

# *A call to action for transformation towards nutritious food systems*

Article

Accepted Version

Wineman, A., Zanello, G. ORCID: <https://orcid.org/0000-0002-0477-1385>, Degefaw, D. M., Samuel, F., Yates, J. and Shankar, B. (2024) A call to action for transformation towards nutritious food systems. *Nature Food*, 5. pp. 2-3. ISSN 2662-1355 doi: <https://doi.org/10.1038/s43016-023-00896-6>  
Available at <https://centaur.reading.ac.uk/113958/>

It is advisable to refer to the publisher's version if you intend to cite from the work. See [Guidance on citing](#).

To link to this article DOI: <http://dx.doi.org/10.1038/s43016-023-00896-6>

Publisher: Nature

All outputs in CentAUR are protected by Intellectual Property Rights law, including copyright law. Copyright and IPR is retained by the creators or other copyright holders. Terms and conditions for use of this material are defined in the [End User Agreement](#).

[www.reading.ac.uk/centaur](http://www.reading.ac.uk/centaur)

**CentAUR**

Central Archive at the University of Reading

Reading's research outputs online



# 1 **A Call to Action for Transformation Towards Nutritious Food Systems**

2  
3 *Ayala Wineman, Giacomo Zanello<sup>†</sup>, Desalegne M. Degefaw, Folake Samuel, Joe Yates,*  
4 *Bhavani Shankar on behalf of the Nutritious Food Systems Consortium\**

5  
6 <sup>†</sup>Corresponding author: g.zanello@reading.ac.uk.  
7  
8

9 Food systems are a powerful lever to improve nutrition and global health; however, they are not  
10 delivering on this potential.

11 The U.K. Foreign, Commonwealth & Development Office (FCDO) and the Bill & Melinda Gates  
12 Foundation (BMGF) have partnered over the past decade to support a broad-based portfolio of  
13 research and programs oriented toward food systems transformation. In March 2023, FCDO and  
14 BMGF convened 170 grantees to take stock of the state of research on Nutritious Food Systems  
15 (NFS) and to forge consensus on the next steps needed to inform practice, policy, and future  
16 strategies. Participants from across the globe, around half from sub-Saharan Africa and South  
17 Asia, came together from research/academia; non-governmental implementing organisations;  
18 the private sector; and funding agencies. A follow-up consultation took place at the 2023  
19 Agriculture, Nutrition and Health Academy Week in Lilongwe, Malawi to incorporate broader  
20 NFS community views. This commentary outlines key themes identified in these dialogues,  
21 including a vision for transformation and critical elements for achieving such change (Figure 1).

22 This call to action envisions NFS where everyone enjoys an adequate, healthy diet with  
23 nutritious foods that are widely available, affordable, safe and demanded, and the food system is  
24 resilient to economic and environmental volatility and does not contribute to environmental  
25 pressure and climate change.

26 Numerous areas for intervention and pathways to NFS have been articulated in published  
27 articles and reports<sup>1,2</sup>. The convening and consultation surfaced nine priority areas in particular  
28 need of greater attention.

29 *Improved data availability and access* are crucial for progress towards NFS. Priorities in this area  
30 include investments in systematic and wide-ranging food systems data collection, free and  
31 prompt access to data, improved citizen participation and monitoring of data ethics, and  
32 innovation in data and analysis tools.

33 *Industry and retail food markets* play a critical role in delivering nutritious food to all. Priorities  
34 in this area include disincentivizing production and restricting marketing of unhealthy foods,  
35 promoting healthy alternatives, and curtailing negative political and economic influence of the  
36 food industry<sup>3</sup>.

37 *Market infrastructure and governance* also need attention to address issues such as inaccessible  
38 markets, inefficient and inequitable food distribution, market concentration, food loss, and  
39 unsafe diets. Priorities include studying, designing and investing in improved market  
40 infrastructure and governance in the formal and informal sector.

41 *Trade policies* are likewise instrumental for achieving NFS. Governments should enhance trade  
42 for healthy diets through tariff reductions on nutritious food imports, support for local food  
43 production, and establishment of regulatory frameworks that limit speculation and prioritise  
44 nutritional quality and the right to food.

