Equitable livelihoods must underpin food systems transformation

The Sustainable Development Goals cannot be achieved without a transformation towards equitable livelihoods. Governments and businesses have an onus to protect and improve the livelihoods of people living in vulnerable situations by creating innovative institutions, policies and investments.

Jikun Huang, Lynnette M. Neufeld, Ousmane Badiane, Patrick Caron and Lisa S. Forsse

The United Nations Food Systems Summit (UNFSS) and ongoing activities seek to accelerate and enhance food systems transformation to favour human and planetary health. Such a transformation must be achieved with equitable livelihoods for several billion people who rely or depend on food systems for their livelihoods. This is a founding principle of sustainability and in line with "leaving nobody behind" of the UN 2030 Sustainability Development Goals (SDGs). Inequitable livelihoods in food systems could be defined as inequitable access to the productive natural resources, technology and innovation, infrastructure, economic opportunities, education and public goods, financial service, healthy food, social protection, and other livelihood opportunities for all people along food systems, especially smallholders, wage earners, women, youth, elderly, disabled, minority and Indigenous peoples[1] (referred to here as people in situations of vulnerability). To enable this, drivers of inequality as they relate to livelihoods in food systems should be appraised so that corresponding actions for equitable livelihoods can be taken by governments, businesses, communities and civil society, including producers, workers and consumers. To explore the major factors affecting livelihoods, we use the drivers of food systems identified by the High-Level Panel of Experts (HLPE) of the UN Committee on World Food Security, specifically biophysical and environmental, technology and infrastructure, economic and political, and social and demographic drivers[2].

Biophysical and environmental drivers

People in situations of vulnerability often lack access to, but are also more dependent on, natural resources for subsistence, food security and nutrition, and income[3]. Unequal opportunity and access to productive natural resources including land, water, forests and fisheries is a key driver of inequitable outcomes; it affects production, employment, resilience, income and consumption[3]. For example, the landless tend to be the poorest group in rural areas, usually engaged in wage employment with low salaries in agriculture and other food sectors[4]. The number of people whose livelihoods depend on unproductive or degraded lands has been estimated to be about 1.5 billion worldwide[5]. People in situations of vulnerability have already been disproportionately affected by climate change, a situation likely to be more serious in the future[6]. Constrained opportunities relating to natural resources impacting equitability of livelihoods in food systems are well documented[7], yet the political commitment and resources to change the current situation is lacking in most countries. For example, although the reforms to reallocate land to poor and landless rural households was initiated in the 1970s in India, the lack of political commitment had even resulted in the increase of landless farmers from 33% in the 1970s to more than 40% after 2000 (ref. [8]).

Technology, innovation and infrastructure drivers

Technologies and innovations in breeding methods, chemical inputs, mechanization, irrigation, food processing, logistics and marketing have already changed the way food is produced, stored, distributed and consumed. Such technology, innovation and infrastructure will be a critical part of future food systems transformation. These advances, however, have disproportionately favoured food systems in high-income countries and the food environments of the economically wealthy sub-groups in low- and middle-income countries (LMIC). For example, the Green Revolution bypassed Africa and benefited larger farms more than smallholders in Asia[9]. Digital dividends have been emerging between high-income countries and LMIC and among people within a region[10]. Existing evidence highlights the importance of technology access patterns, arrangements, governance and control to enable (or impede) inclusive development[11]. As roads, railroads, shipping and cold chain facilities play an essential role in moving food to areas of shortages and in stabilizing food prices, poorly developed infrastructure affects the quality and safety of nutritious foods. It limits access to nutritious foods and exacerbates issues of food loss and waste[12]. It also affects employment opportunities along food value chains for people in situations of vulnerability. Investment in infrastructure has been insufficient, particularly in LMIC. For example, the total infrastructure investment needs between 2016 and 2040 is estimated to be US$2.0 trillion for ten of the G20's 'Compact with Africa' countries, which is equivalent to 6.8% of total projected gross domestic product (GDP) for these 10 countries over that period[13]. For an inclusive and sustainable future in the 36 least-developed countries in the Asia-Pacific region, an amount equivalent to 10.5% of their GDP every year is needed to close the infrastructure deficit. This far exceeds current levels of infrastructure funding in these economies, which ranges from 4 to 7.5% GDP[14].

