

From crisis to action: a new shared vision for the future food system

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We need to reimagine and reshape global food systems, writes Tafadzwanashe Mabhaudhi

The United Nations' Sustainable Development Goal 2 aims to achieve global food security by eliminating world hunger, improving nutrition, and adopting sustainable agricultural practices.¹ This goal is necessary because the global food system is currently in crisis, with over 673 million people globally experiencing hunger, predominantly in Africa and Asia, as of 2024.² These high levels of hunger have led to a global focus on producing food to fill people's stomachs with calorie dense foods that are not necessarily the most nutritious, while contributing to health (physical and mental) concerns. The situation is worsened by climate change, conflict, economic shocks, and increasing food prices.¹ Climate induced weather extremes, such as droughts, floods, and heatwaves, are increasing and have been devastating crop yields. Meanwhile, conflicts, including the war in Ukraine, are affecting agricultural output and exports.¹ Vulnerable populations in the global South, including smallholders, are experiencing reduced food availability and accessibility, declining nutritional quality of food, a rise in food and waterborne diseases, and increasing poverty and inequality.^{3,4,5} Without action, an additional 183 million people are projected to be at risk of hunger by 2050 owing to the climate crisis, which is worsening the multiple stressors on food systems.^{6,7}

A bidirectional link exists between food systems and climate change: climate change negatively impacts food systems, while food systems are among the most prominent contributors to greenhouse gas emissions. The global food system accounts for more than a quarter of global greenhouse gas emissions. This is largely owing to deforestation and land use change, biodiversity loss, rapid livestock production, and extensive use of fertilisers and other agrochemicals, which also contribute to freshwater pollution.⁸ Despite growing concern for the unsustainability of the global food system, existing governance, policy, and institutional blind spots continue to systematically shape our unsustainable food systems. These blind spots include institutional silos and a lack of coordination between departments governing the food system, as well as insufficient budgets and policy fragmentation. These tend to amplify ecosystem degradation and biodiversity decline, as well as the food system crisis, reinforcing food, nutrition, and livelihood insecurity—as well as social inequalities. Seven of nine planetary boundaries,⁹ which define the safe operating space for people and planet by establishing thresholds for human impact on environmental processes such as climate change, freshwater, and biosphere integrity,⁹ have now been transgressed. Breaching these thresholds increases the likelihood of irreversible environmental change. There is an urgency to act, but this also presents an opportunity to reimagine and reshape food systems in line with a shared vision for the future.

A new shared vision for the future food system

There is consensus that the current food system is unsustainable and has not delivered on nutrition, health and environmental outcomes for everyone, everywhere. We must envisage a new shared vision for a future food system that embeds equity, integrity and environmental, nutrition and health (including mental health) outcomes. This includes leveraging accountability and taking continuous, inclusive, stakeholder driven, and progressive action towards equitable, inclusive, sustainable, resilient, and healthy outcomes—“making food systems work for people and planet.”¹⁰ In doing so, it is also important to amplify the role of women (who produce about 60% to 80% of food in developing countries),¹¹ indigenous communities, and other historically marginalised groups. A future food system should reflect and celebrate the diversity of people, cultures, food traditions, and nature, serving as a foundation for regenerative practices, sustainable natural resource use, positive climate action, and planetary health outcomes. This requires systems leadership to recognise the complex interconnections within the food system and interlinked systems such as water, energy, environment, and health, as well as manage trade-offs and build synergies.

Leverage points for food systems transformation: game changers for people and planet

Climate and food systems crises are interconnected; therefore, transformative and integrated frameworks, approaches, and leverage points towards the changes are needed. Leverage points exist at the intersection of dismantling systemic barriers and connecting science and policy with local indigenous systems to enable transformation towards equitable, inclusive, and integrated approaches for resilient food systems under climate change. Most of these leverage points are well known and have been included in several global strategies. However, what has been lacking is systems leadership for food systems transformation. The proposed strategies described below should be addressed from local to global levels, with an emphasis on local solutions.

