

Moving towards sustainability— bringing the threads together

[Health & Medicine](#)



Introduction

A series of 2019 global and European reports concerning food systems, the environment and sustainability suggest new ways of prioritizing routes toward sustainable food systems in the context of Agenda 2030 [[Commission on Genetic Resources for Food Agriculture, 2019](#) ; [EEA \(European Environment Agency\), 2019](#) ; [IPES Food \(International Panel of Experts on Sustainable Food Systems\), 2019](#) ; [Swinburn et al., 2019](#) ; [Willett et al., 2019](#)] and should also contribute to the post-2020 simplification and modernization of the Common Agriculture Policy of the European Union.

The good news is that there is a consensus on the need for a systems approach to address complexity. All reports advocate improved governance and integrated action, moving away from developed vs. developing country paradigms, and emphasizing local experience and global approaches.

A variety of converging agendas related to sustainable food systems have developed in recent years (e. g., nutrition, climate change, biodiversity) with different entry points (e. g., health, environment, food). While such processes are timely, they have evolved independently with little coordination and have not addressed the need to link top-down and bottom-up approaches to combine local experience and national or global policies. There is agreement that multi-actor involvement is essential, but agencies promoting sustainable development (including UN organizations—and in particular WHO and FAO—, the European Union and major NGOs) often compete for leadership and funding. In addition, many “ Northern” countries sponsor aid projects in “ Southern” countries, contributing to a modern-day “

scramble for Africa,” with donors contradicting their global commitments to cooperation. How best to coordinate and regulate this cacophony of well-meaning initiatives into a harmonious symphony remains a major challenge.

Malnutrition in all its forms—including obesity, undernutrition and poor dietary and lifestyle habits—continues to be a central health, economic and sustainable development challenge for every world region. Existing food systems are dysfunctional and do not ensure access to healthy diets. They remain focused on providing abundant, cheap calories via mass production of staple commodities, even though this—apparently—“ low-cost” model generates ever more damaging impacts (or “ externalities”)—from the environmental fallout of intensive agriculture to the spread of unhealthy diets and obesity and the increase of socio-economic inequalities.

Neoliberalism has been driven by, and led to, major power imbalances between food system actors. Interests of agribusinesses, big farmers and Ministries of Agriculture—that have prioritized, for decades, export-driven industrial food production—are key obstacles to adequately addressing environmental and social challenges, and positioning action on diets. Policies favoring bulk commodities, processed foods and international trade, and related legislation and regulation, have typically been aligned with the interests of major private sector actors, in particular multinational firms. Current reliance on highly specialized, industrialized, profit-driven, standardized, and export-oriented commodity-based models of agriculture and food production creates hidden costs in terms of social and environmental impacts, which are not reflected in retail prices, but are

passed onto future generations. This, combined with subsidies along the food chain and trade-related distortions, explains the apparently (and deceptively) low cost of foods from mass distribution.

Agriculture is responsible for some 25% of GHGs ([Willett et al., 2019](#))—of which 80% comes from agro-industrial meat production (factory farms)—, and 60% of the water used for irrigation worldwide is not renewable. The need to guarantee a supply of standard basic food items for processing and distribution undermines local food systems, while biodiversity for food and agriculture is declining. Changes in land, marine, and freshwater and forest management have had major negative effects on ecosystem services and traditional communities and livelihoods.

Time constraints and the changing roles of the workforce are also key contributors to the present situation. The erosion of traditional food cultures and the emergence of fast-paced urban lifestyles have transformed cooking and consumption habits, disconnecting people from how food is produced and from concepts such as the seasonality of fruits and vegetables, and time-honored recipes. This is compounded by insufficient physical activity at all ages ([World Health Organization Regional Office for Europe., 2017](#) ; [Mok et al., 2019](#)).

