

## 10.E. Workshop: Environmental implications of food and nutrition policies

Organised by: WHO EURO and EUPHA section on Food and nutrition  
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In the context of the EU discussion on the current food policy and its effects on the provision of safe, nutritious, sustainable and affordable food, the joint organisers have arranged workshops at the last three European conferences on the pressing need for an international convention on healthy nutrition and on some key nutrition policy areas.

This year the organisers agreed to plan a workshop designed to explore the interplay of food systems, nutrition policies and environmental impacts. Accordingly, the objectives for this workshop are:

- to set the stage on the interplay between environment, food production, and human health (not only with regards to nutrition);
- to develop future scenarios in order to anticipate hypothetical challenges and possible solutions arising from different food systems;
- to explore in depth the science, and its role in the logical determination of future policy towards healthy and sustainable foods;
- to assess the importance of the local authorities and communities in facilitating and advocating for more sustainable food practices;
- to discuss how to reach a greater alignment of food production, health and environmental policy.

After an initial setting of the scene by Martin O'Flaherty, there will follow brief presentations, by experts in the relevant fields, on future scenarios related to changes in food choices and food

environments (Petros Maragkoudakis), on the role of nitrogen and its burden related to agriculture (Adrian Leip), and on local policy actions towards sustainable nutrition (Florence Egal).

Following these presentations there will be a final one on sustainable dietary guidelines, and whether they can really contribute to ecological public health; this presentation (by Tim Lang), also indicating some necessary directions for future policy development, will lead directly on to a discussion with encouragement for the maximum of audience participation.

### Key messages:

- There is a lot of evidence on environmental impacts of food production, and the development of future scenarios provides a sense of urgency and require informed and deliberate policy actions
- Science and policy can work together towards more sustainable food production systems

### Big problems require big solutions: Tackling the food environments to improve our health

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It is not surprising that structural modification of disease determinants at the population level is powerful. Public health can celebrate two centuries of successfully overcoming barriers to implement effective, structural policies for safe drinking water, clear air, safe motoring, immunisations, smoke-free public spaces and food contamination. All of these are

examples of structural interventions, acting at the population level, and powerfully shaping the environment where people live.

The efforts to improve our diets to prevent chronic diseases is increasingly including structural policies, as exemplified by salt content reformulation, the removal of trans-fats from processed food and the combination of fiscal, regulatory and educational interventions to tackle the obesity and diabetes epidemic. But these policies act on a complex environment. Food production and distribution systems, education, marketing, regulation and cultural elements all interact in shaping population diets. However, some of these “environments” are dominant; and particularly important is the role of “industrialization” on creating and sustaining epidemics.

This is a complex phenomenon. Innovative policy frameworks like NOURISHING and INFORMAS propose specific actions and indicators to monitor and modify the food environment, food systems and behaviour change, and could help in refining a global strategy to modify nutrition. But we need to be wary of excessive simplification, as these environments are deeply interconnected and it is difficult to predict the effects of perturbations to those systems will have on health, as the evolving story on low fat and sugar is illustrating.

The key issue is that we mostly know all what is needed and what the benefits will be in improving our diets. The new frontier is to understand the intricacy of human nutrition as a complex, reactive system that evolves quickly.

### Tomorrow's food system; opportunities and challenges ahead

Petros Maragkoudakis

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Current issues like the prevalence of non-communicable diseases in Europe, natural resources scarcity, climate change or social inequities and their expected developments are pressing societies and decision makers to come up with smart and integrated solutions to these problems. Building a healthier, fairer, resilient and environmentally sustainable future food system will be part of those solutions.

The Joint Research Centre has conducted two foresight studies entitled “Tomorrow's healthy society - research priorities for foods and diets” and “Delivering on EU Food Safety and Nutrition in 2050 - Future Challenges and Policy preparedness” that support the above case. The studies followed a scenario building methodology with a time horizon of 2050; the possible future worlds described in these studies can be used as tools to visualise the future, identify the challenges and opportunities that lie ahead and therefore better prepare policy makers to address them.

This presentation will briefly summarise both studies. We describe the research needs and priorities needed to shape and cope with the 2050 food system and discuss nutrition and food safety related challenges that may be associated with a closed, more local and circular EU food system along with policy options that may help alleviating these challenges.

While we will focus on challenges and opportunities that could arise on the way to a more environmentally sustainable future food system, a common conclusion of both studies is that, given its complexity, the food system needs to be understood and addressed in a holistic manner. As such, the food and nutrition policy framework must consider health, social justice and environmental sustainability through an integrated approach. In turn, other policy areas must consider supporting a food system that delivers safe and affordable food, preserves the environment and contributes to food and nutrition security and to healthy lives for present and future generations.

