UNRAVELLING THE FOOD-HEALTH NEXUS

ADDRESSING PRACTICES, POLITICAL ECONOMY, AND POWER RELATIONS TO BUILD HEALTHIER FOOD SYSTEMS

EXECUTIVE SUMMARY

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INTERNATIONAL PANEL OF EXPERTS ON SUSTAINABLE FOOD SYSTEMS

GLOBAL ALLIANCE FOR THE FUTURE OF FOOD

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REPORT AUTHORS
Lead Coordinating Author: Cecilia Rocha
Editorial Lead: Nick Jacobs

IPES-FOOD WORKING GROUP
Molly Anderson; Olivier De Schutter; Emile Frison; Corinna Hawkes; Desmond McNeill; Olivia Yambi.

REVIEWERS
Jessica Fanzo; Claire Fitch; Michael Hamm; James Hughes; Carolyn Hricko; Shiriki Kumanyika; Robert Martin; Maria Oria; Nadia Scialabba; Boyd Swinburn.

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KEY MESSAGES

1. **Alongside many positive impacts, our food systems have increasingly affected health through multiple, interconnected pathways, generating severe human and economic costs.** People get sick because: 1) they work under unhealthy conditions; 2) they are exposed to contaminants in the water, soil, and air; 3) they eat certain unsafe or contaminated foods; 4) they have unhealthy diets; and 5) they can't access adequate and acceptable food at all times.

2. **An urgent case for reforming food and farming systems can be made on the grounds of protecting human health.** Many of the most severe health impacts of food systems trace back to some of the core industrial food and farming practices, e.g., chemical-intensive agriculture; intensive livestock production; the mass production and mass marketing of ultra-processed foods; and the development of long and deregulated global commodity supply chains.

3. **The health impacts of food systems are interconnected, self-reinforcing, and complex — but we know enough to act.** Food systems impacts are caused by many agents, and interact with factors like climate change, unsanitary conditions, and poverty — which are themselves shaped by food and farming systems. This complexity is real and challenging, but should not be an excuse for inaction.

4. **The low power and visibility of those most affected by food systems jeopardizes a complete understanding of the health impacts, leaving major blind spots in the evidence base.** The precarious working conditions across global food systems create a situation in which those exposed to the greatest health risks are not seen or heard. These blind spots make it less likely for problems to be prioritized politically and allow health risks to continue to afflict marginalized populations.

5. **Power — to achieve visibility, frame narratives, set the terms of debate, and influence policy — is at the heart of the food-health nexus.** The industrial food and farming model that systematically generates negative health impacts also generates highly unequal power relations. This allows powerful actors including the private sector, governments, donors, and others to set the terms of debate. The prevailing solutions obscure the social and environmental fallout of industrial food systems, leaving the root causes of poor health unaddressed and reinforcing existing social-health inequalities.

6. **Urgent steps are required to reform food systems practices, and to transform the ways in which knowledge is gathered and transmitted, understandings are forged, and priorities are set.** Silos in science and policy mirror one another. Governance and knowledge structures are currently ill-adapted to address the systemic and interconnected risks emerging from food systems. Steps to build a healthy science-policy interface may be just as important as steps to reform food systems practices.

7. **The evidence on food systems impacts must continue to grow, but a new basis is required for reading, interpreting, and acting on that evidence in all of its complexity.** The basis for action must increasingly be informed by a diversity of actors, sources of knowledge and disciplines, and by the collective strength, consistency, plausibility, and coherence of the evidence base.

8. **Five co-dependent leverage points can be identified for building healthier food systems:** 1) promoting food systems thinking at all levels; 2) reasserting scientific integrity and research as a public good; 3) bringing the positive impacts of alternative food systems to light; 4) adopting the precautionary principle; and, 5) building integrated food policies under participatory governance.

9. **The monumental task of building healthier food systems requires more democratic and more integrated ways of managing risk and governing food systems.** A range of actors — policymakers, big and small private sector firms, healthcare providers, environmental groups, consumers and health advocates, farmers, agri-food workers, and citizens — must collaborate and share responsibility in this endeavour.

EXECUTIVE SUMMARY
UNRAVELLING THE FOOD–HEALTH NEXUS
Addressing practices, political economy, and power relations to build healthier food systems

Food systems affect health through multiple, interconnected pathways, generating severe human and economic costs.

