

European Academies



Science Advisory Council

PRESS RELEASE:

New report from European science academies calls for urgent action on food and nutrition security: Europe will need to change its diet to address climate change and health

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As part of an unprecedented global InterAcademy Partnership project by 130 science academies, a team of scientists from across Europe undertook a two-year, extensive analysis on the future of food, nutrition, agriculture, and health.

Scientists from national academies across Europe are calling for urgent action on food and nutrition in a new rigorous and independent [report](#) published today by the European Academies' Science Advisory Council (EASAC). This thorough analysis has implications for policy-makers working on food, nutrition, health, the environment, climate change, and agriculture. Combating malnutrition in all its forms – undernutrition and micronutrient deficiencies as well as overweight and obesity – is a problem faced by all countries. Research and innovation will be central to finding solutions to these local-global and multidisciplinary, interconnected challenges. Evidence must underpin the policies that deliver Europe's future approach to these issues. The report recommends being more ambitious in identifying and using scientific opportunities: how the current evidence base can shape understanding of both supply- and demand-side challenges, and how the research agenda should be defined, including basic research, to fill knowledge gaps.

Climate change will have negative impacts on food systems, necessitating the introduction of climate-smart agriculture such as the adoption of plant breeding innovations to cope with drought. Agriculture and current diets also contribute substantially to climate change. Mitigating this contribution depends on climate-smart food systems such as land-sparing and agronomic management practices together with efforts to influence consumer behaviours associated with excessive agricultural greenhouse gas emissions, including the overconsumption of calories and meat. Changing dietary consumption could bring co-benefits to health and to climate change.

Top line findings by the panel of scientists include:

Food consumption will need to change to improve consumer health:

- For both human health and the environment, **food consumption patterns** will need to change. It is important to explore individual responsiveness to nutrition and the links to health, and to consider the particular needs of vulnerable groups.
- As part of the changes to food consumption patterns, a decrease in the consumption of **animal protein** could be important for both health and the environment.
- The authors call for policy-makers to tackle the **perverse price incentives** to consume high-calorie diets and to introduce new incentives for affordable nutrition.
- More clarity is needed about **how to measure sustainability related to consumption of healthy diets**.

- Sources of **food contamination** must be characterized and tackled to reduce food safety concerns.
- European countries must commit to collection of more robust data on the extent of **waste in food systems** and the effectiveness of interventions to reduce waste at local and regional levels. Novel approaches to processing food and reducing waste will be central to achieving the Circular Economy and Bioeconomy policy objectives.

Farming and agriculture have significant impacts on human health and the environment:

- The authors call for a revamp of the **Common Agricultural Policy** to focus on financing innovation rather than solely subsidies to farmers. Europe must find innovative ways to support agriculture and meet its international responsibilities. Agricultural sciences play a key role in European competitiveness and for a sustainable bioeconomy, and the authors urge a rebalancing of commitments.
- Europe is dependent on **food and animal feed imports** to meet its needs. This dependence leaves it vulnerable to trade issues and market fluctuations. It also increases Europe's footprint in many developing countries that will be most affected by climate change and environmental degradation. There is much to be done to understand determinants of market volatility and fair trade, and to increase resilience.
- The role of the **livestock sector in greenhouse gas (GHG) mitigation** is a major issue. Changes to livestock management practices (e.g. sustainable intensification of production) could contribute to GHG mitigation. More significant adjustments may require changing the demand for livestock products.
- **Alternatives to traditional forms of animal protein** that Europe could consider include: food from the oceans, lab-grown meat, and insects. Research is needed on how to increase consumer acceptance of innovative foods and diets. There are significant opportunities to increase food from the oceans by improving the knowledge base for sustainable harvesting, including at lower trophic levels.
- **Meat that is cultured *in vitro***, may have a lower environmental impact than livestock and this potential must also be examined as part of the research agenda.
- More effort is warranted to understand the functions of **soil** in carbon sequestration and in biodiversity, and for the bioeconomy.

Europe should not stall on opportunities offered by genome editing, precision agriculture and the use of large data sets:

- Breakthroughs in genome editing and other genetic research will be crucial to the future of food and agriculture in Europe. The authors call on European policy-makers to capitalise on the scientific advances in genomics for animal health and productivity, and for crops.
- For plants as for animals, it is important to protect and characterise wild gene pools and to continue sequencing and functional assessment to unveil the potential of genetic resources.
- Precision agriculture offers many opportunities to improve productivity with reduced environmental impact. Large data sets are a vital tool to support innovation throughout the food system and prepare for risk and uncertainty.

Underpinning all of the scientists' recommendations is a clear call to **integrate research and innovation** into all of these topics, where many questions remain from a scientific perspective. An evidence-based food systems approach that integrates all of these issues is recommended. Europe must capitalise on opportunities to **co-design research across disciplines** to understand

better the nexus food-water-other ecosystem services and to inform the better coordination of relevant policy instruments, including the Common Agricultural Policy, Water Framework Directive and the Habitats Directive. Efforts to increase food systems' efficiency should not focus on increasing agricultural productivity by ignoring environmental costs.

Notes to editors

This report is a part of a global project led by the InterAcademy Partnership and will be joined by three complementary reports focusing on the Americas, Africa, and Asia which will be published in the first quarter of 2018. This global project has been supported by 130 science academies around the globe in an unprecedented effort to bring together the latest knowledge on the future of food, health, and the environment. The global comparative report will be published in mid-2018. The IAP project is distinctive and adds value to the large body of work already undertaken by many other groups.

This project was formulated so as to stimulate the four regional networks in diverse analysis and synthesis according to their own experience, traditions and established policy priorities, while, at the same time, conforming to shared academy standards for clear linkage to the evidence available. The project as a whole and in its regional parts was also underpinned by necessary quality assessment and control, particularly through peer review procedures. The networks of science academies involved in the project are grateful for the financial support provided by [German Federal Ministry of Education and Research](#) (BMBF).

About EASAC

EASAC is formed by the national science academies of the EU Member States, Norway and Switzerland, to collaborate in giving advice to European policy-makers. EASAC provides a means for the collective voice of European science to be heard. Through EASAC, the academies work together to provide independent, expert, evidence-based advice about the scientific aspects of European policies to those who make or influence policy within the European institutions.

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