In the near future, the health effects of climate change will considerably aggravate these diet-related and lifestyle challenges. For example, global warming and air pollution can result in changes in food and water supplies which could lead indirectly to a number of adverse health outcomes such as malnutrition, gastro-intestinal, cardiovascular and respiratory diseases, and

<https://assignbuster.com/moving-towards-sustainabilitybringing-the-threads-together/>

water-borne and insect-transmitted infections ([Springman et al., 2016](#); [Swinburn et al., 2019](#)).

Business As Usual Is Not An Option

Food systems-related policies—agriculture, trade, food safety, environment, development, research, education, fiscal and social policies, market regulation, food waste management and more—have developed independently over decades, with minimal attention to dietary impacts and aggravated by the artificial disconnect between urban and rural policies. As a result, objectives and targets have multiplied in confusing and inefficient ways; inconsistencies and contradictions between policies, laws and regulations are the rule, not the exception. The current debate over the necessary revision of the European Common Agricultural Policy provides an excellent opportunity to clarify the tradeoffs between food production and trade, social and environmental impacts and health requirements (IPES Food [International Panel of Experts on Sustainable Food Systems], 2019). It is also surprising that food fortification, which has been promoted worldwide for over 30 years, has never been the subject of a comprehensive policy.

The status of animal foods is controversial; the recent recommendation of the EAT-Lancet commission to halve the global production and consumption of meat and dairy products ([Willett et al., 2019](#)) is generating strong resistance from industrial livestock lobbies and governments. Worldwide there are over 600 million small-scale farmers and 200 million herders who depend on livestock for their livelihoods and who feed people with quality meat, dairy, and eggs in a sustainable manner. The example of egg

consumption provides a good illustration. On the food composition side, eggs are a cheap, high quality source of protein (4-5 gm per large egg), but are proscribed because of the yolk cholesterol, although recent work suggests that effects on cardiovascular disease have been exaggerated ([Melough et al., 2019](#)). On the production side, animal welfare concerns are leading consumers to avoid eggs from battery husbandry (and therefore retailers from selling them) and also to check animal feed to prevent possible health risks and potential global expansion of corn and soy production. Poultry farmers are increasingly aware that they will have to revert sooner or later to an autonomy of feed resources by replanting fields and meadows rather than purchasing industrial feed. Finally, there is the search to find alternative protein sources, whether grown in the laboratory or derived from insects and algae. The implications of dietary recommendations (e. g., for sea food) in terms of ocean resources are just starting to be discussed. This is because there is not enough omega-3-rich sea fish available to provide for the health and nutritional recommendations to consume two portions per week.

Tension between supporters of industrial agriculture, environmentalists and health professionals as well as contradictions between political declarations and actual programs lead to policy inertia. This is exacerbated by the inability of political leadership to promote and implement sustainable policies and to resist the strong opposition from vested commercial interests; and is too often compounded by public apathy, due to low awareness and/or resignation. But times are changing: consumer demand and activism are increasing for organic and minimally processed food, short food chains, animal welfare, and less plastic and waste. Moreover, the recent

<https://assignbuster.com/moving-towards-sustainabilitybringing-the-threads-together/>

engagement of youth in advocacy for climate change mitigation is changing public opinion and behavior.

There is also an increasing disconnect between researchers, policy makers, politicians and practitioners. Local actors have taken the lead *de facto* in systems thinking, with researchers lagging behind because of discipline boundaries (in particular between hard and social sciences), “classical” research methodologies, insufficient connection to field work and related funding constraints ([Marsden and Morley, 2014](#)).

Discussion

So What Can we Do?

Analysis of food systems cannot ignore any longer the differential power of actors to influence decision-making and reform processes. Power relations and the political economy of food systems must therefore take center-stage. The needs and perspectives of small-scale farmers, indigenous communities, disadvantaged consumers and other groups, must not be drowned out by more powerful and visible actors. By shifting the focus from agriculture to food, more stakeholders (and in particular other relevant technical sectors) can be involved in policy making. This will allow tackling disparities and reclaiming decision-making processes from influential lobbies, to create new priorities and coalitions of interest (EEA [European Environment Agency], 2019).

