agroecology transect

Unlocking the transition:

barriers and levers to the expansion of agroecology in the European Union

key outcomes from stakeholders in 23 EU countries as part of the Agroecology-TRANSECT project

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Introduction

Agroecology-TRANSECT is a Horizon Europe project co-financed by the European Commission, Switzerland, and the United Kingdom. Launched in 2022 with a four-year funding period, it seeks to provide scientific insights and support the development of agroecology in response to major global challenges, including **climate change, biodiversity decline, and farm socio-economic resilience**.

A key feature of the project is its **transdisciplinary and co-creation approach**, involving a consortium of **19 diverse partners**, including research institutions, universities, SMEs, advisory bodies, and civil society organizations. A central component of the project is the engagement of **11 Innovation Hubs –** agricultural initiatives transitioning to agroecology and representing different stages of this transition. Together with additional agroecological initiatives outside the consortium, these initiatives reflect the diversity of bioclimatic areas and farming systems across Europe. These have been mobilized to provide a diverse and comprehensive dataset on the **barriers and levers** influencing agroecological transition pathways in different contexts across Europe.

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Summary and key message

The **Agroecology-TRANSECT** project, a European initiative primarily funded by the European Commission, has explored the co-creation of knowledge to support agroecological transitions. By **engaging directly with on-the-ground-actors**, the project has gathered key insights about agroecological transformations**.** These findings are based on interactions with **agroecological initiatives located in 23 European countries** and covering a wide range of agronomic diversity. Their perspectives provide valuable reflections on the key barriers and levers shaping their transition pathways.

Key barriers identified for the expansion of agroecology:

- **Awareness gaps at multiple levels:** Stakeholders perceive a **lack of awareness** regarding global challenges among farmers, consumers, and policymakers. Policy shifts that undermine the credibility of agroecology limit the overall understanding and visibility of agroecology within society.
- **Policy inconsistencies:** A major concern expressed by stakeholders is the **inconsistency of EU but also national, regional and local regulations related to agroecology** which, among others, create uncertainty and hinder long-term investment in sustainable practices.
- **Unsustainable subsidies and subsidy distribution:** EU subsidies, particularly under the Common Agricultural Policy (CAP), were repeatedly highlighted as **insufficient for farms seeking to implement agroecological systems**, especially in comparison to large corporations that receive substantial amounts. Area-based payments also indirectly discriminate against women, who tend to farm smaller areas.
- **Market and regulatory challenges:** Agroecological initiatives face financial unsustainability due to the **lack of adapted markets** and **unfair competition from imported products** that do not comply with equivalent environmental standards.
- **Lack of rural attractiveness and infrastructure development:** The **lack of connection to a city and local markets** can be an obstacle to the development of agroecological initiatives, as rural areas often lack development and attractiveness.
- **Labour shortages:** The agricultural sector faces a **critical shortage of labour and young entrants**, driven by the low attractiveness of farming jobs due to demanding working conditions, insufficient incomes and low societal recognition. This challenge is **particularly acute in agroecology**, which often relies on more labour- and knowledge-intensive production models.
- **Technological and machinery limitations:** The transition is constrained not only by the **lack of machinery specifically adapted to agroecological practices**, but also by limited access to **affordable equipment**, insufficient payment support (e.g. through the CAP) for second-hand machinery, and the lack of knowledge and opportunities to repair or share machinery.
- **Research limitations:** The transition is hindered by **a lack of participatory research and co-creation of knowledge** that effectively engage farmers, advisors, researchers, civil society organisations and policy. This type of research allows the development of **context specific, systemic and long-term solutions.** This barrier is reinforced by the dependence on short-term funding, which constrains the development of sustained and collaborative knowledge creation.
- **Climatic uncertainties:** Climate change and increasing weather variability pose significant challenges to agronomic production, but also to experimentation. **Research results and practices that work today may no longer be effective** under future climatic conditions. Southern Europe and European outermost regions in tropical areas were already exposed to strong climatic pressures and are now among the first to suffer from climatic changes.