Economic and political drivers

Important inequities exist in access to employment, education, public goods, financial services, economic opportunities, healthy food and even social protection, in particular for people working in food systems. Although food sector expansion and trade liberalization may generate employment and economic opportunities and helps smooth domestic food prices, people living in situations of vulnerability have unequal access to the benefits from trade and are more exposed to trade shocks when they occur[15]. For example, while the positive impacts of agricultural trade liberalization are greater than the negative ones in China, poorer households in the

western parts of China are hurt because they produce commodities that would require positive rates of protection; the latter falls with trade liberalization[16]. In addition, the progressive concentration in recent decades has also reshaped agrifood supply chains in ways that enhance the power and influence of large corporations within food systems, with negative consequences for food security[17]. Conflicts and food crises often disproportionality affect those engaged in the food system. Economic and political instability also exacerbates existing inequitable access to innovations, technology and infrastructure[17]. People living in situations of vulnerability are disproportionately affected by all of these, as shown by the three UN Rome-based agencies in their latest reports, which point out conflicts as the main reason for an increasing number of persons suffering from hunger in recent years. The conflict in Ukraine is providing additional evidence in this regard. All of the above inequalities call for considerable efforts to enable more inclusive and equitable transformation of food systems. Political and administrative structures have an important role to play as they very often preclude smallholders and small businesses from fully engaging in markets or accessing services. Regulatory systems, including food safety and product standards, may in particular marginalize or disempower smallholders[18].

Socio-cultural and demographic drivers

Several socio-cultural drivers (for example, social injustice, systemic discrimination, language and cultural barriers) underpin inequalities within food systems and constrain the potential for some to benefit from actions to improve livelihoods[19]. Evidence suggests that, in addition to education, women face many additional barriers in starting and running businesses as compared with their male counterparts due to lack of mobility, access to finance and access to business networks and mentors; limited leadership experience; lower literacy and numeracy; and discriminatory gender norms and stereotypes among other factors[1,3,20]. Socio-cultural drivers also influence the dynamics of other drivers, including economic and political, demographic, and innovation/technology, among others. As a result, several groups, particularly women and youth as well as smallholder farmers and Indigenous peoples, often face real barriers with respect to land rights, access to employment and financial services, among others. Such barriers may also limit women's access to several types of social protection programme, including public works and agricultural input and support. Despite the broad international consensus about the important role Indigenous women play in eradicating hunger and malnutrition, there are still limitations in the recognition and exercise of their rights[21,22]. Many people who depend on food systems for their livelihoods rely on informal sectors, particularly those living in vulnerable situations. This constrains their access to financial services[23]. It is also well documented that they have less access to and lower coverage of social protection (for example, social assistance, insurance and inclusion)[24].

A rights-based way forward

Most SDGs cannot be achieved if food systems are not transformed in an inclusive manner for all people, particularly those living in situations of vulnerability. Given the substantial inequity and the multi-dimensionality of its drivers in food systems, achieving equitable livelihoods requires the development of game-changing and systemic solutions. These solutions should be rights-based, ensuring that the right to food and other human rights are upheld for all. Only a "radically transformed food system would ensure equity and agency for these food system actors", as highlighted by the HLPE[2]. Achieving this transformation will require breaking down current institutional, policy and investment silos. In September 2021, the UN Secretary-General Antonio Guterres declared that "advance equitable livelihoods, decent work and empowered communities" is one of five action areas to help inform the transitions needed to realize the vision of the 2030 Agenda[25]. In Report 4 of the Member State Dialogue Synthesis issued in March 2022, 102 of the 111 national pathway documents refer to priority themes that are linked to this action area[26].

With less than a decade to the 2030 SDG commitments, we propose that three areas need concerted commitment and action to achieve equitable livelihoods as part of food systems transformation and as a pathway towards sustainability:

(1) Alter institutions and power structures to ensure people in food systems have equitable access to productive natural resources, technology and innovation, infrastructure, public goods, employment, financial services, markets, healthy food, and social protection. While Report 4 does show that many member countries are planning to create more equitable livelihoods in food systems, actual actions have lagged[26].
(2) Repurpose when needed and increase when feasible government and private investments in land and water, technology, infrastructure, education, training, social protection, and finance, ensuring that they primarily benefit the most vulnerable through their effective deployment. There is currently a call for this repurposing on fiscal investments to favour human and planet under the UN, G7 and G20.
(3) Realize the paradigm shift, transform agency and initiate support policies and targeted programmes to improve the livelihoods of those living in situations of vulnerability through skill and capacity building so that they can realize the potential of improved institutional and investment actions for inclusive food systems transformation. The policy recommendations expressed and validated through the UNFSS now have to be translated into actionable policies and programmes.