FAO and WHO recently organized a consultation to define the guiding principles for Sustainable Healthy Diets in the context of sustainable food systems ([FAO/WHO, 2019](#)). While the objective is certainly not to prohibit

meat or dairy production and consumption, the adoption of flexitarian diets and the promotion of agro-ecology—and in particular pastoralism—can generate considerable environmental, social and economic benefits ([Willett et al., 2019](#)) [1](#). There is increasing evidence that foods which are good for human health are also good for the environment, which highlights the need for improved collaboration between nutritionists and environmentalists. Of the foods associated with improved health (whole grain cereals, fruits, vegetables, legumes, nuts, olive oil, and fish), all except fish have among the lowest environmental impacts, and fish has markedly lower impacts than red and processed meats. Thus, dietary transitions toward greater consumption of these healthier foods would improve environmental sustainability ([Clark et al., 2019](#)) [1](#), provided that food security is maintained ([Berry et al., 2015](#)).

Indigenous and traditional knowledge are essential as they are often based on environmental stewardship, collective responsibilities, and the interconnectedness of people with their environments. Indigenous and traditional food practices are *de facto* low input and risk adverse and provide a rational basis for locally relevant sustainable diets. The traditional Mediterranean diet—an outcome of farming and cultural systems in the Mediterranean bioregion—has become a synonym for a healthy and sustainable dietary pattern ([Berry, 2019](#)). Nordic chefs have followed a similar approach and revisited traditional foods in the boreal bioregion with a strong focus on health and ethical production, to write the Nordic Kitchen Manifesto [2](#).

Discussions on food systems should emphasize the socio-cultural dimensions of the sustainability agenda where food constitutes a major cultural transmission link. It is crucial to enlist public and civil society participation to: (1) rescue public policies for the public good; (2) reclaim decision-making processes from powerful lobbies; and (3) stimulate the reorientation of food systems for health, equity and sustainability. Information technology and social networks will play an increasing role in raising awareness, lobbying, exchanging information and building networks and alliances.

Given their present role as key economic operators in food systems, ignoring the private sector is not an option but the rules of engagement must be transparent to deal with conflicts of interests and enable equitable relationship building. Government authorities at local and national levels, as well as regional and global institutions (such as WTO) must be held accountable for the participation of all actors as well as the fulfillment of rights-based commitments. Civil society has a key role to play both as a watchdog and mediator with disadvantaged groups. The food industry, which is partly responsible for the obesity pandemic (high-calorie, nutrient-poor, hyper-palatable products, must also be part of the solution by encouraging reformulations with healthier ingredients, comprehensible front-of-package food labeling and making price reductions for wholesome foods. At the recent United Nations Climate Action Summit (2019), nineteen food, cosmetics and textiles companies committed to the One Planet Business for Biodiversity (OP2B, <https://op2b.org/>)—an international cross-sectorial, action-oriented business coalition on biodiversity with a specific focus on agriculture. By engaging institutional and financial decision-makers, the <https://assignbuster.com/moving-towards-sustainabilitybringing-the-threads-together/>

coalition aims to drive transformational changes to protect and restore cultivated and natural biodiversity within the value chains. Actions focus on three areas: (1) scaling up regenerative agricultural practices; (2) boosting cultivated biodiversity and diets through product portfolios; and (3) protecting high-value natural ecosystems by enhancing their management and mitigating deforestation. This initiative clearly deserves critical attention.

Current geo-political trends indicate a move away from globalization to territorial approaches and a recognition of the role of cities in an increasingly urbanized world [3](#), [4](#). Cities are becoming key advocates for more sustainable food systems; more than 200 mayors have signed the Milan Urban Food Policy Pact [5](#) and are exchanging significant local experiences, which can contribute to more coherent national and global policies. Cities are also promoting enabling environments for physical exercise and health with parks, safe walk ways and bicycle paths ([World Health Organization Regional Office for Europe., 2017](#)).