Sustainable production

A shift towards sustainable agricultural practices and nature based solutions, such as agroecology, that reduce environmental impacts such as greenhouse gas emissions, chemical inputs, and biodiversity loss, is necessary.¹²

Responsible consumption

Consumption patterns that balance nutrition, physical health, mental health, and environmental sustainability should be promoted. This includes promoting healthy and nutritious diets while reducing food loss and waste along the supply chain.¹³ This can be achieved by mainstreaming foods and meals made from or with locally adapted and nutrient dense neglected and underutilised crops as healthy and sustainable options for dietary diversification.¹⁴ Additionally, integrating food sustainability, nutrition, and climate education into school curriculums, public communications, and health professional training can help build food system literacy.

Inclusive and equitable livelihoods

Food sovereignty and equitable livelihoods for farmers, food producers, labourers, and consumers, especially marginalised groups, can be achieved by strengthening local food

systems through greater production of neglected and underutilised crops.¹⁵ There needs to be improved access to productive assets such as land, water, renewable energy, and credit, along with education, training, and social protection for vulnerable populations—especially women, who have historically faced challenges in accessing these resources.¹⁶ Lastly, social and economic policies that reduce poverty and promote decent and gender sensitive employment opportunities within the food system need to be adopted.^{17,18,19}

Governance and policy integration

Food systems governance with multistakeholder engagement that addresses power imbalances needs to be strengthened. This includes developing gender transformative policies that ensure women’s empowerment, equal rights to resources, and fair pay.¹⁵ It should also incorporate systemic perspectives across all levels of government and across scales.²⁰ Subsidies need to be repurposed, and there need to be financial incentives to support sustainable practices such as agroecology rather than environmentally harmful inputs.²¹

Intersectionality of climate, nutrition, and health focus

Food sovereignty can serve as a framework to enhance access to resilient, affordable, safe, diverse, and healthy diets, thereby addressing food insecurity and malnutrition in all their forms. This is achieved by intensifying agroecosystems and making food systems sustainable, diverse, fair, inclusive, and regulated to achieve health outcomes within planetary boundaries.²²

Economic and social resilience

It is necessary to scale up social safety nets and support mechanisms to ensure access to affordable and healthy food, particularly for the poorest and most vulnerable populations, amid shocks such as pandemics or conflicts. There is also a need to foster digital infrastructure, innovation, and development targeted at improving the feasibility and effectiveness of safety nets²³; and advocate for better health and safety regulations for farm labourers, thereby promoting sustainable livelihoods, and resilience of food systems actors. For example, city and local governments could encourage “buy local” initiatives, encouraging all organisations within their spheres of influence to source locally produced foods. They could also promote urban vegetable and fruit growing to help children and adults better appreciate the process of food production, thereby reducing food waste.

Capacity building and strengthening

Complex problems require multisectoral collaborations, and we need a new generation of pracademics (academics with strong practical understanding and real world knowledge, skills, and experience) trained in equitable, transdisciplinary approaches.²⁴ New interdisciplinary and transdisciplinary undergraduate and postgraduate programmes that address planetary health are needed. It is also necessary to fund research, development, and innovation for sustainable and healthy food alternatives,²⁵ such as neglected and underutilised crops, and to enhance the food environment to enable responsible and healthy food choices to be easy and attractive. Health professionals could champion a behavioural change movement, promoting changed lifestyles and the health (physical and mental) benefits of a more sustainable and diverse diet.

Call to action: a planetary health approach to transforming food systems

The intersectionality of climate change, food systems, nutrition, and health highlights how climate change disrupts food systems, while unsustainable food systems contribute to climate and environmental change, impacting nutrition and public health, which disproportionately affects vulnerable populations. Addressing this complex nexus requires bold and ambitious thinking, as well as transdisciplinary collaboration grounded in planetary health, which integrates environmental sustainability, public health, and social equity. Bold actions are needed to empower local food producers to produce more food sustainably, support indigenous communities in restoring lost food traditions, and mainstream underutilised crops into the food system. Ambitious thinking is needed to develop new policies and strategies that align the food system with improved human and environmental health outcomes, and promote inclusion and equity for vulnerable groups. The opportunity before us is to integrate humanity's collective wisdom and our shared history, embracing our cultural and natural diversity, to create a shared vision of a future food system that works for both people and the planet.

Footnotes

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