

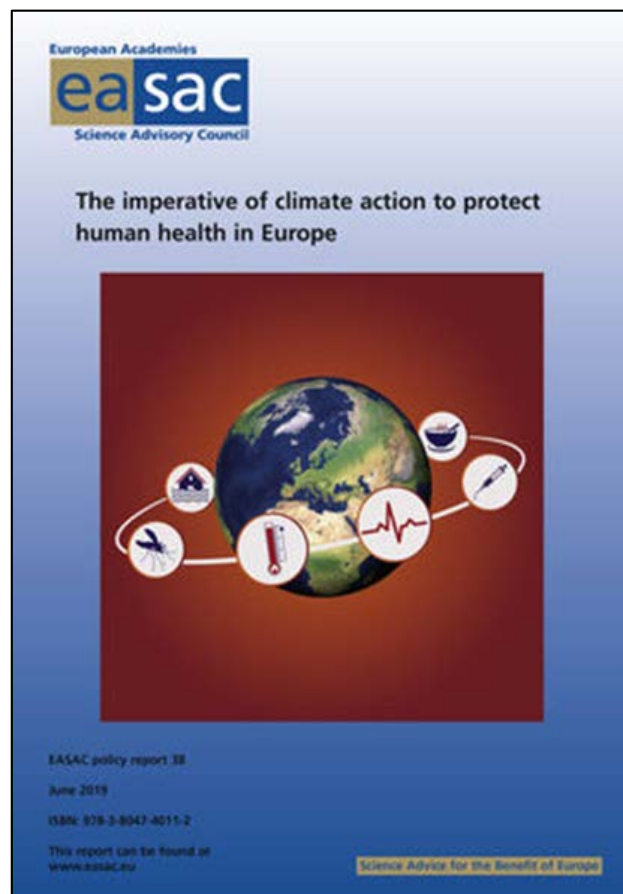
# Climate change and its impact on food and nutrition security

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## **Structure of the Presentation**

1. EASAC publications
2. Food and nutrition security problems in EU
3. Impacts of climate change on food systems
4. Vulnerable groups
5. Options for adaptation and mitigation
6. Relevance of COVID-19
7. Informing policy development

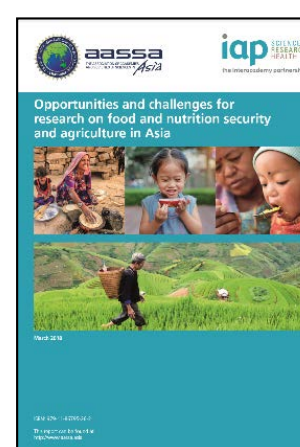
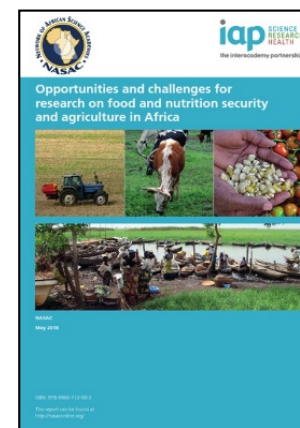
# Climate change and health: EASAC report



# POLICY DEPARTMENT FOR ECONOMIC, SCIENTIFIC AND QUALITY OF LIFE POLICIES

ECON . EMPL . ENVI . ITRE . IMCO

**Agricultural innovation**   **Food system efficiency**   **Nutrition, public health**   **Competition for land**   **FNSA & environment**