In the following we elaborate on these pressing challenges and propose recommendations on how policies can create a better enabling environment for much needed agroecological transitions in Europe.

What is Agroecology? What key challenges does it address?

Agri-food systems are a primary driver of global environmental change, pushing planetary boundaries in climate, biodiversity, and freshwater use beyond their safe limits. International expert bodies such as IPBES and IPCC have identified agri-food systems as needing urgent transformation. Agroecology – defined as the application of ecological and social principles to the design and management of agrifood systems – is one approach funded by the EU to foster such transitions. As a paradigm shift in food systems that aims to leverage social and ecological diversity, agroecology addresses a number of EU policy objectives, including reversing biodiversity loss, mitigating and adapting to climate change, and fostering socio-economic resilience.

Methodology

To capture stakeholders' perceptions of what facilitates or hinders agroecological transitions, different approaches were adopted, combining a survey and semi-structured interviews.

The survey was developed based on a literature review of domains that could capture key factors of success and failure in agroecological initiatives. This survey explored diverse themes, such as the **actor diversity** within initiatives**, production types,** and **position in the value chain**. Ultimately, we collected **89 responses** (Delhove, 2025) from agroecological initiatives across 23 countries (see figure 1), covering various European contexts.

To complement these insights, a second approach focused on **semi-structured interviews** (Cassart et al., 2025), engaging **22 agroecological initiatives** in 15 countries (see figure 1) among the 89 respondents to the survey. These include the 11 initiatives (called Innovation Hubs) from the project (Agroecology-TRANSECT, 2025), and 11 additional initiatives to help broaden the diversity of contexts. Interviews were conducted with **farmers, researchers, advisors, SME workers**… capturing a variety of perspectives. These qualitative insights enriched the survey findings by providing a deeper understanding of the challenges and opportunities shaping agroecological initiatives.

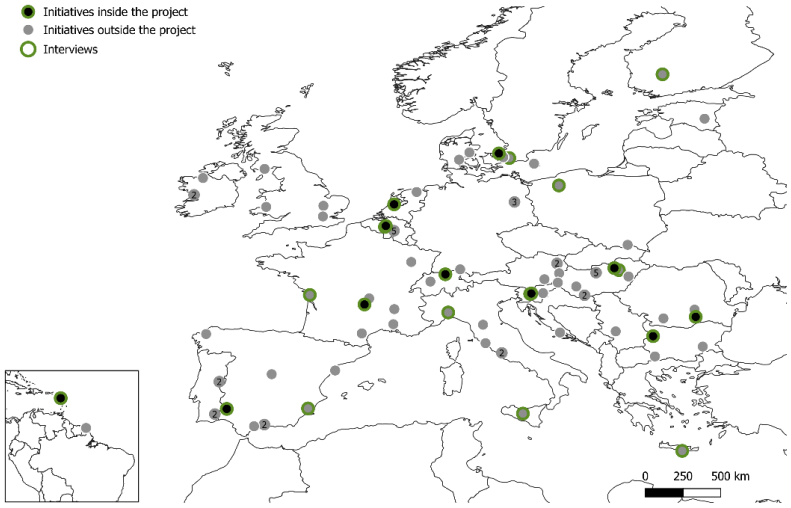

Figure 1: **Map of the 89 initiatives that responded to the survey, from which 22 were selected for interviews in the second phase.**

Main results

The findings reveal multiple critical factors influencing agroecological transitions, which have been grouped in several interconnected dimensions.

A first dimension explored concerns **policy**, which stakeholders perceive as both a barrier and a potential lever for agroecological transitions. They highlight inconsistent and unsupportive EU and national regulations creating uncertainty and limiting long-term investments. Complex and time-consuming administrative procedures and short funding deadlines add further constraints, while aligned funding agendas and policy engagement offer emerging opportunities.

Economy and markets, a second dimension which is mostly perceived by stakeholders as a major barrier to agroecological transitions. Limited human and financial resources and low profitability hinder long-term stability. Farmers face limited consumer commitment and insufficient recognition of the added value of their products a lack of dedicated markets, and unfair competition from cheaper imports, although external funding can provide occasional support.

