

Synergies and trade-offs between healthy consumption and sustainable production

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Abstract

This presentation looks at the intersection of diets, sustainable food systems and healthy nutrition. It focuses on the specific case of Switzerland. The Swiss food system has to fulfill multiple social, economic, and environmental functions under continuously more challenging framework conditions such as population and economic growth, climate change, resource scarcity, or price volatility on international markets. The central question in this context is how food for a steadily growing population can be provided in a sustainable way and how sustainable food provision supports or contradicts with healthy diets. For this purpose, we use an integrated computer simulation model that combines, harmonizes and extends existing food system models in Switzerland.

The Swiss food system, consisting of crop and animal farming, the food processing industry, food wholesale and retail trade as well as restaurants, generates almost 7% of the entire gross value added of Switzerland and employs 12% of the total employed persons. Its share in total greenhouse gas emissions, however, is roughly 17% and that in overall environmental impact about 30%. The environmental intensity of the Swiss food sector is therefore above the average of all economic sectors of Switzerland. Approximately two thirds of the environmental footprint of Swiss food consumption is caused outside of Switzerland through the imports of intermediate inputs as well as final goods. Consumption of meat and dairy products has the highest environmental intensity.

Reducing the environmental intensity of the Swiss food sector and of the consumption of animal products requires an integrated perspective and policy coordination across the agricultural, environmental and health sectors. Promoting shifts towards vegetarian diets from a health/consumption perspective alone can lead to unexpected increases in the domestic production of animal products because of the strong biological coupling between the production of dairy and bovine cattle meat. Similarly, intervention strategies that aim at closing nutrient cycles at the production level through reductions in imports of animal feed and animal products can strengthen domestic animal farming if consumption preferences remain unchanged.