However, the full picture is often lost from view, allowing the connections to be obscured and the root causes of poor health to be left unaddressed. Too often the negative health impacts are disconnected 1) from one another, 2) from the *food system* practices that systematically generate health risks, and 3) from the underlying environmental and socio-economic conditions for health – conditions that are, in turn, undermined by food system activities. This report seeks to provide a comprehensive overview identifying the multiple, interconnected ways in which food systems affect human health, and how the prevailing power relations and imperatives in food systems help to shape our understanding of the impacts they generate. In other words, the report asks why evidence gaps persist, why negative impacts are systematically reproduced, and why certain problems are not politically prioritized.

The report identifies five key channels through which food systems impact health:

1: Occupational hazards. Physical and mental health impacts suffered by farmers, agricultural labourers, and other food chain workers as a result of exposure to health risks in the field/factory/workplace (e.g., acute and chronic pesticide exposure risks, production line injuries, livelihood stresses). *People get sick because they work under unhealthy conditions.*

2: Environmental contamination. Health impacts arising via the exposure of whole populations to contaminated environments – downstream – of food production, via pollution of soil, air, and water resources or exposure to livestock-based pathogens (e.g., contamination of drinking water with nitrates, agriculture-based air pollution, anti-microbial resistance). *People get sick because of contaminants in the water, soil, or air.*

3: Contaminated, unsafe, and altered foods. Illnesses arising from the ingestion of foods containing various pathogens (i.e., foodborne disease) and risks arising from compositionally altered and novel foods (e.g., nano-particles). *People get sick because specific foods they eat are unsafe for consumption.*

4: Unhealthy dietary patterns. Impacts occurring through consumption of specific foods or groups of foods with problematic health profiles (e.g., resulting in obesity and non-communicable diseases including diabetes, heart disease, cancers). These impacts affect people directly through their dietary habits, which are shaped by the food environment. *People get sick because they have unhealthy diets.*

5: Food insecurity. Impacts occurring through insufficient or precarious access to food that is culturally acceptable and nutritious (e.g., hunger, micronutrient deficiency). *People get sick because they can't access adequate, acceptable food at all times.*

An extensive review of the evidence on these impacts showed that:

An urgent case for reforming food and farming systems can be made on the grounds of protecting human health. The health impacts generated by food systems are severe, widespread, and closely linked to industrial food and farming practices. These impacts are not limited to isolated pockets of unregulated production in specific locations, or to those excluded from the benefits of modern agriculture and global commodity supply chains. Many of the most severe health impacts trace back to some of the core industrial food and farming practices, e.g., chemical-intensive agriculture; intensive livestock production; the mass production and mass marketing of ultra-processed foods; and the development of long and deregulated global commodity supply chains. The scope, severity, and cost of these impacts suggests that historical progress in tackling problems like hunger, foodborne illness, and workplace injury may be slowing or even unravelling, while a range of additional disease, contamination, and diet-related risks are emerging fast. The industrial food and farming model does not bear the entire burden for these problems, but has clearly failed to provide a recipe for addressing them individually or collectively.

The health impacts of food systems are interconnected, self-reinforcing and complex — but we know enough to act. Food systems impacts are caused by many agents, and interact with factors like climate change, unsanitary conditions, and poverty — which are themselves shaped by food and farming systems. Several of these impacts reinforce one another. For example, the stress generated by high-pressure industrialized food-processing plants increases the risks of physical injury; pre-existing disease burdens make people more vulnerable to food insecurity. In other cases, risks tend to accrue across a range of food systems activities and over long periods of time. For example, chronic exposure to Endocrine Disrupting Chemicals (EDCs) is particularly hard to trace to specific sources or even to specific chemicals, while zoonotic pathogens and antimicrobial resistance can spread through multiple pathways within and around food systems. This complexity is real and challenging, but should not be an excuse for inaction.

The low power and visibility of those most affected by food systems jeopardizes a complete understanding of the health impacts, leaving major blind spots in the evidence base. The precarious working conditions across global food systems create a situation in which those exposed to the greatest health risks are not seen or heard. In particular, the insecure status of hired and migrant labourers undermines the reporting of abuses and injuries. Risks to farmers and farmworkers in developing countries are particularly underdocumented. These blind spots make it less likely for problems to be prioritized politically, and allow health risks to continue to afflict marginalized populations. This is compounded by a broader disconnection of the general public from the process of food production. Reconnecting people with the realities of the food they eat — and bringing the true cost of our food systems to light — is therefore essential to unlock the food-health nexus.

