

CLIMATE-RESILIENT FOOD SYSTEMS REQUIRE COORDINATED ACTION

Recent shocks such as floodings, the COVID-19 pandemic, and ongoing conflicts clearly demonstrate the vulnerability of global food systems. A holistic approach as featured by the World Food System Center at ETH Zurich is urgently needed to foster concerted actions and create resilient food systems.

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Food systems and climate change are intricately intertwined. Production, distribution, and consumption of food strongly impact climate change and accelerate natural resource degradation. This acceleration, in turn, directly affects the production potential of food systems.

Various concepts, approaches, and innovations have lately been brought forward to tackle the above-described food system and climate challenge.¹ However, the close connectivity of food systems and climate means that not a single technological, agronomic, regulatory, economic, or societal measure will break negative feedback cycle. Stand-alone practices only contribute to incremental change. Global society requires a concerted set of measures. To reduce food systems vulnerability and its environmental impact, we need to lower greenhouse gas emissions and increase efficiency in the use of inputs through, e.g. precision farming technologies. Improving soil health and more generally building climate resilience of production systems is key. This requires a shift to sustainable concepts such as agroecology and production practices such as conservation agriculture, agroforestry, or integrated crop-livestock systems. Application of smart combinations of local knowledge, know-how, and science-driven innovations is paramount.

REDUCING FOOD LOSS AND WASTE

Addressing only the supply side of food systems, however, will not be sufficient. Food loss and waste clearly shows the failures of our current food system and raises ethical issues as millions of people across the globe are food insecure. Reducing losses in all economic sectors and treating waste and side streams as valuable resources

in circular approaches need to be further explored and developed. In areas of the world characterized by high consumption of animal-source foods, a shift in diets is an additional measure. The planetary health diet provides easy-to-use recommendations for diverse meals serving both human and environmental health.

Creating climate-resilient food systems requires a holistic approach.² Taking local conditions into account, solutions should be co-developed by various actors, especially farmers, but also industries, retailers, policy makers, and consumers. Concerted actions based on improved coordination, collaboration, and communication among all these actors are key. Only then can we successfully transform and build sustainable food systems that ensure food and nutrition security, human and environmental health, and social well-being for all across the globe. ■

REFERENCES

- 1 HLPE. 2020. <https://www.fao.org/3/ca9731en/ca9731en.pdf>
- 2 IPCC Special Report 2022: <https://doi.org/10.1017/9781009157988.007>

 MORE INFORMATION
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ABOUT WSFC

The World Food System Center at ETH Zurich is an interdisciplinary competence center that supports real-world solutions to tackle the challenges in our food system.