

One Life

HUMAN NUTRITION ON A FINITE PLANET: SECURING SUSTAINABLE AND HEALTHY DIETS FOR ALL

Summary

The objectives of research and policy in human nutrition have changed over time to address new public health concerns across the globe. The focus has moved from avoiding single nutrient deficiencies to preventing chronic metabolic diseases in the Western world, while undernutrition and malnutrition remain endemic in other geographical areas. The number of undernourished and food insecure people, as well as those that cannot afford a healthy diet, are still on the rise. This is also the case for the prevalence of diet-related chronic diseases. Both conditions have been amplified by the COVID-19 pandemic, in turn representing risk factors for COVID-19-related morbidity and mortality. While the implementation of effective strategies to address human nutrition goals remains challenging, integrating 'sustainability' as an additional factor to the equation is an increasingly compelling need for addressing environmental and socioeconomic aspects. Unsustainable food production has a major global environmental impact. Moreover, current food processing, transport and consumption trends, coupled with projected population growth in the coming decades, further exacerbate both threats to our planet and challenge global food security. In this session, we will discuss how healthy diets that are socially acceptable, affordable and flexible regarding individual values and preferences can be defined within sustainability boundaries. Furthermore, we will consider how the transformation of food systems could foster a change in food consumption patterns and vice versa. We will also explore the challenges and opportunities to securing healthy, sustainable, accessible and affordable food for all.

Vision

The EU's Farm to Fork Strategy calls for a transition to fair, healthy and environmentally friendly food systems in the EU. It envisages that the European food sector will become the global standard for sustainability. The transition towards this goal requires the involvement of all sectors and players along the value chain and policies that can reshape the food system and promote healthy and sustainable diets.

We have a unique opportunity to rethink the amount and quality of food required to live long and healthy lives while respecting the planet's environmental limits.

Nutrition research and policy goals need to be adjusted, with greater focus on how food security and public health can be optimised, while respecting the planet's available resources. They must also focus on how we can provide new strong scientific arguments to support long-lasting changes to dietary choices and habits. Developing robust scientific assessment methodologies to underpin such policy goals will require the integration of risks and benefits along the food chain as well as unprecedented global collaboration among risk assessors, policy makers and relevant stakeholders.

Background – Challenges and opportunities

The concept of Environmental Health, introduced in 1989 by the World Health Organization (WHO), describes the relationship between human and environmental health. Changes in the lifestyles of a population or in the economic system can lead to considerable changes in ecosystems, and these could impact human health in many ways. In 2019, the EAT-Lancet Commission published a report outlining the concept of 'planetary health diets' in which food was identified as the single strongest lever to optimise human health and environmental sustainability on Earth. These principles are also embedded within the 17 Sustainable Development Goals (SDGs) adopted by all United Nations (UN) Member States. In October 2020, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) identified the links between biodiversity and pandemics and concluded that a transition to sustainable food systems is needed to prevent the emergence of infectious diseases.

In the last two decades, interest in assessing the environmental impact of food habits has significantly increased. An essential factor in reaching the central goal of the Paris climate change agreement, aiming to limit global warming to 1.5 degrees Celsius, is to rapidly change the global food system [1]. The ambitions outlined by WHO (Environmental Health), UN (SDGs) and the EAT-Lancet Commission (Planetary Health Diet) require the development of new methodologies, tools and frameworks to improve the condition of the environment, contribute to climate and biodiversity targets and enhance our long-term capacity and resilience of the food system to ensure healthy (safe and nutritious) food for all [2].

Scope and objectives

The main objectives of the thematic session are to:

- Explore how to define and promote healthy and sustainable diets (e.g., that meet climate and biodiversity targets, are socially acceptable, affordable, and adaptable to individual values and preferences).

- Understand which incremental and transformational changes to current food systems are needed to ensure sustainable and healthy diets for all.
- Discuss scientific alternatives for how to incorporate sustainability targets into dietary recommendations and food based dietary guidelines (FBDGs) and explore opportunities for changes to consumer behaviour in Europe to foster the shift towards healthier and more sustainable diets.
- Discuss policy options to transform food systems and steer consumer behaviour to meet sustainability goals and better understand how academia, risk assessors, policy makers and the food industry could foster the implementation of such a transformation.

