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Five priorities to operationalize the EAT-Lancet Commission Report

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Standfirst:

To operationalize the great food system transformation and ensure its sustainability, five areas of research and action require more attention: (i) economic and structural costs; (ii) political economy; (iii) diversity of cultural norms; (iv) equity and social justice; and (v) governance and decision support tools.

28 The EAT–*Lancet* Commission report on healthy diets from sustainable food systems ¹ has now
29 become a landmark publication in the debate on why food systems must transform, and why human
30 and planetary health must be conjoined objectives. The report called for a ‘great food
31 transformation’ to enable substantial dietary shifts and sustainable food production; it presented an
32 universal reference diet for healthy intake levels of different food groups protective against a set of
33 disease burdens, and it calculated the environmental impacts of this reference diet in a 2050
34 scenario. While several high-profile documents had already compiled extensive information on food
35 systems and diets ^{2,3,4}, the EAT–*Lancet* report shows that it is possible to feed a population of 10
36 billion healthy diets within planetary boundaries, as long as ambitious actions across agricultural
37 production, governance of land use, supply chain efficiencies, food environments and energy
38 transitions are taken.

39

40 The crucial next step pivots on a more comprehensive approach to health, environment and
41 sustainability – one that incorporates social equity, fair politics and viable economics in a way that
42 explicitly addresses some of the inevitable trade-offs humanity must face in this 21st century. To
43 operationalize the great transformation with these sensitivities, we identify five areas where more
44 research and data are needed. For each of these areas, we present examples of interventions which
45 have proven effective at triggering the types of transformative changes that are necessary.

46

47 **Economic viability**

48 The transformation from prevailing diets to more sustainable ones will incur economic costs across
49 many dimensions. In many cases, healthier diets are more expensive than unhealthy ones ^{5,6}. Recent
50 modeling shows for instance that the EAT–*Lancet* diet would not be affordable for 1.6 billion of the
51 world’s poor ⁷. The immediate costs of the food system transformation will not be limited, however,
52 to the costs of changing diets for consumers. The required changes to land use, food production
53 practices, storage and processing technologies, food environment, distribution and food waste/loss
54 management are also likely to have significant impacts on different actors - with some losers and
55 winners. The nature, price tag and distribution of these economic, technological, social and
56 institutional costs must be clearly elucidated, along with the identification of which food system
57 actors will bear the brunt of these costs ⁸. There should be a particular focus on protecting women
58 who tend to represent a higher proportion of food system workers ⁹.

59

60 Possible actions to offset costs and generate new economic opportunities could include the
61 provision of discounts to low-income households to purchase fruits and vegetables. This option has
62 been shown to lead to significant increases in spending on these foods and, subsequently, a larger
63 market for producers ^{10,11}. Another example is the formulation of national or international technical
64 guides on safeguarding land tenure rights ¹². While acknowledging the need for greater investment
65 in agriculture and food systems, these technical guides provide guidance on how to transfer or
66 safeguard land and resource rights while respecting and protecting the livelihoods of local
67 populations (including indigenous peoples) - fostering sustainable management and use of land and
68 other natural resources, and doing no harm to local environments.

69

70 **Political economy**

71 Status quo within the food system must be challenged and contested, as powerful players often
72 encourage practices which are not necessarily driven by health or sustainability concerns ¹³. Changes

at the system level will also have to involve other food system actors, big and small, from different sectors, who have different ways of understanding the nature of the problems and the solutions ¹⁴.

Important challenges in the political economy of food system transformation are also found within public policies, which often are not geared towards creating sustainable food systems. Too little public R&D funding in agriculture is being invested in non-staple, nutritious foods ¹⁵. Likewise, private finance and investments are often directed to profitability or efficiency, with insufficient incentives for production of nutritious food or sustainable practices ¹³. The difficulties in implementing the required food transformations may therefore not be so much about the technicalities of the change, as they may be about the realpolitik of that change.

Innovation can disrupt the prevailing political economy within food systems. Digital (smart phone) applications alerting consumers to when markets are discounting food potentially destined for waste can guide them towards healthy eating and deliver food through shared economy app services ¹⁶. Other potentially disruptive innovations involves strengthening civil society action – for example, the push to clarify the consequences of genetically modified crops and to increase animal welfare in Europe ¹⁷ or to end the sale and consumption of endangered species in China (sharks' fin soup). Formal accountability mechanisms, such as the Access to Nutrition Initiative that fames and shames powerful food actors, can improve transparency and accountability in the food industry ¹⁸. Other forms of action such as political consumerism, including buying local, organic and sustainably labelled food or promoting vegetarian or vegan diets in contexts of excessive consumption, can also contribute to food system change ¹⁹.

Cultural norms

Achieving sustainable food systems will also require substantial changes in the food habits of millions of people. These changes may conflict with, or diverge substantially from current or even still-to-emerge cultural or social norms. In many middle-income countries, for instance, consuming beef or pork is perceived as a sign of economic success for the new, urbanizing, middle-class. Concurrently, many nutritious foods have been or may still be perceived as “poor man’s meals” (such as lentils, beans or millet), and their consumption remains below what could contribute to improving diets. Unhealthy norms emerge all the time, as foods high in fat, sugar and salt become more widely available and marketed at lower prices throughout the world. Guiding cultural norms towards sustainability may also be challenging, more so because of the infinite diversity of diets from place to place, and the weak or incomplete evidence-base upon which to encourage these changes.