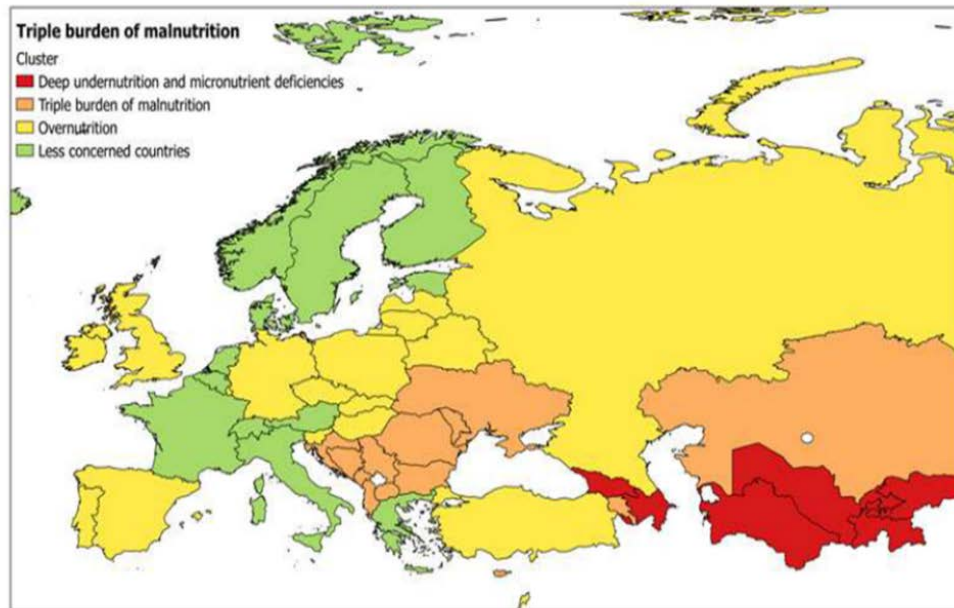
An integrated approach to Food and Nutrition Security and Agriculture (FNSA)

## What are the problems? Eight big global food system deficiencies

1. **Stunting:** has been reduced and child survival increased, although both remain unacceptably high.
2. **Hungry, undernourished people:** rose to over 820 million in 2018 from 777 million in 2015.
3. **Micronutrient deficiencies:** harm over two billion.
4. **Obesity:** tripled to more than 800 million people between 1975 and 2016.
5. **Unsafe food:** affects millions of people (ca. 1 in 10 people), e.g. aflatoxin
6. **Low production and high losses and waste:** about one-third lost or wasted.
7. **Pressures on the environment:** damage to land, water, seas, atmosphere.
8. **Poverty in the small farms:** about 400 million small farms are home to largest share of poor people in the world