Biodiversity for food and agriculture is indispensable to food security, sustainable development and the supply of many vital ecosystem services. Research on food and agricultural systems needs to become more multidisciplinary, participatory and focused on interactions between different components of biodiversity for food and agriculture ([Marsden and Morley, 2014](#)). Sustainable—in particular biodiversity-friendly—practices are multiplying and agro-ecology presents a relevant alternative to current agricultural procedures ([FAO, 2018](#)). But we lack evidence on multi-purpose

strategies and local practice. This should be *the* research priority for interdisciplinary research teams ([IPES-Food, 2018](#)). It is important to adopt a territorial and bioregional approach and develop multi-purpose strategies and interactions at the local level.

Concrete Action Proposals

The following strategies may kick-start the process toward more sustainable food systems:

1. Promote collaboration between nutritionists and environmentalists in relevant bioregions by; (a) encouraging biodiversity-friendly practices for food and agriculture and enhancing their contribution to ecosystem services; (b) focusing on hotspot areas and the most vulnerable population groups (no one to be left behind).
2. Partner with cities and local governments to generate practice-based evidence and ensure synergy with national and global processes.
3. Encourage teamwork between scientists, policy makers, politicians, and practitioners.
4. Enable consumers to adopt sustainable diets and engage with civil society and the media to ensure that sustainable food systems are priorities on the political agenda.
5. Enforce accountability for private sector and policy makers to deliver sustainable development. By analogy to the use of Health Impact Assessments and Environmental Impact Assessments, Sustainability Impact

Assessments with public participation should become standard practice in all policy and planning.

Actions at territorial, national, household and individual levels will help ensure that a well-fed, food secure population is a healthy, productive one engaged in sustainable practices. Working together with all actors to make the best of natural resources and local biodiversity, building upon existing cultures and experience and revitalizing local economies, to provide healthy diets and lifestyles for all and strengthen resilience would integrate most, if not all, SDGs and make a decisive contribution to the operationalization of Agenda 2030.

Author Contributions

FE and EB contributed equally to the discussion and writing of the article.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Acknowledgments

We thank the reviewers for their constructive comments and criticisms.

Footnotes

1. [^] [GRAIN Institute Agriculture Trade Policy Europe](https://www.grain.org/e/5692). Available online at: <https://www.grain.org/e/5692>.
2. [^] <https://www.norden.org/en/information/new-nordic-food-manifesto>

3. [^](#) Urban-Rural Linkages: Guiding Principles – Framework for Action to Advance Integrated Territorial Development UN-HABITAT. (2019). Available online at: <https://urbanrurallinkages.files.wordpress.com/2019/09/url-gp-1.pdf>.
4. [^](#) Fostering Territorial Perspectives for Development: towards a wider alliance. (2019). Available online at: https://collaboratif.cirad.fr/alfresco/s/d/workspace/SpacesStore/6daa60e1-d89e-4a59-9bfd-ff5f66a93130/TP4D_vENG.pdf.
5. [^](#) The Milan Urban Food Policy Pact. Available online at: <http://www.milanurbanfoodpolicypact.org/text/>.

References

Berry, E. M. (2019). Sustainable food systems and the mediterranean diet. *Nutrients* 11: 2229. doi: 10.3390/nu11092229

[PubMed Abstract](#) | [CrossRef Full Text](#) | [Google Scholar](#)

Berry, E. M., Dernini, S., Burlingame, B., Meybeck, A., and Conforti, P. (2015). Food Security and Sustainability: can one exist without the other? *Public Health Nutr.* 18, 2293–2302 doi: 10.1017/S136898001500021X

[PubMed Abstract](#) | [CrossRef Full Text](#) | [Google Scholar](#)

Clark, M. A., Springmann, A., Hild, J., and Tilman, D. (2019). Multiple health and environmental impacts of foods. *PNAS* 116, 23357–23362. doi: 10.1073/pnas.1906908116

<https://assignbuster.com/moving-towards-sustainabilitybringing-the-threads-together/>

[PubMed Abstract](#) | [CrossRef Full Text](#) | [Google Scholar](#)

Commission on Genetic Resources for Food and Agriculture (2019). *The State of the World's Biodiversity for Food and Agriculture*. Rome: Food and Agriculture Organization of the United Nations.