[1] <https://science.sciencemag.org/content/370/6517/705>

[2] <https://doi.org/10.1136/bmj.m2322>

People behind the session

Session Coordinator: Silvia Valtueña Martínez (EFSA)

Chairpersons: Sandra Caldeira, European Commission; Jan Wollgast, Joint Research Centre (JRC)

Moderators: Stefanie Vandevijvere, Sciensano

Rapporteurs: Eugen H. Christoph, European Food Safety Authority (EFSA); Ionut Craciun, European Food Safety Authority (EFSA); Andrea Germini, European Food Safety Authority (EFSA); Silvia Valtueña Martinez, European Food Safety Authority (EFSA)

ONE Life – Session affiliate profiles

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Andrea Germini, European Food Safety Authority (EFSA)

Rapporteur

Food scientist by training, Andrea has over 15 years of professional experience in both academic research and in the support to risk assessment activities and the coordination of scientific working groups. He holds a degree and a PhD in food science and technologies and specialised on the assessment of food biomolecules and their characterisation. Andrea joined the European Food Safety Authority in 2008 where he has been working on the safety assessment of innovative food products and in the support and coordination of cross-cutting scientific activities. Andrea currently leads the Novel Foods team and coordinates the activities of the expert working group on Novel Foods. In his current role he coordinates the support to the safety assessment of Novel foods performed by the EFSA NDA Panel and interfaces in the regulatory context with the European Commission and its committees.

Eugen H. Christoph, European Food Safety Authority (EFSA)

Rapporteur

Eugen works at EFSA since 2008 on methodological and scientific support, especially on expert knowledge elicitation. Before he was Scientific Officer at the Institute for Environment and Sustainability at the Joint Research Centre of the European Commission in Ispra, Italy. Determining dioxins and other persistent organic pollutants in recycled edible oils, certain foods and the environment. He studied Chemistry and made his Master of Science at the University of Ulm. He absolved his PhD studies in Environmental Chemistry at the University of Bayreuth, Germany on the distribution and origin of shortchain halogenated organic acids in different environmental compartments, including deep sea profiles. Eugen was born and grew up in a little town at the blue Danube in Bavaria, Germany. Eugen is member of the Sustainability Task Force acting under the EFSA Staff Committee, focusing on the impact of food choices. He is vegan ambassador and an active member of the EFSA garden and food forest community.

Organiser

Co-organisers

Silvia Valtueña Martínez, European Food Safety Authority (EFSA)

Rapporteur

Silvia Valtueña Martínez is a senior scientific officer in the Nutrition and Food Innovation Unit at the European Food Safety Authority (EFSA), where she has been coordinating expert groups and providing support to the Panel on Nutrition, Novel Foods and Food Allergens (NDA) since 2006. The EFSA's NDA Panel deals with the scientific evaluation of health claims made on foods, novel foods and novel ingredients, foods for special groups, dietary reference values for nutrients, including upper tolerable intake levels, and food allergens for labelling purposes. She graduated in human medicine at the University of Barcelona, further acquiring a PhD in Human Nutrition from the University of Rovira i Virgili. She has conducted independent research on the relationship between diet and development of chronic metabolic diseases, namely obesity, osteoporosis, type 2 diabetes and cardiovascular diseases at Harvard Medical School, the Jean Mayer USDA Human Nutrition Research Center on Aging (HNRCA) at Tufts University, the Italian National Institute for Food and Nutrition Research and the University of Parma.