A third dimension concerns **infrastructures, technology, and access to natural ecosystems**. Stakeholders emphasize that geographical proximity can foster collaboration, while poor accessibility and time constraints often limit it. Technical challenges in the field, inadequate machinery and infrastructures, and the growing unpredictability of climate conditions further hinder production and experimentation.

Societal and cultural factors formed another key dimension shaping perceptions and behaviours toward agroecology. Initiatives stakeholders note that limited strategic communication is a barrier to their development. More broadly for agroecology, limited visibility constrains awareness and engagement, while social acceptance and consumer demand remain uneven. Yet, motivated farmers, a younger generation open to change, and the confidence gained through involvement in initiatives, such as Innovation Hubs or Living Labs, act as important levers of transition.

A fifth dimension highlights the role of **knowledge and information** in supporting agroecological transitions. Stakeholders value learning through innovation hub activities, where research and practice align to test context-specific, long-term solutions. Yet, the lack of practical knowledge and performance references for agroecological practices, including those potentially facilitating adaptation to climate change, remains a barrier, despite researchers and advisors playing a crucial supportive role for farmers. The dependence on short-term research may also limit long-term development.

The final dimension concerns **social organization and cooperation networks**. Stakeholders of agroecological initiatives emphasize that trust, transparent communication, and a shared long-term vision are essential to sustain collaboration. Related to previous levers, structures that bring together networks of actors, such as Innovation Hubs or Living Labs, are considered particularly effective by those stakeholders. However, differing mindsets, short-term perspectives, and uneven engagement among members often generate frustration and conflict. Building mutual understanding and recognizing farmers' realities emerge as key conditions for effective cooperation.

Policy recommendations

to address the barriers identified in this study, we recommend policymakers to:

- **Raise awareness at all levels**: Efforts should be made to inform and educate consumers, farmers, and policymakers about the benefits of agroecology fostering more informed decisions and stronger commitments to sustainability. This should also help to counterbalance the influence of agri-food stakeholders not aligned with agroecology.
- **Develop consistent and long-term supportive policies:** Create regulatory frameworks that provide stability and incentives for agroecological practices, ensuring continuity over time and alignment across national and EU levels. Policies should allow agri-food system to adapt to specific contexts, minimize inconsistencies, and create a level playing field for agroecology-oriented farmers.
- **Improve financial support for farmers in transition:** Higher dedicated funding mechanisms are needed to help farmers navigate the economic challenges of adopting agroecology, reduce financial risks and support the necessary investments inherent to the transition (e.g. similar to the Just Transition Fund). Support should also address administrative burdens and short funding deadlines. Rather than merely increasing financial support, the primary consideration should be the reallocation of existing resources.
- **Develop fair and profitable markets for agroecological products**: Instruments should be added and developed further to ensure fair pricing and adequate returns for farmers engaged in agroecology. A better positioning of farmers within the value chain is essential to enhance economic sustainability of farmers' jobs. This may require more than just CAP instruments – in line with the repeated call for a sustainable food systems' framework. Free trade agreements, such as Mercosur, run counter to these efforts.
- **Enhance labour conditions and attract young generations**: Instruments are needed to improve the attractiveness of agricultural professions and rural areas by promoting better working as living conditions, education, and financial incentives especially for young entrants. Educate and inform labour forces about specificities of agroecology is required.
- **Invest in infrastructure and technology**: Public and private investments should prioritize the development of agroecological infrastructure, including adapted machinery, collective transformation infrastructure and logistical support to facilitate transitions to sustainability. In particular, ensuring the necessary infrastructure for short supply chains, with their specific requirements.
- **Promote participatory and transdisciplinary research with evidence-based knowledge exchange:** Strengthening collaboration between farmers, researchers, and advisors within Innovation Hubs can generate practical, field-tested innovations, increase farmers' confidence to experiment, and produce robust scientific data on agroecological practices. This approach can help overcome misalignment between experimental research and real-life farming conditions.

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