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Editorial

Agroecology – Can we change our food systems?

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Dear colleagues, authors, reviewers and readers!

Over the past decades, maintaining and increasing the productivity of farming per hectare to secure the quantity of food and feed was the core objective of food production worldwide. This objective was achieved mainly through technological innovations, including efficient machinery, breeding, and chemical inputs such as fertilisers and pesticides. The structure of the value chain pushed the specialisation of farming on towards the production of a limited number of crops, while supplies, processing and marketing were concentrated to a few cooperatives, agro-industry and retail. This evolutionary development had been appraised as successful in ensuring food security, up to the point where environmental and social trade-offs became apparent. The narrow perspective of food security, with a focus on food quantity, may therefore have to be replaced by a new comprehensive approach to value food sustainability. An exemplary approach can be found in the recently published 'Farm to Fork Strategy' of the European Commission.

But the development of circular bio-based economies, improved animal welfare, and gains in biodiversity and ecosystem services are still in their infancy in many parts of Europe and need to be developed worldwide. A transition of food production towards systems with reduced dependency on pesticides and antimicrobials, reduced excess fertilisation, and skillful use of natural resources as well as fair participation by local communities and people must be sought. Research and movements on agroecology are trying to develop solutions in this multifaceted field, where changes are determined by nature, technology and various actors.

With the call for the current issue of *Landbauforschung – Journal of Sustainable and Organic Agricultural Systems*, we asked for strategies and success stories on the integration of agroecology to foster sustainability in agriculture. We received a vast range of position papers on the future role of agroecology in designing a new approach to agriculture and agricultural policy. Many authors provided reports on local successes, visions for research design as well as positions and results on the effects of integration of modern techniques or on more traditional changes in management of farming and food systems.

The review process – it is published in detail together with the articles – discloses that many of the discussions on how to succeed in strictly integrating agroecology concepts in developing sustainable agriculture for the future are ongoing.

We hope that the collection of articles will capture your interest and that it will help to generate a common understanding what agroecology means. We hope it helps the reader to learn about different experiences with agroecology and views on how it might to be used to improve sustainability in agriculture.

Hans Marten Paulsen and Jens Dauber