45 Making nutritious food available and affordable is necessary but not sufficient, as consumption  
46 is also constrained by inadequate knowledge and low demand driven by preferences,  
47 convenience and culture. More research, investment and action are required in innovative  
48 *demand creation and behaviour change* strategies.

49 *Food safety and hygiene* prevent contamination and foodborne illnesses and increase consumer  
50 confidence. Areas for renewed focus include improved surveillance systems to monitor current  
51 and emerging diseases, food safety technological and behavioural innovations, promotion and  
52 enforcement of safety standards, and bolstering of public awareness.

53 *Reducing food loss and waste* improves availability and affordability of nutrient-dense foods,  
54 increasing farmers' incomes while reducing environmental pressures. There is a need for  
55 innovation in storage and transport, and promotion of best practices to mitigate loss and waste.

56 *Micronutrient interventions* can alleviate acute deficiencies or maintain micronutrient  
57 sufficiency in low-income communities. It is necessary to design and deliver context-specific  
58 micronutrient interventions through shifts in the agricultural landscape, diet diversification,  
59 food fortification, and supplementation.

60 *NFS resilience to climate change* and other shocks is essential as food systems contribute to, and  
61 are also profoundly influenced by, climate change, environmental pressure, loss of biodiversity,  
62 and shocks from economic and conflict sources. Priorities include developing metrics to monitor  
63 environmental impacts and other disruptions of food systems, innovating mitigation and  
64 adaptation actions, supporting agroecological transitions and ensuring NFS are at the heart of  
65 climate change and crisis-related frameworks.

66 The priorities identified above cannot be pursued in isolation but require a transformational yet  
67 principled approach to shape food systems that live up to their potential. Central to  
68 transformational NFS change is fostering *equal partnerships built on co-creation*, ensuring all  
69 partners are valued and actively involved in defining engagement processes<sup>4</sup>. *Equity* must  
70 underpin the transformation process, with fair distribution of representation, opportunities,  
71 and resources. To be effective, NFS actions must address and confront power imbalances<sup>5</sup>.

72 It is crucial that NFS policies and interventions are grounded on a *robust evidence base involving*  
73 *both formative and evaluative research*. Transparency about the evidence needed and possessed  
74 by policy makers and industry is key, with donor support for data sharing and evidence  
75 translation. *Technical assistance and capacity exchange* must be demand-driven and context-  
76 specific, promoting local buy-in and ownership.

77 *Systems thinking* is required for systemic change, enabling a holistic understanding of cross-  
78 cutting interactions and relationships within and between systems. Finally, to *sustain impact*  
79 *with scaling-up*, governments and donors must resource medium- and long-term programmes  
80 proven effective, and piloting and scaling should be built into program design.

81 The members of the NFS Consortium commit to pursuing and supporting these priorities and  
82 building movements to bring about transformational change in NFS in accordance with this call  
83 to action.

