AXIS

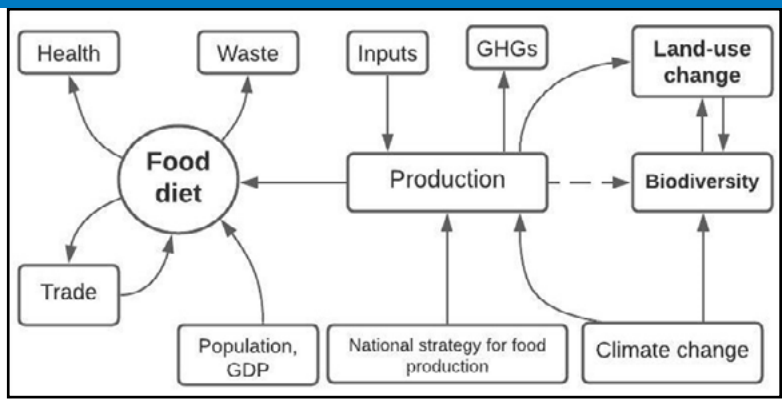
ERAnet AXIS Assessment of CrossX sectoral Climate Impacts and Pathways for Sustainable Transformation 2023

Pathways to sustainable food and land use futures – NorthWestern Paths (NWP)

Institutions from Norway, Germany, Sweden and Finland designed pathways towards sustainable food and land-use systems consistent with the 2030 Agenda for the sustainable development goals (SDGs) and implementation of the Paris Climate Agreement. The aim is to identify the extent of policies actions and transformations needed for reducing food waste, management of land and water resources, type of dietary shifts, sustainable intensification of agriculture and trade, enable countries to meet national climate, biological conservation, water quality, and public health commitments.

Key Findings

- Afforestation, sustainable land use change and rewetting peatlands contribute strongest to Greenhouse Gas (GHG) reduction.
- Dietary shifts, as increased consumption of pulses, nuts, and legumes rreduced intake of red meat and decrease in food waste not only strongly lowered GHG emissions, but also lead to increased health benefits.
- Future scenarios for a shift towards domestic organic production in Sweden, lead not only to higher self-sufficiency and showed benefits when combined with dietary shifts and reduced food waste.
- In stakeholder designed scenarios the public sector pathways aligned with government projections and position statements, while the private sector scenarios had differing views on future food systems specifically in their visions of massively increased food production for export.
- Generally all stakeholders were reluctant to set targets for environmental sustainability in consumption or production.

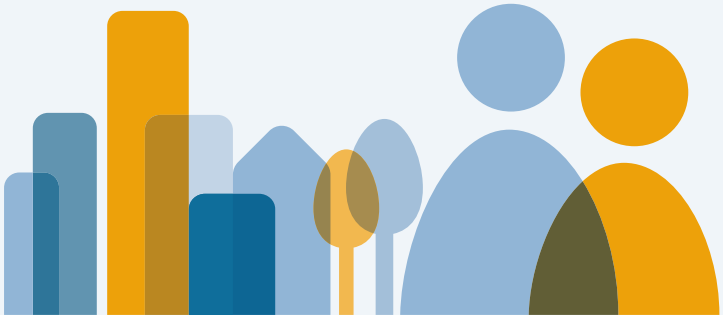


Structure of the, FABLE tool , for scientific and stakeholder pathway development

- In a „Scenathon“ process, global aggregation of pathways from 22 participating countries allowed to achieve balanced trade flows and emission reduction . An iterative process allowed estimate global pathway impacts and helped country teams to adjust their assumptions and pathways.

Scenathon Process: Driving integrated strategies for global sustainability and policy alignment

The Scenathon process highlights the need for integrated strategies and that comprehensive transformations across trade, food production, biodiversity, climate, and diets are required to meet global agreements‘ objectives of the Paris Agreement and the Sustainable Development Goals. Moreover the adoption of the pathways can inform policy and decision-making on implementation actions to achieve national SDGs and reduce GHG emissions. National scenario development with stakeholders depicts the necessity to collaborative scenarios development to align government projections with private sector views, shaping policy and regulations. In addition, the stakeholders‘ reluctance to set targets shows where it may pose obstacles for transformation of science based recommendations towards sustainable goals and more feasible solutions need to be found.



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Building resilience to climate change through multidisciplinary integration and local engagement

To achieve a more comprehensive understanding of climate change's effects across various sectors, it is crucial to strengthen the integration of insights from different disciplines. Additionally, incorporating local knowledge and perspectives can provide valuable insights into the specific impacts on local ecosystems and communities. It's essential to consider the non-linear nature of these impacts and develop resilient adaptation strategies that can adequately prepare for unforeseen events while remaining flexible to adapt strategies as needed. Simultaneously, the development of user-friendly decision support tools that incorporate climate, ecological, economic, social, and political considerations can play a significant role in assisting policymakers in making more informed decisions.

About AXIS

The ERA-NET Consortium AXIS (Assessment of Cross(X) - sectoral climate Impacts and pathways for Sustainable transformation) aims to promote cross-boundary, cross-community research with the overall goal to improve coherence, integration and robustness of climate impact research and connect it to societal needs. To this effect, AXIS aims to overcome boundaries between science communities through inter- or transdisciplinary research projects.
https://jpi-climate.eu/programme/axis

Partners

- Center for International climate research
- Sustainability and Global Change Unit, University of Hamburg
- Swedish University of Agricultural Science
- Research Institutes of Sweden
- International Institute for Applied Systems Analysis
- UN Sustainable Development Solutions Network
- Naturresursinstitutet
- EAT Foundation

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