

The System adaptation for OneHealth under Climate change for Vulnerable groups and Ecosystems (SOLVE) project is a transdisciplinary initiative under the Belmont Forum and the FABLE Consortium.

SOLVE co-develops local adaptation roadmaps with societal partners to build resilient, healthy, equitable, and prosperous food and land systems. Using a suite of models, SOLVE integrates future climate extreme risks into long-term planning and promotes a OneHealth approach to better understand and address the complex interactions between people and nature.

THE CHALLENGE

A food system transition toward more plant-based and less animal-based food production and consumption is essential for achieving Norway's climate mitigation goals and broader One Health objectives.

Boosting local plant production and availability can play a key role in this transition. However, smallholder farmers face significant challenges, including low profitability, limited market access due to low production volumes, and low adaptation to increasingly extreme weather events.

Increased plant-based consumption is challenged by the low availability of locally grown vegetables, the perception that vegetables are more expensive than animal products, a high level of trust in current animal-based agriculture, and a lack of awareness about its impacts on sustainability.

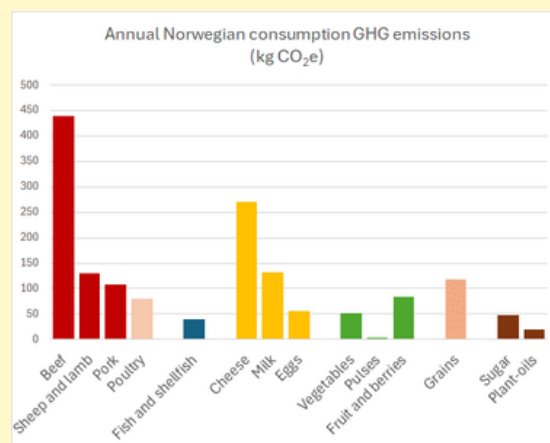


Norway

FOCUS AREAS

Increasing local plant production and improving climate adaptation depend on enhanced profitability, better market access, and stronger consumer demand. Local small farms are key to unlock this potential.

Consumer demand, in turn, is shaped by food environments, prices, and awareness of the health and environmental impacts of different diets. Retailers have a key role to play in improving the availability, profitability, and communication of plant-based options.



Source: Edited from [van Oort et al. 2021](#).

Smallholders and low-income households are the most vulnerable. However, all actors should be empowered, and no one should be left behind in the transition.

Currently, only 15% of full-time farmers earn over 90% of their income from farming. Around 50% of agricultural land is rented, and most agricultural production is centered on heavily subsidized livestock and animal feed.

Dietary patterns are also a concern. Low intake of whole grains, fruits, and vegetables, combined with a high intake of processed meat, represents a major risk for both public health and increasing emissions.

STAKEHOLDERS & PROCESS

This project will explore the potential for increasing local plant production and availability, improving market access, price shifts, and profit margins, and promoting the benefits of dietary change through the use of media and communication networks.

To achieve this, we will engage with Norwegian retailers, farmers' unions, NGOs, and local innovators.

The Norwegian project partner, the Center for International Climate Research (CICERO), will:

- Collect data on current food prices and farmer shares.
- Collect data on dietary patterns and trends.
- Conduct interviews and hold stakeholder meetings to understand and identify the potential to remove barriers for increased plant-based production, price shifts, and support farm-level adaptation strategies.
- Use the above data to explore scenarios for implementing the necessary adaptation measures and model their potential impacts on the farming system using the FABLE Calculator.
- Communicate the current production and dietary patterns, impacts, and healthier alternatives.



Norway



IMPACT

Food system actors will gain a clearer understanding of the environmental and health impacts of current production and consumption patterns.

By identifying potential levers for improved profitability, increased local access, and enhanced availability of plant-based foods, including small production volumes, this project will benefit smallholder farmers and make healthy diets more accessible to consumers.

Implementing dietary shifts while supporting smallholders can help policymakers meet national targets for improved environment, health, and agriculture.

NGOs and the research community will benefit from insights into where, how, and which challenges in the food system can be addressed, and how impacts will evolve under different scenarios.

This case study will contribute to, and draw on the global open modelling infrastructure of the FABLE Consortium.

The Norway case study is led by CICERO. To get involved, please contact senior researcher Bob van Oort (oort@cicero.oslo.no).

This case study is funded by the Research Council of Norway through the Belmont Forum Collaborative Research Action (CRA) "Climate, Environment, and Health 2" (2023).