### The Food-Nitrogen-Environment nexus

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Nitrogen exists in a multitude of compounds, many of which are beneficial or even essential for ecosystems and human health. However, many forms of reactive nitrogen are detrimental for the environment or causing health problems. Unless nitrogen is bound as N<sub>2</sub>, N is very reactive. As a consequence, one atom of N can contribute to several positive and negative effects – the so-called “nitrogen cascade”. The discovery of the Haber-Bosch process allowed to boost crop production and today feeds almost half of the global population. Synthetic mineral fertilizer is now the largest source of terrestrial new reactive N at 120 Tg N yr<sup>-1</sup>.

#### Problems

Yet, nitrogen use in food production is inherently very inefficient and contributes to many environmental challenges we face: freshwater and coastal eutrophication, soil acidification, climate change, loss of terrestrial biodiversity, air quality problems. For Europe, the contribution of agriculture on the environmental problems has been estimated to be between 10% (water pollution: dissolved inorganic phosphorus) and 59% (water pollution: nitrogen), with a major share coming from livestock production systems, ranging between 69% (biodiversity) and 81% (global warming).

#### Possible solutions

Reducing N emissions is particularly challenging for agriculture which involve many actors and success requires a smart combination of technological and demand side solutions. Informative tools such as Nitrogen Footprint calculators try to ‘reach’ the consumer or engage people more actively. To distill ‘win-wins’ rather than ‘trade-offs’ in the call for environmentally sustainable diets on one side and healthy diets on the other side will be an essential focus of future research.

### Sustainable food systems for health: jumpstarting the SDGs

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#### Background

As we embark on the UN Decade on Nutrition and in the wake of COP21 and Habitat III, sustainable food systems are high on the international agenda. There is now widespread awareness, in particular in the health and food and agriculture sectors, that unless we move beyond economic development and embark on a broader reflection on how to manage natural resources and ensure local livelihoods, we will not be able to address malnutrition and prevent NCDs, alleviate poverty, deal with urbanization, manage crisis, mitigate climate change or protect biodiversity.

#### Possible stakeholders

Local authorities will have a major role to play in the development of sustainable policies and programmes involving actors from different sectors and institutional backgrounds. The Milan Urban Food Policy Pact initiative has brought together so far around 50 European cities. The active involvement of the health sector and close collaboration with the food and agriculture sector will be essential for effective advocacy and good planning. But it also constitutes a major opportunity to highlight the role of the health sector, and more specifically the work of the WHO's Healthy Cities programme and Urban health programmes and initiatives at international, national and local levels

### **Possible solutions**

The concept of sustainable diets offers an excellent entry point for sustainable development. We need to build upon and bring together the Health in All Policies approach, initiatives such as that of the Nordic Council of Ministers, the promotion of the Mediterranean diets, that of the right to food and social justice or linking climate change and nutrition. And the most pragmatic way to embark on joint action-learning will be at local level, building upon existing food practices and culture as well as innovative experiences.

### **Sustainable Dietary Guidelines: a test case for ecological public health**

**Pamela Mason**

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The term “Sustainable Diets” (SD) entered the public health lexicon in 1987, but its translation into reality is proving slow. In its most pared-down formulation, SD means good nutrition with low carbon emissions. In more complex forms, it means eating within environmental limits while eating well for health and in a manner appropriate to economic, social and cultural circumstances. Whichever version of SD is adopted, policy-

makers have been surprisingly reluctant to translate the term into public advice.

This paper explores the reasons for the evidence – policy gap. Some is commercial; others professional and political. Why the reluctance when there is such robust agreement that the food system needs to dovetail with environmental, health and societal goals? Specifically, should national dietary guidelines become sustainable dietary guidelines? In 2015 the Paris Climate Change agreement and the UN Sustainable Development Goals provided the beginnings of a global framework for SD. The 2015 Milan Urban Food Policy Pact committed 100 world cities at the local urban level. So why is there reluctance at the national level?

The paper considers this multi-level policy picture. It charts some national, international and local attempts to chart policy direction. It argues that, however thorny, specific guidelines are required to shape both culture and the food system ahead. A new SDG2 strategy is needed: sustainable dietary guidelines for sustainable development goals. This is now a significant opportunity for the 21st century public health movement to inject ecological public health considerations into market economies and consumerist behaviour. For such guidelines to be of use, concerted policy pressure and support are needed from a broad alliance of civil society, academia, the public and even progressive elements in industry.