged to ensure the manufacturing, distribution, and supply of nutritious food products. They can leverage existing distribution and supply chain networks, marketing expertise, sales-driven knowledge, experienced personnel, high-quality standards, and advancements in quality while optimizing costs. Product reformulation by industry is a boost to the public and must be adequately utilized.

Recommendation 6# Utilizing real-time surveillance and monitoring data to assess nutrition status. During global emergencies, data plays a crucial role in effective response and intervention in maternal and child nutrition. Early warning systems, targeted interventions, and resource allocation are vital for monitoring and surveillance as well as impact evaluation. Real-time monitoring of mothers' and children's nutritional status, including food intake and food traceability, can aid in identifying and reaching vulnerable groups. Data can inform policymakers, governments, NGOs, and international organizations and help them identify risks, target interventions, and monitor progress toward improving nutrition outcomes. Based on the data, efficient food aids, supplementation, and health programs can be tailored as per demography.

Recommendations 7# Advocacy and awareness generation. Advocacy plays a crucial role in advancing nutritional well-being by raising awareness. Communicating both the immediate and long-term health consequences of poor nutrition, such as stunted growth, susceptibility to illnesses, and compromised cognitive development, compels stakeholders to take proactive measures. Advocacy and outreach can lead to targeted policies, funding allocations, and tailored initiatives for the most vulnerable groups. Raising awareness promotes the adoption of preventive strategies, collaborative partnerships, evidence-based decision-making, and community engagement.

Outcomes and Conclusion

Food systems, public health, the environment, and social equity are all interlinked. To promote sustainable and wholesome diet practices requires acknowledging the interconnected challenges and creating a holistic strategy to effectively address them.

This holistic strategy recognizes that no single solution can effectively address these complex issues in isolation and emphasizes the imperative for collaborative efforts across multiple sectors. If embraced by decision-makers within the G20, the recommended actions have the potential to lead to significant outcomes, including:

- **Enhanced policy landscape for equitable and accessible food systems:** By integrating core values such as accountability, transparency, and gender equity into decision-making processes, policymakers can advance the consumption of healthy and safe diets, thereby enhancing nutrition outcomes for vulnerable populations, including mothers and children. Besides, embracing policies that support food fortification, agroecology, biodiversity conservation, and sustainable land use can bolster the resilience of food systems, contributing to improved environmental outcomes and long-term sustainability. Furthermore, initiatives promoting inclusive and equitable actions, such as community-supported agriculture (CSA), food banks, and nutrition education programs, can enhance food security and dietary diversity, particularly among marginalized and excluded populations. Attempts should be made to negotiate with coalitions of industries and reach common ground so that equitable access and sustainability can be achieved in a supportive regulatory environment.
- **Strengthened collaboration with a supportive environment and resource sharing:** South–South collaboration emerges as a pivotal aspect contributing to

positive outcomes in achieving sustainable food systems. Despite the potential benefits of South-South collaboration, challenges such as resource constraints, capacity gaps, institutional barriers, and geopolitical considerations need to be addressed. By leveraging collective strengths, sharing experiences, and collaborating across borders, countries can accelerate progress toward a more resilient, equitable, and sustainable future for all.

- **Improved real-time data surveillance and monitoring system:** Data-driven approaches are critical to improving maternal and child nutritional needs amid global emergencies. They can effectively be utilized to develop targeted interventions for marginalized communities and vulnerable areas, resulting in more meaningful and inclusive decision-making. This would enhance greater community resilience and better health outcomes, particularly for underserved communities. Additionally, governments can leverage the data to identify risks, develop focused interventions, and track progress toward improving nutritional outcomes for vulnerable groups. However, investing in digital infrastructure may aggravate disparities in technology access, particularly among impoverished populations. Concerns about data privacy and security and expenses of maintenance must be addressed, or they risk undermining public trust and engagement.

In conclusion, by implementing these recommendations, G20 countries can play a pivotal role in effectively addressing nutrition-related challenges, especially for communities in crisis situations. Addressing emerging diet-related health concerns, environmental sustainability, and social protection can yield positive outcomes amidst the challenges posed by a changing climate and biodiversity crisis.