Power — to achieve visibility, frame narratives, set the terms of debate, and influence policy — is at the heart of the food-health nexus. Powerful actors including private sector, governments, donors, and others with influence sit at the heart of the food-health nexus, generating narratives, imperatives, and power relations that help to obscure its social and environmental fallout. Prevailing solutions leave the root causes of poor health unaddressed and reinforce existing social-health inequalities. These solutions, premised on further industrialization of food systems, grant an increasingly central role to those with the technological capacity and economies of scale to generate data, assess risks, and deliver key health fixes (e.g., biofortification, highly traceable and biosecure supply chains). The role of industrial food and farming systems in driving health risks (e.g., by perpetuating poverty and climate change) is left unaddressed. And those most affected by the health impacts in food systems (e.g., small-scale farmers in the Global South) become increasingly marginal in diagnosing the problems and identifying the solutions.

Urgent steps are required to reform food system practices, and to transform the ways in which knowledge is gathered and transmitted, understandings are forged, and priorities are set. Current approaches are locked in across food systems. Silos in science and policy mirror one another. Governance and knowledge structures — reflecting long-standing priorities and path dependencies — are ill-adapted to address the systemic and interconnected risks emerging from food systems. This keeps systemic alternatives off the table and outside of mainstream science-policy debates. Steps to build a healthy science-policy interface may be just as important as steps to reform food system practices — and may be a condition for reforms to occur.

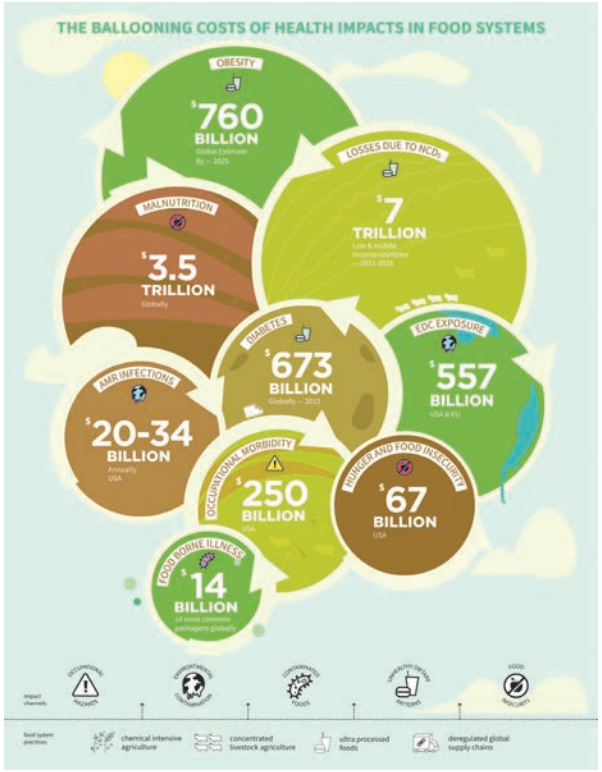

Fig. 1. The ballooning costs of health impacts Health impacts in food systems generate major economic costs in addition to the severe human costs. This illustration brings together some recent annual estimates of the most costly impacts associated with food systems.

The evidence on food system impacts must continue to grow, but we need a new basis for reading, interpreting, and acting on that evidence in all of its complexity. The basis for action must increasingly be informed by a diversity of actors, sources of knowledge and disciplines, and by the collective strength, consistency, plausibility, and coherence of the evidence base.

Five co-dependent leverage points can be identified for building healthier food systems. These leverage points indicate the way towards changes that, collectively, can provide a new basis of understanding and action to build healthier food systems.

Leverage point 1: PROMOTING FOOD SYSTEMS THINKING. Food systems thinking must be promoted at all levels, i.e., we must systematically bring to light the multiple connections between different health impacts, between human health and ecosystem health, between food, health, poverty, and climate change, and between social and environmental sustainability. Only when health risks are viewed in their entirety, across the food system and on a global scale, can we adequately assess the priorities, risks, and trade-offs underpinning our food systems, e.g., the provision of low-cost food versus systematic food insecurity, poverty conditions, and environmental fallout of the industrial model. All of this has profound implications for the way that knowledge is developed and deployed in our societies, requiring a shift toward interdisciplinarity and transdisciplinarity in a range of contexts (e.g., new ways of assessing risks;

changes in the way that university and school curricula are structured). Concepts such as "sustainable diets" and "planetary health" help to promote holistic scientific discussions and to pave the way for integrated policy approaches. Food systems thinking can also be encouraged on a smaller scale through initiatives that reconnect people with the food they eat (e.g., CSAs, school vegetable gardens).