Klaus G. Gruner, Aarhus University

Speaker

Klaus G. Grunert is Professor of Marketing at Aarhus University, and is the founder of the MAPP Research Center. He has done extensive research in the area of consumer behaviour, mostly with regard to food, and in making consumer insight useful in areas like new product development, market communication and public policy campaigns aimed at healthy and sustainable eating or other socially desirable behaviours. In particular, he has done research on quality perception and food choice, healthy eating, effects of nutrition labeling and of health claims, public acceptance of biotechnology, on how insight into consumer behaviour feeds into product development processes in food producing companies, and on competence development in the food industry. As director of MAPP, he has carried out numerous collaboration projects with the food industry, including several pan-European studies, and has participated in or led many EU FP projects. Having an h-index of 87, he is the author of 12 books, more than 200 academic papers in international refereed journals and numerous other publications. Klaus is a past president of the European Marketing Academy and was professor of the European Institute for Advanced Studies in Management.

Title of talk: Drivers of food choices and drivers for change

Abstract of talk

Food choice is driven by multiple motives and is often made by simplified and habitualised decisions. Healthiness and sustainability compete with motives like tasting good, convenience and family acceptance. In addition, healthiness and sustainability are credence characteristics, i.e., they cannot be seen, smelled or touched, and therefore have an impact on food choice only when credible information on them is available. Healthy and sustainable choices can be promoted by making such credible information available through labelling and other devices, although experience with nutrition labelling suggests that the effects are slow in coming and limited in scope. Effects can be accelerated by educating consumers on how to understand and use this type of information, and by increasing consumer motivation for sustainable choices by promoting biospheric consumer values. Goal conflicts can be reduced by making healthy and sustainable alternatives tasty, convenient and affordable. However, a consumer-led green transition of the food sector goes beyond individual food choices and requires that the healthy and sustainable choice becomes habitualised over time. Over time, the information-based gratification received by making healthy and sustainable choices can be crowded out by the hedonic gratification resulting from the food tasting good, preventing the habitualisation of healthy and sustainable choices. In order to prevent this, it is necessary to ensure that the sensory properties of food match their health and sustainability properties, so that consumers do not develop a 'tasty = unhealthy and unsustainable' intuition. In addition, informational tools need to be developed that not only support choice but also provide feedback and reinforcement on choices already made. Bringing about such a change towards healthier and more sustainable choices will require a concerted effort from all stakeholders in the food chain, including authorities, food manufacturers and retailers.

Marco Springmann, University of Oxford

Speaker and panellist

Marco Springmann is a senior researcher in the Centre on Population Approaches for Non-Communicable Disease Prevention in the Nuffield Department of Population Health, and leads the Centre's programme on environmental sustainability and public health. He is interested in the health, environmental, and economic dimensions of the global food systems. He often uses systems models to provide quantitative estimates on food-related questions. Marco joined the Centre in December 2013. Between 2013 and 2017, he has been a James Martin Fellow of the Oxford Martin Programme on the Future of Food to work with researchers from the Nuffield

Department of Population Health, the Department of International Development, and the Environmental Change Institute, to develop an integrated model of environmental sustainability, health, and economic development. Since 2017, he is working on extending the health and environmental aspects of that model as part of the Wellcome funded project Livestock, Environment and People (LEAP), working closely with different departments across Oxford, as well as international collaborators, such as the International Policy Research Institute based in the US. Marco holds a PhD in Economics from the University of Oldenburg (Germany), a MSc in Sustainability from the University of Leeds (UK), and a MS in Physics from Stony Brook University (USA).

Title of talk: Tailoring food systems and dietary recommendations to meet public health and environmental sustainability goals: what does it take?

Abstract of talk

In the talk 'Tailoring food systems and dietary recommendations to meet public health and environmental sustainability goals: what does it take?', I will discuss ways of incorporating sustainability targets into evaluations of the food system, analyse current diets and dietary recommendations in light of those targets, and highlight ways of achieving those.

The talk will draw on the analysis published by colleagues and me in the BMJ (Springmann et al, BMJ 2020). For the study, we developed and used a graded coding method to extract quantitative recommendations from 85 FBDGs, and then assessed their health and environmental impacts by using a comparative risk assessment of chronic-disease mortality and a set of country-specific environmental footprints for greenhouse gas (GHG) emissions, freshwater use, cropland use, and fertiliser application. For comparison, we also analysed the impacts of adopting global dietary recommendations of the World Health Organization (WHO) and the EAT-Lancet Commission on Healthy Diets from Sustainable Food Systems.

