

PARTICIPATORY ASSESSMENT OF FUTURE SUSTAINABILITY AND RESILIENCE OF EUROPEAN FARMING SYSTEMS

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Sustainable and resilient farming systems in Europe are important for food production, economic prosperity, maintenance of natural resources and the quality of life as well as the attractiveness of rural areas. However, current sustainability and resilience levels of European farming systems require improvements.

In participatory workshops across nine EU farming systems we elicited information from stakeholders from the farmer community, government, NGOs, and the processing industry to discuss farming system performance and resilience in possible futures. The case studies included arable, livestock, mixed and perennial farming systems. Stakeholders reflected in plenary and small group sessions on: 1) the requirements for maintaining the status quo, 2) critical thresholds and the consequences if these would be exceeded (system decline), 3) possible alternative systems with improved sustainability and resilience, and 4) strategies to realize those alternative systems. Alternative systems were then compared with five scenarios for European agriculture (Eur-Agri-SSPs).

Most studied systems seem close to at least one critical threshold for system challenges and for functions related to food production and economic viability. Exceeding the thresholds was expected to result in moderate negative developments for system functioning, compared to the status quo. An overall analysis of thresholds mentioned suggests that low economic performance can hasten the decline of farming systems, especially through farmers exiting the farming system, lack of successors and low availability of labor.

Proposed alternative systems are mainly adaptations of the status quo, which could indicate path-dependent thinking of participating stakeholders. Alternative systems were expected to primarily improve economic performance, either in combination with increased food production, or in combination with improving biodiversity and quality of life. Also presence of resilience attributes is expected to improve, specifically in the social domain. To realize alternative systems in the future, boundary conditions and strategies are generally expected to shift from farm level in the agronomic and economic domain to farming system level in the social and institutional domain, e.g. more focus on collaboration and an enabling policy environment. This shift may be explained by the

erosion of social functions observed in many of the studied farming systems, leading to a situation in which those functions only can be rehabilitated by improved collaboration between actors in and outside the farming system.

Alternative systems seem strongly incompatible with one Eur-Agri-SSP and at most moderately compatible with four other Eur-Agri-SSP scenarios. A re-design of European farming systems might hence have to encompass more than participating stakeholders have suggested.

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