Leverage Point 2: REASSERTING SCIENTIFIC INTEGRITY AND RESEARCH AS A PUBLIC GOOD. Research priorities, structures, and capacities need to be fundamentally realigned with principles of public interest and public good, and the nature of the challenges we face (i.e., cross-cutting sustainability challenges and systemic risks). Specific measures are needed to counter the influence of vested interests in shaping scientific knowledge on the health impacts of food systems, and to reduce the reliance of researchers on private funding (e.g., new rules around conflicts of interest in scientific journals, initiatives to fund and mandate independent scientific research and independent journalism on the health impacts of food systems). Different forms of research involving a wider range of actors and sources of knowledge are also required to rebalance the playing field and challenge prevailing problem framings (e.g., industry-leaning approaches; a "Global North" bias; approaches that exclude impacts on certain populations). Further investment in large-scale data gathering by intergovernmental organizations may also be required.

Leverage Point 3: BRINGING THE ALTERNATIVES TO LIGHT. We need to know more about the positive health impacts and positive externalities of alternative food and farming systems (e.g., agroecological crop and livestock management approaches that build soil nutrients, sequester carbon in the soil, or restore ecosystem functions such as pollination and water purification). It is crucial to document and communicate the potential of alternative systems to: reconcile productivity gains, environmental resilience, social equity, and health benefits; strengthen yields on the basis of rehabilitating ecosystems (not at their expense); build nutrition on the basis of access to diverse foods; and redistribute power and reduce inequalities in the process. These outcomes must be seen as a package and as a new basis for delivering health – one in which healthy people and a healthy planet are co-dependent. A complete picture of the alternatives also requires more documentation of real-life experimentation at the policy level. A solid information base on alternative food systems – how they perform, and how they can be effectively promoted through policy – can challenge the assumption that an ever-more industrial logic is the only solution for addressing health impacts in food systems.

Leverage Point 4: ADOPTING THE PRECAUTIONARY PRINCIPLE. The negative health impacts identified in the report are interconnected, self-reinforcing, and systemic in nature. However, this complexity cannot be an excuse for inaction. Disease prevention must increasingly be understood in terms of identifying specific risk factors (not the cause) by the accumulation of evidence from many different studies from many different disciplines, as well as in terms of the collective strength, consistency, plausibility, and coherence of the evidence base. In this light, there is a clear need to call upon the precautionary principle – developed to manage these complexities and requiring policy makers to weigh the collective evidence on risk factors and act accordingly – to protect public health.

Leverage Point 5: BUILDING INTEGRATED FOOD POLICIES UNDER PARTICIPATORY GOVERNANCE. Policy processes must be up to the task of managing the complexity of food systems and the systemic health risks they generate. Integrated food policies and food strategies are required to overcome the traditional biases in sectoral policies (e.g., export orientation in agricultural policy) and to align various policies with the objective of delivering environmentally, socially, and economically sustainable food systems. Integrated food policies allow trade-offs to be weighed up, while providing a forum for long-term systemic objectives to be set (e.g., reducing the chemical load in food and farming systems; devising strategies for tackling emerging risks such as antimicrobial resistance). These processes must be participatory. The general public must become a partner in public risk management and priority-setting, and buy into the rationale and priorities underpinning it.

The monumental task of building healthier food systems requires more democratic and more integrated ways of managing risk and governing food systems. A range of actors – policymakers, big and small private sector firms, healthcare providers, environmental groups, consumers and health advocates, farmers, agri-food workers, and citizens – must collaborate and take shared ownership in this endeavour.

IPES-FOOD PANEL MEMBERS

Olivier De Schutter is co-chair of IPES-Food. He served as UN Special Rapporteur on the right to food from May 2008 until May 2014 and was elected to the UN Committee on Economic, Social and Cultural Rights in 2014.

Olivia Yambi is co-chair of IPES-Food. She is a Senior Consultant on Nutrition and Sustainable Development who served as UNICEF Country Representative in Kenya (2007-2012) and has held other senior roles in the UN system.

Bina Agarwal is former president of the Int. Society for Ecological Economics, and an expert on land rights & food security who has published award-winning books on gender and land issues and received the Padma Shri prize from the President of India.

Molly Anderson is a specialist in hunger, food systems, and multi-actor collaborations for sustainability who has led inter-disciplinary academic programmes and participated in regional food system planning.