We found that adoption of national FBDGs was associated with reductions in premature mortality of 15% on average (uncertainty interval, 13% to 16%), and mixed changes in environmental resource demand, including a reduction in GHG emissions of 13% on average (regional range, -34% to +35%). When universally adopted globally, a third of the FBDGs (34%) were incompatible with the NCD Agenda, and most (67% to 87%) were incompatible with the Paris Climate Agreement and other environmental targets. Adoption of the WHO recommendations was associated with similar changes, whilst adoption of the EAT-Lancet recommendations was associated with 34% greater reductions in premature mortality, more than three times greater reductions in GHG emissions, and general attainment of the global

health and environmental targets. We concluded that national FBDGs could be both healthier and more sustainable. Providing clearer advice on limiting the consumption of animal-source foods, in particular beef and dairy, had the greatest potential for increasing environmental sustainability, whereas providing clearer advice on whole grains, nuts and legumes, and red and processed meat was associated with most of the additional health benefits.

Lucia Reisch, University of Cambridge

Speaker and panellist

Prof. Dr. Lucia Reisch is the El-Erian Professor for Behavioural Economics and Public Policy at the University of Cambridge. She is a behavioural economist and social scientist with a PhD in economics and social sciences (summa cum laude) and one of Europe's leading academic experts in behavioural insights-based policies for sustainability. She has published widely cited papers on sustainable consumer behaviour, behavioural insights, and consumer and sustainability policy. A special feature of Lucia's academic work are interdisciplinary international research projects, often with partners from STEM, law, and psychology. These collaborations are mostly due to the large-scale European and national research projects she has attracted, all centering on behaviour change towards sustainable consumption and production. Lucia brings two decades of experience with high-level policy consulting on consumer behaviour. She has been founding chair of the Advisory Council for Consumer Affairs of the German Federal Ministry of Justice and Consumer Protection (2014-2018). She has also been a member of the German Bioeconomy Council, the German Council for Sustainable Development (2010-2019), and a regular member of high-level scientific committees and ad hoc groups consulting for the German Chancellor Angela Merkel on sustainability issues (e.g., the Ethics Commission after Fukushima, 2011).

Title of talk: Policy options to transform food systems and food consumption patterns

Abstract of talk

My focus is on plant-based defaults to promote the consumption of a healthy diet planet-wide. Aggregate food demand is the result of millions of daily individual food decisions. These decisions are embedded in (and limited by) diverse cultural, social, economic, infrastructural and institutional contexts. Ease of access, seamless availability and affordability matter greatly in people's choices, as do taste, nutritional value, status effects and social norms. As with all consumption choices,

context is key, and seemingly small changes in context can greatly affect outcomes. If the goal is to alter consumer choices, one could imagine a range of options. Some choices might be banned; others might be mandated; others might be taxed; still others might be subsidised. For example, there has been a great deal of interest in taxing sugar-sweetened beverages to reduce the public's sugar intake and obesity, and there is good reason to believe that a suitable tax of that kind would be justified, because it would reduce external harm and help consumers to help themselves (and thus reduce 'externalities'). At the same time, there is a great deal of interest in less intrusive 'nudges', understood as interventions that affect people's choices without forbidding any options and indeed without imposing material incentives of any kind. By way of example, consider nudges in the form of smaller food portions served on smaller plates (potentially creating new social norms), 'Meatless Mondays' in public school canteens, health-promoting framing and priming of food on restaurant menus, and in-store choice architecture to make fruits and vegetables more salient. All of these have been used, with considerable success, to influence food choices. The basic approach here is to make the more sustainable food choice the easy, desirable, social and timely choice. In the coming decades, such nudges are likely to become increasingly prominent as an instrument for promoting goals related to health, safety and environmental protection. One reason for this prediction is that nudges have been found to have widespread majority support from citizens and consumers in the domain of consumer choices, and in many nations worldwide. Another reason is that democratic governments might find it more politically feasible and faster to introduce such low-intrusion instruments, as opposed to taxes, mandates, or bans, which are often the result of long public and political debate and can result in protest.