[Google Scholar](#)

EEA (European Environment Agency) (2019). *Sustainability Transitions Policy and Practice, EEA (European Environment Agency) Report* .

FAO (2018). *The 10 Elements of Agroecology Guiding the Transition to Sustainable Food and Agricultural Systems*. FAO . Available online at: <http://www.fao.org/3/i9037en/i9037en.pdf> (accessed November 01, 2019).

[Google Scholar](#)

FAO/WHO (2019). *Sustainable Healthy Diets Guiding Principles*. FAO/WHO . Available online at: <http://www.fao.org/3/ca6640en/ca6640en.pdf> (accessed November 01, 2019).

IPES Food (International Panel of Experts on Sustainable Food Systems) (2019). *Towards a Common Food Policy for the European Union: The Policy Reform and Realignment that is Required to Build Sustainable Food Systems in Europe* . IPES Food (International Panel of Experts on Sustainable Food Systems).

IPES-Food (2018). *Breaking Away From Industrial Food and Farming Systems: Seven Case Studies of Agro-Ecological Transition* .

<https://assignbuster.com/moving-towards-sustainabilitybringing-the-threads-together/>

Marsden, T., and Morley, A. (2014). *Sustainable Food Systems - Building a New Paradigm, 1st Edn* . Oxford, UK: Routledge.

[Google Scholar](#)

Melough, M. M., Chung, S.-J., Fernandez, M. L., and Chun, O. K., (2019). Association of eggs with dietary nutrient adequacy and cardiovascular risk factors in US adults. *Public Health Nutr.* 22, 2033–20142. doi: 10.1017/S1368980019000211

[PubMed Abstract](#) | [CrossRef Full Text](#) | [Google Scholar](#)

Mok, A., Khaw, K.-T., Luben, R., and Wareham, N., Brage, S. (2019). Physical activity trajectories and mortality: population based cohort study. *BMJ* 365: l2323. doi: 10.1136/bmj.l2323

[PubMed Abstract](#) | [CrossRef Full Text](#) | [Google Scholar](#)

Springman, M., Mason-D'Croz, D., Robinson, S., Garnett, T., Godfray, S. J., Gollin, D., et al. (2016). Global and regional health effects of future food production under climate change: a modelling study. *Lancet* 387, 1937–1946. doi: 10.1016/S0140-6736(15)01156-3

[CrossRef Full Text](#) | [Google Scholar](#)

Swinburn, B. A., Kraak, V. I., Allender, S., Atkins, V. J., Baker, P. I., Bogard, J. R., et al. (2019). The global syndemic of obesity, undernutrition, and climate change: the Lancet Commission report. *Lancet* 393, 791–846. doi: 10.1016/S0140-6736(18)32822-8

<https://assignbuster.com/moving-towards-sustainabilitybringing-the-threads-together/>

[PubMed Abstract](#) | [CrossRef Full Text](#) | [Google Scholar](#)

Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., et al. (2019). Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems. *Lancet* 393, 447–492. doi: 10.1016/S0140-6736(18)31788-4

[PubMed Abstract](#) | [CrossRef Full Text](#) | [Google Scholar](#)

World Health Organization Regional Office for Europe. (2017). *Age-Friendly Environments in Europe* . Copenhagen: World Health Organization Regional Office for Europe.

[Google Scholar](#)