

IAP & SDGs: Food and Nutrition Security and Agriculture Project - Europe

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Challenges for food and nutrition security

- Malnutrition (undernutrition, micronutrient deficiencies, overweight/obesity) is problem worldwide, including EU
- Defining the goal - to provide access for all to healthy and affordable diet that is environmentally sustainable and culturally acceptable
- Taking an integrative food systems approach covers all steps from production, harvesting, processing, distribution, marketing through to consumption and recycling of waste: inter-related issues for resource efficiency, environmental sustainability, resilience and public health
- Setting priorities for increasing agricultural production by sustainable intensification must take account of pressures on other critical resources, e.g. water, soil, energy, and avoid further loss of biodiversity







EASAC report

(<https://easac.eu/publications/details/opportunities-and-challenges-for-research-on-food-and-nutrition-security-and-agriculture-in-Europe>)



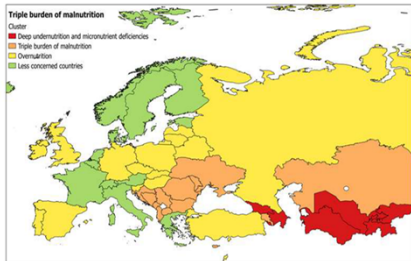
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Food and nutrition security in Europe

Figure 2 A classification of REU countries based on the three dimensions of malnutrition



- Lack of country level FNS data
- Problems for vulnerable groups
- Problem of overconsumption

Capacci, S., Mazzocchi, S., Shankar, B., Traill, W.B. (2013). FAO ECA *2010 data

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Issues for food and nutrition security are vitally important for tackling SDGs

- The Sustainable Development Goals provide a critically important framework for understanding and meeting the challenges but require fresh engagement by science to reduce the complexities of evidence-based policies and programmes
- Science-informed analysis of interactions among SDGs can be strengthened to support coherent and effective science-policy dialogue and decision-making
- The project principal themes map onto multiple SDGs.....

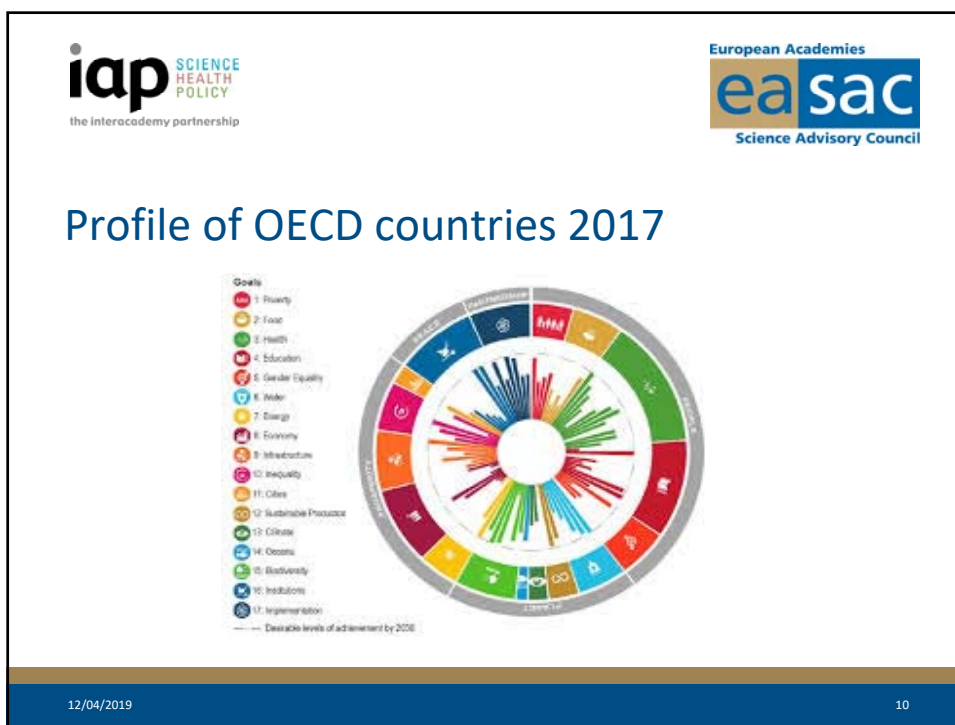


SDG interactions (ICS Guide 2017)

- All SDGs interact and are fundamentally interdependent: what is potential for synergies, trade-offs and disconnects in targets and indicators?
- Continuing role for academies to clarify interactions, this EASAC focus:
 - [SDG 2-3](#) food quantity and quality - health
 - [SDG 2-13](#) agricultural GHGs and impacts of climate on food systems
 - [SDG 3-13](#) climate change impacts on health
- Other relevant interactions for food systems:
 - [SDG 2-15](#) agriculture – land ecosystems
 - [SDG 2-14](#) agriculture – marine resources
 - [SDG 2-7](#) agriculture - energy