## Food and nutrition security in Europe (from FAO)

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

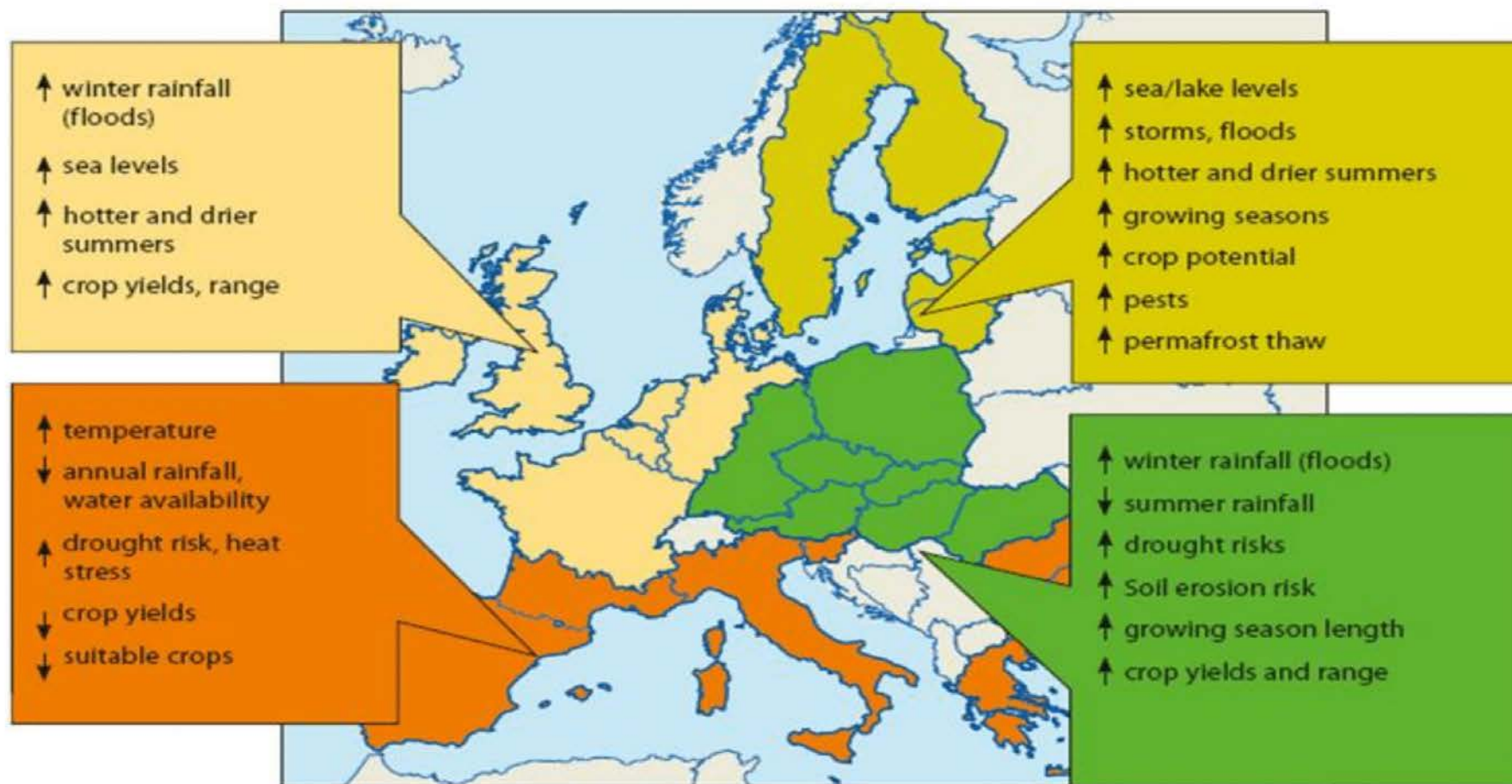


- Lack of country level FNS data
- Problems for vulnerable groups
- Problem of overconsumption



## Potential effects on agriculture

<http://adapt2clima.eu/en/climate-change-agriculture>



## Effects of climate change on marine and fisheries (Europe)

- Increases in water temperature has implications for ocean circulation, marine biodiversity, changing fish stocks
- Ocean acidification affects molluscs, plankton
- Impact of extreme events on environment, livelihoods
- European Council “Oceans and seas threatened by climate change: Council adopts conclusions” November 2019



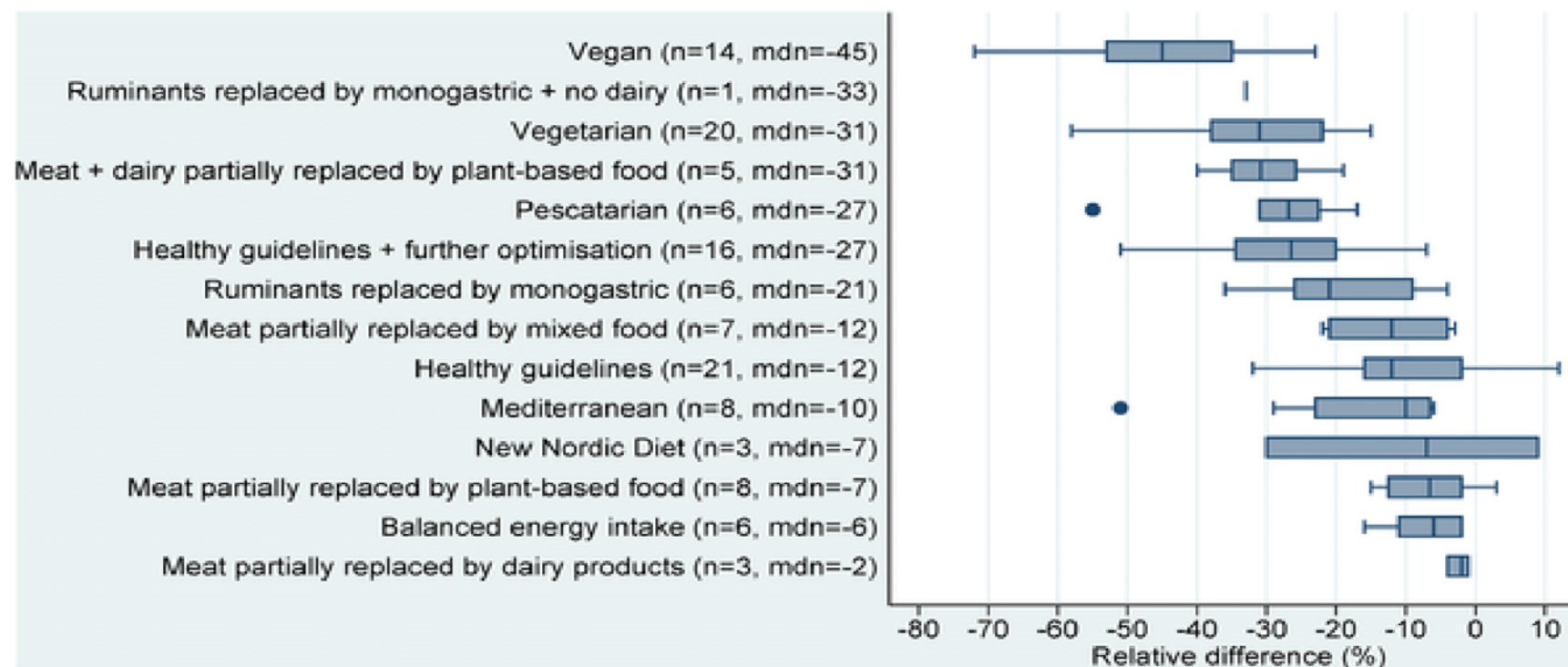
## EASAC analysis of climate-food systems-health relationships -1