Million Belay, founder of the MELCA-Ethiopia NGO and the Alliance for Food Sovereignty in Africa (AFSA), is an expert and advocate for forestry conservation, resilience, indigenous livelihoods and food and seed sovereignty.

Claude Fischler has headed major French research institutions and served on national and European-level food safety committees, and has a long track-record of innovative inter-disciplinary research on food and nutrition.

Emile Frison is an expert on conservation and agricultural biodiversity who has headed global research-for-development organisation Bioversity International for ten years, after holding top positions at several global research institutes.

Steve Gliessman founded one of the first formal agroecology programs in the world, and has more than 40 years experience of teaching, research, publishing and production experience in the field of agroecology.

Corinna Hawkes is an expert on food systems nutrition and health who participates in the World Health Organization's Commission on Ending Childhood Obesity and regularly advises governments and international bodies.

Hans Herren is a World Food Prize (1995) and Right Livelihood Award (2013) Laureate, and has managed international agriculture and bio-science research organizations as well as playing a leading role in global scientific assessments.

Phil Howard is an expert in food system changes and the visualization of these trends. He has authored prominent contributions to the public debate on concentration, consolidation and power in food systems.

Martin Khor is Executive Director of the South Centre, an inter-governmental organisation helping to assist developing countries in trade and climate negotiations, and a former director of the Third World Network.

Melissa Leach is Director of the Institute of Development Studies (IDS) at the University of Sussex and founder of the ESRC STEPS (Social, Technological and Environmental Pathways to Sustainability) Centre.

Lim Li Ching is a leading NGO researcher with expertise on sustainable agriculture, biotechnology and biosafety who served as regional lead author in the international IAASTD process and has contributed to several UN reports.

Desmond McNeill is a political economy and global governance expert who has led the Centre for Development and the Environment at the University of Oslo, and chairs the Independent Panel on Global Governance for Health.

Pat Mooney is the co-founder and executive director of the ETC Group, and is an expert on agricultural diversity, biotechnology, and global governance with decades of experience in international civil society.

Maryam Rahmanian is an international consultant on issues related to biodiversity and agroecology. She was a Research Associate at the Centre for Sustainable Development and Environment (CENESTA), an Iranian NGO from 2001 to 2014.

Cécilia Rocha is Director of the School of Nutrition at Ryerson University (Toronto), and a leading authority on food and nutrition policies in Brazil, including the successful experiments in the municipality of Belo Horizonte.

Johan Rockstrom is a leading global expert on resilience, global sustainability and sustainable development who spearheaded development of the Planetary Boundaries framework to identify key environmental thresholds.

Phrang Roy has served as Assistant President of IFAD and Assistant Secretary General of the UN, and has more than 30 years of international experience supporting rural development, small-scale and indigenous communities-agriculture.

Laura Trujillo-Ortega is an expert in the political ecology & economy of global food networks. She has taught in the US, Spain and several Latin American countries, as well as co-founding two NGOs for agroecology.

Paul Uys has 40 years of global retail experience specializing in brand creation, product development and sustainable sourcing, and now advises several bodies on sustainability issues, including the Marine Stewardship Council.

ABOUT IPES-FOOD

The International Panel of Experts on Sustainable Food Systems (IPES-Food), established in 2014, seeks to inform debates on food systems reform through policy-oriented research and direct engagement with policy processes around the world. The expert panel brings together environmental scientists, development economists, nutritionists, agronomists, and sociologists, as well as experienced practitioners from civil society and social movements. The panel is co-chaired by Olivier De Schutter, former UN Special Rapporteur on the Right to Food, and Olivia Yambi, nutritionist and former UNICEF representative to Kenya. IPES-Food employs a holistic food systems lens and focuses on the political economy of food systems, i.e., the differential power of actors to influence priority-setting and decision-making.

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ABOUT THE GLOBAL ALLIANCE FOR THE FUTURE OF FOOD

The Global Alliance for the Future of Food cultivates healthy, equitable, renewable, resilient, and culturally diverse food and agriculture systems shaped by people, communities, and their institutions.

We are a unique collaboration of philanthropic foundations that have come together to strategically leverage resources and knowledge, develop frameworks and pathways for change, and push the agenda for more sustainable food and agriculture systems globally. Representing countries across the globe with diverse interests and expertise spanning health, agriculture, food, conservation, cultural diversity, and community well-being the Global Alliance shares a belief in the urgency of advancing sustainable global agriculture and food systems, and in the power of working together and with others to effect positive change.

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www.futureoffood.org
info@futureoffood.org
@futureoffoodorg