What is the progress of EU countries in tackling SDGs: sources of information

- Eurostat 2018:
 - Most significant progress on SDG 3
 - SDG 2 in EU context focuses mainly on agricultural sustainability
 - SDG 2 agricultural R&D investment is declining
 - Common concern for SDG 2 and 3 is obesity
 - SDG 13 data coverage is inadequate to assess climate impacts and adaptation, some data on mitigation (energy consumption)
- SDG Index and Dashboard Report 2018 (www.sdgindex.org)
- OECD 2017



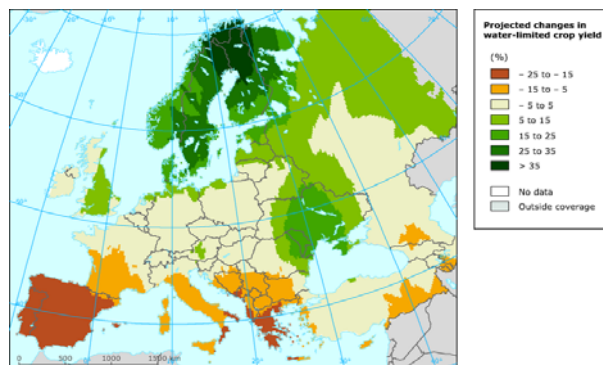
Key FNSA actions for bridging SDGs 2 and 13

- SDG 2.4 “ensure sustainable food production systems... that strengthen capacity for adaptation to food production
- SDG 13.2.1: “adapt to adverse impacts of climate change..... in a manner that does not threaten food production”
- And also SDG 12.3 – reduce food losses/waste by half
- Therefore, what is needed is:
 - Understanding climate change impacts on food systems
 - Developing climate-smart food systems to adapt to change
 - Understanding food systems’ contributions to GHG emissions
 - Mitigating these contributions – with potential health co-benefits

EASAC analysis of climate-food systems-health relationships -1

- Impacts of climate change on food systems:
 - Mediated by temperature, precipitation, carbon dioxide, pests and diseases: will vary across region
 - Impact on cereal yield, fruit and vegetable vitamin and mineral content, fisheries e.g.s WHO scenario that southern Europe could experience 25% food production loss; drought in 2018 caused most severe problems in EU fruit and vegetable sector for 40 years
- Opportunities for adaptation:
 - Biosciences research and plant breeding for climate resilience resistance to biotic and abiotic stresses
 - Social sciences research for understanding farmer behaviour

EEA 2017 projections for water-limited crop yield for wheat, maize, soybean: comparing 2050 versus 1961-1990



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EASAC analysis of climate-food systems-health relationships - 2

- Agriculture's contribution to GHG emissions:
 - Agri-food systems worldwide account for about 30% GHGs
 - Animal-based foods responsible for about 75% European agricultural land use and high proportion of GHGs
- Mitigation – sustainable, healthy diets:
 - Requires combination of measures – reduction in food waste, improvement of farming practices, change in diets
 - Changing diets can also bring health co-benefits (for obesity, NCDs)
 - Issues for vulnerable groups and how to influence consumer choice

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EASAC analysis of climate-food systems-health relationships – mitigation continued

- Sustainable, healthy diets: estimated that adoption of WHO dietary guidance could reduce mortality by 10% and food-related GHGs by 70% by 2050 – but there is need for EU data
- Meat alternatives:
 - Innovative foods include cultured meat, insects, algae, seaweed.....
 - Lab-grown meat has reached proof-of-principle on palatability and, potentially, economics, but environmental advantages are controversial and would be impacts on rural communities
 - Food value of lab-grown meat could be controlled to optimise nutritional content

Impact of Europe on other regions

- Academies need to continue to emphasise the importance of being more ambitious in generating and using scientific information to address SDGs – at national, regional and global levels
- EASAC work on FNSA highlights some issues for inter-regional collaboration and spill over of impacts, both geographically and across SDGs:
 - Underpinning role of basic research for discovery
 - Building inter-regional, inter-disciplinary, inter-sectoral R&D partnerships for global critical mass and sharing good practice
 - Understanding implications of European choices on agriculture for other regions e.g. use of resources, regulation of plant breeding and trade
 - Europe must not try to address its SDGs by exporting problems of sustainability to rest of world

How has EASAC emphasised SDG issues in dissemination and follow-up activities?

- As part of engagement about integrated EASAC FNSA outputs, e.g.
 - G20 academies Agriculture meeting, Rosario, July 2018
 - World Health Summit, Berlin, October 2018
- During SDG-focused events, e.g.
 - IAP project on policymaking/SDGs, regional event, Halle, September 2018
 - UNECE discussion on SDG 13, Geneva, March 2019
- Highlighting SDG issues in media communication and scientific commentaries, e.g.
 - IAP fifth report media launch webinar, November 2018
 - Lancet Planetary Health commentaries 2018-2019
- New report “Climate change and health” to be published May 2019