Jan Wollgast, Joint Research Center (JRC)

Chair/Co-chair

Jan Wollgast graduated in nutritional sciences and home economics from Justus Liebig University, Giessen, Germany in 1998. He subsequently carried out research on the health effects of polyphenols in chocolate and concluded this project by obtaining his PhD at Giessen University. Since 2002, he has been working as a scientific officer in the European Commission's science and knowledge service, the Joint Research Centre (JRC). He is currently leading a team working on health promotion in the Directorate for Health, Consumers & Reference Materials. In his work, Jan focuses on providing scientific and technical support to EU policy in the area of public health nutrition and prevention of chronic diseases as well as to policies in other fields affecting health determinants and health. The latter include

food policies as laid out in the European Commission's Farm to Fork Strategy, in particular those affecting the food environment, as well as those addressing childhood obesity and harmful use of alcohol in Europe's Beating Cancer Plan or the HealthyLifestyles4All campaign. Examples of his work include researching tools and approaches to monitor the nutritional quality of the food offer, reviewing the evidence on front-of pack nutrition labelling or providing a toolkit to restrict marketing of food and beverages, including alcohol, to vulnerable groups.

Sandra Caldeira, European Commission

Chair/Co-chair

Sandra joined the European Commission in 2010 and has been working in science for policy in the area of Public Health ever since; first as Project manager in health promotion and prevention of non-communicable diseases and now as Deputy Head of the Health in Society Unit at the DG Joint Research Centre. The Unit's mission is to support EU policies in public health, to promote excellence and equality of healthcare in all member states and to facilitate the implementation of associated EU legislation. Sandra holds degrees in Microbiology and in Biotechnology as well as a PhD in Biomedical Sciences. She worked as a postdoctoral researcher in Lisbon University (PT) and Cambridge University (UK) as well as Stanford University (US) and held positions as an invited professor of Genetics at the University of Lisbon and as a Scientific Editor at the European Molecular Biology Organisation (EMBO) in Heidelberg (DE). At the ONE Conference 2022, Sandra will co-chair the session "Human nutrition on a finite planet: securing sustainable and healthy diets for all"

Jessica Fanzo, John Hopkins University

Speaker and panellist

Jessica Fanzo, PhD is the Bloomberg Distinguished Professor of Global Food Policy and Ethics and Vice Dean of Faculty Affairs and the Nitze School of Advanced International Studies (SAIS) at Johns Hopkins University. She holds appointments in the Berman Institute of Bioethics and the Bloomberg School of Public Health. She serves as the Director of Hopkins' Global Food Policy and Ethics Program, and as Director of Food & Nutrition Security at Hopkins' Alliance for a Healthier World. She is the Editor-in-Chief for the Global Food Security Journal and leads on the development of the Food Systems Dashboard, in collaboration with GAIN. From 2017 to 2021, Fanzo served on the Food Systems Economic Commission, the Global Panel of Agriculture and Food Systems for Nutrition Foresight 2.0 report, and the EAT-Lancet Commission. She was also the Co-Chair of the Global Nutrition Report

and Team Leader for the UN High-Level Panel of Experts on Food Systems and Nutrition. Before coming to Hopkins, she has also held positions at Columbia University's Earth Institute and College of Medicine, the Food and Agriculture Organization of the United Nations, the UN World Food Programme, Bioversity International, and the Millennium Development Goal Centre at the World Agroforestry Center in Kenya. In 2021, she published her first book, *Can Fixing Dinner Fix the Planet?* and co-wrote *Global Food Systems, Diets, and Nutrition: Linking Science, Economics, and Policy*.