Unpinning the intense economic expansion of the twentieth century is the assumption that growth itself can drive equitable income distribution and decent livelihoods for all. Evidence clearly illustrates that this has not been the case, and growing inequity is a major constraint to sustainable development. Changing this trajectory requires a paradigm shift at global, regional and national levels, reaching all levels and drivers of food systems. The many dialogues and action areas of the UNFSS provide the impetus and some concrete pathways to advancing this shift, but diligent attention to progress and holding all stakeholders to account for commitments is urgently needed. ❐

Jikun Huang[1]✉, Lynnette M. Neufeld[2], Ousmane Badiane[3], Patrick Caron[4] and Lisa S. Forsse[5]

[1]China Center for Agricultural Policy, Peking University, Beijing, China. [2]Global Alliance for Improved Nutrition, Geneva, Switzerland. [3]AKADEMIYA2063, Kigali, Rwanda. [4]University of Montpellier, Montpellier, France. [5]Royal Swedish Academy of Agriculture and Forestry, Stockholm, Sweden.

✉*e-mail: jkhuang.ccap@pku.edu.cn*

Published online: 06 June 2022

https://doi.org/10.1038/s43016-022-00529-4

References

1. Neufeld, L., Huang, J., Badiane, O., Caron, P. & Forsse, L. S. *Advance Equitable Livelihoods: A Paper on Action Track 4* (Center for Development Research (ZEF), in cooperation with the Scientific Group for the UN Food System Summit, 2021); https://doi.org/10.48565/scfss2021-tw37
2. *Food Security and Nutrition: Building a Global Narrative Towards 2030* (HLPE, 2020).
3. Cotula, L. (ed.) *The Right to Food and Access to Natural Resources: Using Human Rights Arguments and Mechanisms to Improve Resource Access for the Rural Poor* (FAO, 2008).

4. *Measuring Rural Poverty with a Multidimensional Approach: The Rural Multidimensional Poverty Index* FAO Statistical Development Series No. 19 (FAO & OPHI, 2022).
5. IPCC *A Special Report on Climate Change and Land* (eds Shukla, P. R. et al.) (in the press, 2019); https://www.ipcc.ch/srccl/
6. Wheeler, T. & von Braun, J. *Science* **341**, 508–513 (2013).
7. Scholze, M., Knorr, W., Arnell, N. W. & Prentice, I. C. *Proc. Natl Acad. Sci. USA* **103**, 13116–13120 (2006).
8. Rawal, V. *Econ. Polit. Wkly* **43**, 43–48 (2008).
9. Pingali, P. L. *Proc. Natl Acad. Sci. USA* **109**, 12302–12308 (2012).
10. *World Development Report 2016: Digital Dividends* (World Bank, 2016).
11. *Agroecological and Other Innovative Approaches for Sustainable Agriculture and Food Systems that Enhance Food Security and Nutrition* (HLPE, 2019).
12. *Food Losses and Waste in the Context of Sustainable Food Systems* (HLPE, 2014).
13. *Global Infrastructure Outlook—Infrastructure Investment Needs: 50 Countries, 7 Sectors to 2040* (Global Infrastructure Hub, 2017).
14. *Asia-Pacific Countries with Special Needs Development Report 2017: Investing in Infrastructure for an Inclusive and Sustainable Future* (ESCAP, 2017).
15. Feenstra, R. C. & Hanson, G. H. in *Handbook of International Trade* (eds Choi, E. K. & Harrigan, J.) 146–185 (John Wiley & Sons, 2008).
16. Huang, J., Yang, J., Xu, Z., Rozelle, S. & Li, N. *China Econ. Rev.* **18**, 244–265 (2007).
17. Béné, C. *World Dev.* **154**, 105881 (2022).
18. Ponte, S. & Cheyns, E. *Glob. Netw.* **13**, 459–477 (2013).
19. *The Future of Food and Agriculture: Trends and Challenges* (FAO, 2017).
20. Nordhagen, S. & Condes, S. *Supporting Gender-Equitable Food Systems Through Access to Finance for Small- and Medium-Sized Companies* (GAIN, 2020).
21. *Social Protection for Food Security* (HLPE, 2012).
22. Stephens, C., Nettleton, C., Porter, J., Willis, R. & Clark, S. *Lancet* **366**, 10–13 (2005).
23. Nordhagen, S., Condés, S. & Garrett, G. S. *Blended Finance: A Promising Approach to Unleash Private Investments in Nutritious Food Value Chains in Frontier Markets* (GAIN, 2019).
24. *Social Protection for Food Security* (HLPE, 2012).
25. Guterres, A. *The Secretary-General's Chair Summary and Statement of Action on the UN Food Systems Summit* (UN, 2021).
26. *Member State Dialogues Synthesis Report 4* (UNFSS, 2022).

Competing interests

The authors declare no competing interests.

Additional information

Peer review information *Nature Food* thanks Philippa Cohen and the other, anonymous, reviewer(s) for their contribution to the peer review of this work.