

Editorial

Current Prospects of Social–Ecologically More Sustainable Agriculture and Urban Agriculture

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This Special Issue serves as a timely follow-up to a previous exploration of “Social–Ecologically More Sustainable Agricultural Production” [1]. Building on these foundational explorations of more sustainable approaches to agricultural production, this collection of articles delves deeper into the multifaceted dimensions of sustainability, examining both conventional and urban agricultural systems through environmental, social, and economic lenses. The research presented here from diverse backgrounds underscores the complexity and interconnectedness of achieving truly sustainable food systems in an era of rapid environmental and societal change.

Collectively, the contributions to this Special Issue highlight key pathways, persistent challenges, and innovative solutions across various agricultural scales and contexts. These insights span from advancing environmental sustainability in broader agricultural systems to exploring the evolving landscape of urban agriculture and navigating the crucial socio-economic dynamics and policy imperatives that underpin these transitions and go beyond traditional aspects of agricultural knowledge to novel intersectoral approaches as in the bioeconomy.

A significant focus of this Special Issue is on enhancing the environmental performance of agricultural practices. For instance, Agraso-Otero et al. [2] provide a comprehensive lifecycle assessment of organic wine grape production in La Rioja, Spain, revealing remarkably lower global warming impacts compared to conventional systems, largely due to land use changes associated with pruning waste management. Their study also identifies agrochemical-related emissions and land transformation as environmental hotspots while highlighting the positive impact on pollinator abundance, underscoring the nuanced benefits and remaining challenges even within certified organic systems. Expanding on environmental considerations, Xie et al. [3] investigate the transboundary impacts of nitrogen dioxide (NO₂) on soil nitrogen fixation and crop yields in China. Their research indicates that current agricultural environments for major grain crops often exceed NO₂ tolerance levels, particularly near urban clusters. They propose regional interventions like precision nitrogen fertilizer management as a solution to enhance both soil health and crop yields, demonstrating how managing the nitrogen cycle can simultaneously improve productivity and environmental sustainability. Further demonstrating practical environmental solutions, Horgan et al. [4] explore the willingness of Filipino rice farmers to adopt ecological engineering for pest suppression through rice bund management. Their study reveals a significant increase in farmers’ willingness to establish bund vegetation for pest control after educational interventions. This shift, particularly towards growing vegetables



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on bunds for pest management, indicates a promising pathway for reducing reliance on insecticides and restoring beneficial ecosystem services within agricultural landscapes.

Beyond traditional farming, urban agriculture emerges as a critical component of sustainable food systems, with several articles exploring its potential and challenges. Gavrilaş et al. [5] investigate how lifestyle influences individuals' perceptions of urban agriculture in Western Romanian towns. Their findings highlight that higher education levels correlate with increased belief in urban farming's contributions to socialization and recreation, while income levels shape opinions about the role of increasing recycling. This study provides valuable insights for policymakers seeking to develop tailored strategies to foster sustainable growth in urban communities by understanding public perception. Complementing this, Altieri et al. [6] delve into the immense potential of urban agroecology to achieve biodiversity conservation, food security, and climate resilience. They argue that applying agroecological principles can significantly enhance the global food supply from urban areas (estimated at 15–20%). The authors emphasize the importance of restoring spatial and temporal crop combinations for pest deterrence and increasing soil organic matter to enhance soil fertility. Crucially, they also address the significant social, economic, and political barriers to scaling up urban agriculture, advocating for policies that provide incentives, access to resources, and support for producer–consumer networks.

The transition to more sustainable agriculture is deeply intertwined with broader socio-economic contexts and requires strategic policy interventions. Luo and Liu [7] examine the impact of culture–tourism integration on the agricultural sector in China. Their empirical analysis reveals a complex relationship: while culture–tourism integration positively influences the per capita income of agricultural workers, it shows a negative impact on agricultural gross domestic product, total factor productivity, and the proportion and production of crop farming. This highlights the tradeoffs involved in integrated development strategies and underscores the necessity of balancing such initiatives with efforts to accelerate agricultural technological progress. Finally, Díaz-Chavez [8] provides a crucial socio-economic assessment of the agriculture sector and bioeconomy in East Africa, with a specific focus on gender aspects. This study reveals significant risks for gender inequality and poverty among agricultural workers in the selected countries, noting that women continue to lag behind men, which may constrain bioeconomy development. The author highlights the lack of disaggregated data and emphasizes the critical need for improved access to education, finance, and gender parity as key recommendations to advance and monitor the bioeconomy in the region.

The articles in this Special Issue collectively paint a picture of a dynamic and evolving agricultural landscape. From the environmental benefits of organic viticulture and ecological engineering to the transformative potential of urban agroecology, and from the complex socio-economic impacts of integrated development strategies to the critical need for gender equity in the bioeconomy, these studies offer invaluable insights. They reinforce the notion that achieving social–ecologically more sustainable agriculture and urban agriculture demands integrated approaches that consider environmental stewardship, social well-being, and economic viability in equal measure. We hope that this collection stimulates further research, informs policy development, and inspires collaborative action towards building more resilient, equitable, and sustainable food systems worldwide.

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