Title of talk: Coming to grips with trade-offs in achieving human and planetary health in resource-constrained settings

Abstract of talk:

In the context of the broad global trends of population growth, the climate crisis and inequitable diets, food systems need to be re-oriented to ensure they can produce enough food to nourish the world. At the same time, food systems must decrease the pressure on biodiversity loss, conserve land and water resources, minimise air and water pollution and lower greenhouse gas emissions. The current COVID-19 pandemic has imposed an additional level of pressure on the governance, functionality, efficiency and resilience of food systems, with potentially long-lasting implications. This re-orientation includes moving towards on-farm sustainable food production practices, lessening food loss and waste, addressing poverty by creating jobs and decent livelihoods, and providing safe, affordable, and healthy diets for everyone. This is a lot to ask of an already entrenched system involving diverse actors with diverging priorities and motivations. Food policy is central to changing systems, and bold policies must be applied to accelerate and incentivise economic, societal, and technological transformations towards a more socially just and sustainable global food system. But policy decisions come with synergies, trade-offs, and short- and long-term, often unexpected consequences. In a world of uncertainty, can we have both human and planetary health – can we have it all? This seminar will explore that question through a global lens that takes the audience through a range of sticky debates that plague food system transformation and governance. In 2021, there were some critical global moments where food systems were discussed and debated at the United Nations Food Systems Summit (UNFSS), the UN Climate Change Conference (COP26) and the Nutrition for Growth Summit (N4G). The international development community can argue whether these events successfully shifted the food policy agenda towards more action and positive transformation or not, but it was a moment. Let us not make this moment meaningless. Now is the time to accelerate, advocate and act on improving food

systems for human health and the planet while respecting and supporting those who work, day-in and day-out, to feed us. It is all about the incentives. Examining the incentives and the trade-offs in making certain decisions will be critical to making inroads to healthy and sustainable diets.

Francesco Branca, World Health Organization (WHO)

Speaker and panellist

Francesco Branca is the Director of the Department of Nutrition and Food safety in the World Health Organization, Geneva (since February 2020). From 2008 to 2019, he was the Director of the Department of Nutrition for Health and Development. During this period, WHO has developed a WHO Nutrition strategy, established a new nutrition guideline development process and has developed a Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition with six global targets. He has been leading the preparation of the 2nd International Conference on Nutrition and the Secretariat of the Decade of Action on Nutrition. Before that, in 2005-2008, Dr Branca was the Regional Advisor for Nutrition at the WHO Regional Office for Europe. Between 1988 and 2005, he has been a Senior Scientist at the Italian Food and Nutrition research Institute where he was leading studies on the effects of food and nutrients on human health at the different stages of the life cycle and on the impact of public health nutrition programmes. He has been President of the Federation of the European Nutrition Societies in 2003-2007. In 1985-1986, Dr Branca has been a medical staff of a Primary Health Care project in the South of Somalia ran by the Italian NGO, CISP Dr Branca graduated in Medicine and Surgery and specialized in Diabetology and Metabolic Diseases at the Università Cattolica del Sacro Cuore, Roma and obtained a MSc and then a PhD in Nutrition at Aberdeen University.

Title of talk: Relationship between diet and human health: meaning of healthy diets in 2022

Abstract of talk:

Food systems affect our health through unhealthy diet and malnutrition, unsafe and adulterated foods, the spread of zoonotic pathogens and antimicrobial resistance, environmental contamination and degradation and occupational hazards. The consumption of unhealthy diets is one of the most important determinants of the global burden of disease, accounting for over 8 million deaths every year.

A healthy diet promotes optimal human growth and development and prevents

Organiser

Co-organisers

malnutrition in all its forms, including undernutrition, micronutrient deficiencies, obesity and diet-related noncommunicable diseases. According to the WHO, healthy diets include fruit, vegetables, legumes, nuts, and whole grains (e.g. unprocessed maize, millet, oats, wheat, and brown rice); at least 400 g of fruit and vegetables per day, excluding potatoes, sweet potatoes, cassava, and other starchy roots; less than 10% of total energy intake from free sugars; less than 30% of total energy intake from fats (mainly from unsaturated fats); less than 5 g of salt per day and plenty of safe water. Animal source foods, particularly meat, can be consumed in moderate amounts.

Multiple scientific approaches converge towards this concept, including systematic reviews of the effect of individual dietary components on health outcomes, analysis of risk–outcome pairs in large populations and dietary patterns studies, looking at quantities, proportions, variety, frequency of consumption of different foods and drinks.