Consumer choice will be a key driver of food system transformation ²⁰. Although it is often assumed that diets are difficult to change because of habits and social, cultural or religious norms, recent history has shown the possibility for rapid and widespread changes towards more diverse and healthier diets ²¹. Altering the choice architecture of food environment can be an effective tool in this regard. Studies in US show that adequate placement of a diversity of fruits and vegetables at the point of sale increased their selection and sales ²². In Chile, Mexico and Thailand, taxes and front-of-pack warning labels have been used with success to moderate the purchase of unhealthy food, as well as influence reformulation of such products by food industry players ²³⁻²⁵.

Equity

While the EAT-*Lancet* reference diet has sufficient flexibility to reflect and embrace national and subnational diversities, not everyone will contribute to or be affected in the same way by the actions required to operationalize the transition. Likewise, readiness and capacities to change varies between individuals, groups and countries. A case in point is the red meat transition. The report's analysis suggests that the environmental impact of red meat production²⁶ combined with the health risks of excessive consumption of processed red meat²⁷ requires greater than 50% reduction in red meat consumption, in average, at the global level¹. Yet, animal-sourced foods remain a concentrated source of vital vitamins and minerals such as iron, and for young children and young women, especially in low-income countries, the consumption of more rather than less meat is advisable²⁻⁴. Implementing the red meat transition in the global food systems will therefore require those who eat too much to reduce their consumption for their own benefit *and* to create environmental space for others to consume enough to meet their nutrient needs. Beyond this specific example, the food transformation debate needs also to consider issues of social justice while averting promoting the message that changes involve only high-income countries. Indeed food systems need to become much more efficient in all countries, including low- and middle-income countries (LMICs), and even those with lower harvest or food losses and fewer environmentally costly practices.

Inequalities are also prevalent within countries, and data and laws are critical in countering them. For example, in the seafood industry, forced labour, child labour and slavery are not uncommon²⁸. The systematic use of full supply chain traceability has been shown to promote internal transparency, and is potentially a tool to foster social justice in the industry and protect people employed in LMICs²⁹. Legislation and regulations are also vital to promote equity. In high-income countries, although social inequality in certain populations and components of food systems still exist (for example, in seasonal fruit picking, catering and restaurant industries, and in access to food for the poor), laws and regulations have been progressively established to improve the sustainability of food systems and to protect vulnerable groups. In the US, the Migrant and Seasonal Agricultural Worker Protection Act (AWPA/MSPA) and the Fair Labor Standards Act (FLSA) establish federal rules regarding minimum wages, overtime pay provisions and child labor standards, and are cornerstones of federal employment law for farmworkers. Adapted legislation is needed in all countries to address equity. At the international level, the Declaration on the Rights of Peasants and other People Working in Rural Areas (UNDROP), adopted by the United Nations in Dec 2018, is an important supporting document that aims to strengthen the right to food and other human rights in food systems, thereby enhancing sustainable access to healthy, safe and nutritious food for the most marginalized and excluded groups.

Governance and tools

The four distinct but closely related economic, political, cultural, and social considerations identified above create a complex space in which different actors interact with divergent or even competing interests, limited or lack of information, or with political attention turned to other important priorities (such as poverty, security, migration, natural disasters, pandemics). The question then becomes: how to navigate this complex space and define context specific priorities for politically acceptable and socially equitable actions that account for tensions and trade-offs, are supported by evidence, and can build the required capacities for effective implementation?

To operate in this complex space, in addition to knowledge, skills and data, stakeholders will need tools to identify, prioritize and manage trade-offs and diverging/competing priorities. The role of foresight techniques (scenario methods aiming at exploring expected and alternative futures and guiding policy and decisions) will be key in that regard. In Sweden, the decision support tool ReDiRel (“resource distribution and recycling logistics”) has been used with success by scientists and stakeholders to identify synergies and trade-offs and define subsequent priorities and possible interventions³⁰. Other examples include the current Food Systems Dashboard being developed by GAIN and John Hopkins University³¹ or the Food System Sustainability Index developed by the International Center for Tropical Agriculture³².

Final consideration

The EAT-*Lancet* report did an excellent job of waking the world up to the interlinked issues of health and environment and showed that diets are the common denominator. But, at the crux of the great food transformation is the critical issue of science-policy interactions. Ensuring that food is in all policies and that there is coherence in how food is dealt with in policy will be vital³³. One of the recommendations of the EAT-*Lancet* Report was to establish an Inter-governmental Panel on Food Systems. Building upon the achievements and complementing the High-Level Panel of Experts of the UN Committee on World Food Security (HLPE/CFS), we support the creation of such a mechanism. It would complement the focus on food security and nutrition and address the role, pathways and perspective of food systems transformation to meet the whole 2030 SDG Agenda. It would bring evidence and researchers together from around the world and science-policy interactions would be encouraged at all levels, from global to local.

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Author contributions

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Competing interests:

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