References

- Aditya Sanprit, S Jaspin, R Mahendran. Utilization of eggshell waste in calcium-fortified foods and other industrial applications: A review. *Trends in Food Science and Technology*, 115, (September 2021), 422-432. <https://doi.org/10.1016/j.tifs.2021.06.047>
- Allam, Zaheer, Simon Elias Bibri, and Samantha A. Sharpe. "The Rising Impacts of the COVID-19 Pandemic and the Russia–Ukraine War: Energy Transition, Climate Justice, Global Inequality, and Supply Chain Disruption," *Resources* 11, no. 11: 99. (2022)<https://doi.org/10.3390/resources11110099>
- Copenhagen Consensus. Third Copenhagen Consensus: Hunger and Malnutrition Assessment, Hoddinott Rosegrant Torero. (2012). <https://copenhagenconsensus.com/>
- Dennis D. Miller, Ross M. Welch. "Food system strategies for preventing micronutrient malnutrition ." *Food Policy*. 42, (2013) 115. <https://www.sciencedirect.com/science/article/abs/pii/S0306919213000742>
- El Bilali, Hamid, and Tarek Ben Hassen. "Disrupted Harvests: How Ukraine – Russia War Influences Global Food Systems – a Systematic Review." *Policy Studies* 45, no. 3–4 (2024): 310–35. doi:10.1080/01442872.2024.2329587.
- Executive Summary of The Lancet Maternal and Child Nutrition Series. *The Lancet*. (n.a) <https://www.thelancet.com/pb/assets/raw/Lancet/stories/series/nutrition-eng.pdf>
- FAO. 2016. Strengthening coherence between agriculture and social protection to combat poverty and hunger in Africa: Framework for Analysis and Action. <https://openknowledge.fao.org/server/api/core/bitstreams/05153619-7344-4d57-8832-cd52de365442/content>
- Manger, Mari S., Kenneth H. Brown, Saskia J. M. Osendarp, Reed A. Atkin, and Christine M. McDonald. 2022. "Barriers to and Enablers of the Inclusion of Micronutrient Biomarkers in National Surveys and Surveillance Systems in Low- and Middle-Income Countries" *Nutrients* 14, no. 10: (2009). <https://doi.org/10.3390/nu14102009>.
- Rob Vos, Joseph Glauber, Soonho Kim, and Will Martin. "Despite improved global market conditions, high food price inflation persists ." *IFTRI Blog*. (2023).

<https://www.ifpri.org/blog/despite-improved-global-market-conditions-high-food-price-inflation-persists>

Welthungerhilfe & Concern Worldwide. Global Hunger Index of 2023.

<https://www.welthungerhilfe.org/hunger/global-hunger-index>

World Bank, Food security: update (LXXVI January 2023).Link:

<https://thedocs.worldbank.org/en/doc/40ebbf38f5a6b68bfc11e5273e1405d4-0090012022/related/Food-Security-Update-LXXVI-January-12-2023.pdf>

World Health Organization. New WHA resolution to accelerate efforts on food micronutrient fortification. (2023). https://apps.who.int/gb/ebwha/pdf_files/EB152/B152_CONF5-en.pdf.

Wudil, Abdulazeez Hudu, Muhammad Usman, Joanna Rosak-Szyrocka, Ladislav Pilař, and Mortala Boye. "Reversing Years for Global Food Security: A Review of the Food Security Situation in Sub-Saharan Africa (SSA)," *International Journal of Environmental Research and Public Health* 19, no. 22 (2022) 14836. <https://doi.org/10.3390/ijerph192214836>

Wudil, AH, U Muhammad, J Rosak-Szyrocka, L Pilař, M Boye. Reversing years for global food security. *International Journal of Environmental Research and Public Health* 19, 22 (2022): 14836; ESCWA. FAO. UNEP. WFP, 2022, Impacts of the war in Ukraine on the Arab Region. <https://www.unescwa.org/news/war->



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