Shifting dietary patterns towards the consumption of healthy diets is a critical demand-side measure to achieve sustainability goals.

Johan Rockström, Potsdam Institute for Climate Impact Research

Speaker

Prof. Dr. Johan Rockström is the Director of the Potsdam Institute for Climate Impact Research and Professor at the Institute of Earth and Environmental Science at Potsdam University. Rockström is an internationally recognized scientist on global sustainability issues, who led the development of the new Planetary Boundaries framework for human development in the current era of rapid global change at the Stockholm Resilience Centre. He is a leading scientist on global water resources, with about 25 years of experience from applied water research in tropical regions, and more than 150 research publications in fields ranging from applied land and water management to global sustainability. Aside from his research helping to guide policy, Rockström consults several governments and business networks. He acts as an advisor for sustainable development issues at noteworthy international meetings, such as the World Economic Forum, the United Nations Sustainable Development Solutions Network (SDSN), and the United Nations Framework Convention on Climate Change Conferences (UNFCCC). Supplementary, he chairs the advisory board for the EAT Foundation, the Earth Commission, and the Earth League, is Chief Scientist of Conservation International, member of the European Investment Bank

Advisory Group, and elected member of the German Academy of Sciences Leopoldina.

Title of talk: The concept of environmental sustainability applied to food: production, distribution, consumption and waste

Abstract of talk:

Earth system science and climate research, recently summarised in the IPCC 6th Assessment reports (WG1 and 2) confirm that we have reached deep into the Anthropocene, where we put human wellbeing and the health and stability of the entire planet at risk. The reason for this is that we are - due to human pressures - approaching tipping points that would lead to irreversible changes in life support systems and potentially cause an unstoppable drift of the planet away from the liveable corridor of life on Earth. Food is the single largest cause behind these global risks - as the primary driver behind the transgression of 6 of the 9 Planetary Boundaries that are known to regulate the state of the Earth system. This calls for a rapid global transformation of the global food system, from its current state causing premature death for some 10 million people per year and threatening the health of the Planet, to a universal Planetary Health Diet, which supports both human and planetary health (as proposed by the EAT-Lancet commission in 2019).

This science-based universal framework for healthy and sustainable diets is necessary (for our chances of a safe and just landing on a stable planet), and can function as a guiding principle providing space for the diversity of dietary cultures around the world.

A challenge is that food is not only a driver of global change: it is also a front-line victim of change. We see rising global turbulence, social instability, displacement, migration and conflicts, with food as a threat amplifier, in social disruptions ranging from the Arab Spring, to Syria, Mali, Sudan, and with risks of spill-over effects from the Ukraine war. These global systemic risks, where ecological degradation, climate extremes, land and water disputes, energy and fertiliser volatility, abrupt collapse in production capacity, interact to cause food price spikes and volume deficits, which can meander across the world. The World Food Programme concludes that the number of people 'marching towards starvation', to quote WFP ED David Beasley, is rising in the world (> 45 million in Nov 2021), a negative trend which started well before the beginning of the Ukraine war. There is an urgent need to deepen the interdisciplinary analysis not only on transitions to sustainable and healthy food systems, but also on strategies and practices to secure food and agricultural resilience in a world characterised by rising threats and risks to food safety.

Ionut Craciun, European Food Safety Authority (EFSA)

Rapporteur

Graduated with a BSc in Health and Performance Science from UCD, Ireland, and a MSc in Human Nutrition from the University of Copenhagen, Denmark. I have been working at EFSA since 2020, first as a trainee and then as a scientific assistant within the human nutrition team of the NIF unit. My time at EFSA predominantly involved working on deriving DRVs, specifically ULs. I have contributed to the recently published scientific opinion on the UL for dietary sugars and I am currently involved in the work on deriving ULs for a number of vitamins and minerals. I have also contributed to the recent update of EFSA's guidance for establishing and applying tolerable upper intake levels for vitamins and essential minerals. I am looking to combine my passion for human nutrition with the growing need to effectively bridge the multiple sectors of our food systems while considering all environmental, economic, and social impacts of the transformational changes needed to ensure sustainable and healthy diets for all.

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