84

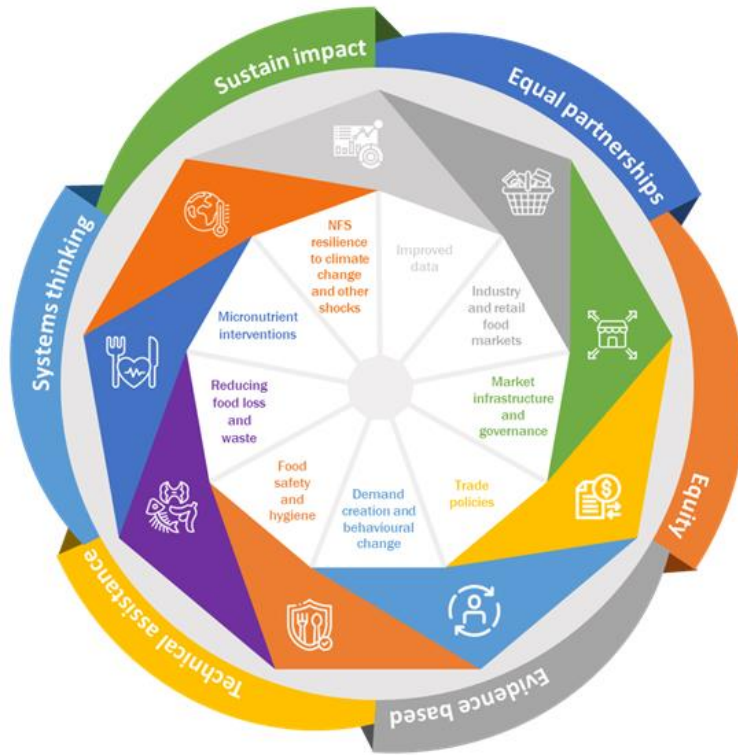


Fig 1: Priorities and Principles/Processes for Nutritious Food Systems.

85  
 86  
 87  
 88  
 89

90 **References**

- 91 1. Barrett, C. B., T. G. Benton, K. A. Cooper, J. Fanzo, R. Gandhi, M. Herrero, S. James, M. Kahn, D.  
92 Mason-D’Croz, A. Mathys, R. J. Nelson, J. Shen, P. Thornton, E. Bageant, S. Fan, A. G. Mude, L. M.  
93 Sibanda, and S. Wood. 2020. Bundling innovations to transform agri-food systems. *Nature*  
94 *Sustainability*, 3: 974–976.
- 95 2. Haddad, L. 2023. Essential steps for transforming national food systems. *Nature Food*, 4: 630–  
96 631.
- 97 3. Clapp, J., 2021. The problem with growing corporate concentration and power in the global food  
98 system. *Nature Food*, 2: 404–408
- 99 4. Perry, M. J. Sharp, K. Aanyu, J. Robinson, V. Duclos, and R. Ferdous. 2022 Research partnerships  
100 across international contexts: a practice of unity or plurality? *Development in Practice*, 32 (5):  
101 635–646.
- 102 5. High Level Panel Panel of Experts. 2023. Reducing inequalities for food security and nutrition.  
103 Committee on World Food Security (CFS HLPE-FSN), Rome.