- 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 resistance to stresses
  - Social sciences research for understanding farmer behaviour
  - Coordinated policy development

## 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

**Fig 2. Relative differences in GHG emissions (kg CO<sub>2</sub>eq/capita/year) between current average diets and sustainable dietary patterns.**



Aleksandrowicz L, Green R, Joy EJM, Smith P, Haines A (2016) The Impacts of Dietary Change on Greenhouse Gas Emissions, Land Use, Water Use, and Health: A Systematic Review. PLoS ONE 11(11): e0165797. doi:10.1371/journal.pone.0165797  
<http://journals.plos.org/plosone/article?id=info:doi/10.1371/journal.pone.0165797>

## Vulnerable groups in Europe

- Geographical e.g. Arctic, Mediterranean
- Population groups vulnerable to climate-health effects broadly e.g. elderly, children, migrants, others marginalised
- For FNS specifically high levels of obesity; micronutrient deficiency in impoverished; increasing proportion of households unable to access recommended guidelines – concern for food taxes
- NB EU increases vulnerabilities in rest of world by contributing to GHGs, overconsumption, and exporting lack of food sustainability (land use etc)

## COVID-19 and food and nutrition security in Europe

- Potential for added problems COVID-19/ climate change because of lack of resilience in food systems
- COVID-19 effects on imports, seasonal labour for harvesting, food processing, supply chains, demand during lockdown, increasing food wastage (European Data Portal May; OECD June; World Economic Forum, June)
- Opportunities for transformational change

## Recent EU policy developments

- Opinions from Group of Chief Scientific Advisors:
  - Adaptation to health effects of climate change, June 2020
  - Towards a sustainable food system, March 2020
- Farm to Fork Strategy – opportunities for innovation:
  - EU in 2017 estimated >950,000 deaths attributable to unhealthy diets
  - Core importance in European Green Deal
  - Resilient food systems for post-COVID-19 and tackling climate change
  - Triple wins – transformation for human, planetary health and equity
  - But also need to address impacts of EU policy for rest of world



## Recommendations from EASAC climate change and health report

- Identifying priorities for linking research outputs and policy development:
  - Opportunities and challenges for adaptation and mitigation
- Communication:
  - Countering misinformation
- Using evidence already available for “health in all policies”:
  - Relevance to CAP, Green Deal, Farm to Fork, Bioeconomy, SDGs
  - EU responsibilities to rest of world
- Filling knowledge gaps

# Thank you for your attention!

Further information: [robin.fears@easac.eu](mailto:robin.fears@easac.eu)

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