104

105 **Author information**

106 *Authors and Affiliations*

107

108 **Michigan State University and Global Child Nutrition Foundation, US**

109 Ayala Wineman

110

111 **University of Reading, Reading, UK**

112 Giacomo Zanello

113

114 **The Ohio State University, Global One Health, Addis Ababa, Ethiopia**

115 Desalegne M. Degefaw

116

117 **University of Ibadan, Ibadan, Nigeria**

118 Folake Samuel

119

120 **London School of Hygiene & Tropical Medicine, London, UK**

121 Joe Yates

122

123 **University of Sheffield, Sheffield, UK**

124 Bhavani Shankar

125

126 *Corresponding author*

127 Correspondence to Giacomo Zanello (g.zanello@reading.ac.uk).

128

129

130 **Ethics declarations**

131 *Competing interests*

132

133 The authors are recipients of research grant funding from the Bill and Melinda Gates Foundation  
134 and UK Aid.

135

136

137 **Endorsements from the Nutritious Food Systems Consortium**

- 138 1. Olutayo Adeyemi, PhD, Department of Human Nutrition and Dietetics, University of Ibadan  
139 2. Alex Kojo Anderson, PhD, Professor of Nutritional Epidemiology in the Department of Nutritional Sciences,  
140 University of Georgia  
141 3. Ananya Awasthi, Founder & Director, Anuvaad Solutions  
142 4. Winnie Bell, PhD, MPH, Senior Technical Advisor, FHI solutions  
143 5. Christine Kiria Chege, PhD, Agri-nutrition and food system scientist, Alliance of Bioversity International and  
144 the International Center for Tropical Agriculture  
145 6. Esther Choo, PhD, MPH, Research Associate, University of Washington, Department of Global Health  
146 7. Desalegne M. Degefaw, MVSc, The Ohio State University Global One Health (GOHi)  
147 8. Megan Deitchler, PhD, MPH, Director, Intake, Center for Dietary Assessment, FHI360  
148 9. Matthew C. Freeman, MPH, PhD, Gangarosa Department of Environmental Health, Rollins School of Public  
149 Health, Emory University  
150 10. Edward A. Frongillo, PhD, Professor, Arnold School of Public Health, University of South Carolina, Columbia  
151 11. Aulo Gelli, Senior Research Fellow, International Food Policy Research Institute  
152 12. Arie Hendrik Havelaar, PhD, Animal Sciences, Department, Emerging Pathogens Institute and Global Food  
153 Systems Institute, University of Florida  
154 13. Javier Guitian, Professor of Veterinary Public Health, The Royal Veterinary College  
155 14. Corinna Hawkes, Director, Division of Food Systems and Food Safety, Food and Agriculture Organization  
156 15. Derek Headey, PhD, Senior Research Fellow, The International Food Policy Research Institute  
157 16. Andrew D. Jones, PhD, Associate Professor, Nutritional Sciences; Associate Chair, Nutritional Sciences,  
158 University of Michigan  
159 17. Suneetha Kadiyala, PhD, Professor of Global Nutrition, London School of Hygiene & Tropical Medicine  
160 18. Endale Amare Kifle, PhD, Ethiopian Public Health Institute  
161 19. Theo Knight-Jones, International Livestock Research Institute, Addis Ababa, Ethiopia  
162 20. Barbara Kowalczyk, PhD, Director, Center for Food Safety and Nutrition Security, George Washington  
163 University  
164 21. Charlotte Lane, PhD, Director, Food Service Brokerage  
165 22. Avula Laxmaiah, MBBS, MPH, PhD, MBA, Head, Public Health Nutrition, ICMR-National Institute of Nutrition  
166 and National Secretary, Nutrition Society of India  
167 23. Jef Leroy, PhD, Senior Research Fellow, Nutrition, Diets, and Health Unit of the International Food Policy  
168 Research Institute  
169 24. Karen Levy, PhD, Professor, University of Washington School of Public Health  
170 25. Catherine Macharia-Mutie, PhD, Deputy Team Leader, IGNITE  
171 26. William A. Masters, PhD, Professor, Tufts University  
172 27. Ellen McCullough, PhD, Assistant Professor, Department of Agricultural and Applied Economics, University  
173 of Georgia  
174 28. Purnima Menon, PhD, Senior Director, Food and Nutrition Policy, CGIAR & International Food Policy  
175 Research Institute  
176 29. Joweria Nambooze, PhD, Lecturer, Department of Nutritional Science and Dietetics Kyambogo University  
177 30. Gloria Adobea Odei Obeng-Amoako, PhD, Adjunct Lecturer at the Department of Nutrition and Food Science,  
178 University of Ghana  
179 31. Adeyinka Onabolu, PhD, Senior Advisor on Food Security and Nutrition, Global Alliance for Improved  
180 Nutrition  
181 32. Sara Monteiro Pires, PhD, Senior Researcher, Technical University of Denmark  
182 33. Agnes Quisumbing, Senior Research Fellow in the Poverty, Gender, and Inclusion Unit, International Food  
183 Policy Research Institute  
184 34. Marie Ruel, PhD, Senior Research Fellow, International Food Policy Research Institute  
185 35. Sarah Sahlaney, Managing Director for Social Systems, Tanager  
186 36. Folake Samuel, PhD, Professor, University of Ibadan  
187 37. Rohan Shah, Evaluation Specialist, 3ie  
188 38. Huynh Thi Thanh Tuyen, SHiFT country coordinator in Vietnam, Research Team Leader for Food  
189 Environment and Consumer Behavior Lever in Asia, Alliance of Bioversity and CIAT  
190 39. Bhavani Shankar, PhD, Professor, University of Sheffield  
191 40. Janelle Windus, PhD Candidate, School of Health Sciences, University of Newcastle  
192 41. Ayala Wineman, PhD, Michigan State University and Global Child Nutrition Foundation  
193 42. Joe Yates, London School of Hygiene & Tropical Medicine  
194 43. Giacomo Zanello, PhD, Professor, University of Reading  
195 44. Ashagrie Zewdu, PhD, Center for Food Science and Nutrition, Addis Ababa University

