

# Policy Instruments to Support Agroecological Transitions in Europe

Des instruments de politique pour accompagner les transitions agroécologiques en Europe

Politische Instrumente zur Unterstützung des agrarökologischen Wandels in Europa

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Transitions to agroecology involve processes to adapt agri-food systems through a combination of technological and governance changes with the active engagement of multiple actors. Such transitions are supported by the EU, being expected to deliver multiple benefits to the environment and society, while keeping farming viable. For example, in the new Common Agricultural Policy (CAP), agroecology is explicitly mentioned among the list of sustainable practices that would benefit from a stream of funding. Future EU policy development should focus on how to improve the implementation of relevant instruments to address major barriers, which, to date, have hindered transitions to agroecology in various European contexts. Context-specific planning should encompass the identification of the best set of policy instruments to remove these barriers, especially by considering that transitions to agroecology may need the development or strengthening of value chains (Puech *et al.*, 2021; Swagemakers *et al.*, 2021), and the existence of farming systems with different adoption rates of agroecological practices (Wezel *et al.*, 2020).

This article reports the empirical findings of a set of research activities carried out within the EU-funded project UNISECO. The project

developed participatory research across 15 European case studies to understand the potential of adopting agroecological practices to deliver public goods through socio-economically viable farming systems in specific geographical contexts. It paid particular attention to the required policy adjustments by local actors to remove important barriers that, based on their experience, have prevented or restricted transitions to agroecology. There were two groups of case studies: (i) a group of 9 case studies (hereinafter 'initiating' case studies) with predominantly conventional farming systems where a transition has just been initiated.; and (ii) a group of 6 case studies (hereinafter

'enhancing' case studies) where agroecological principles and practices are already established and are in the process of being enhanced (Schwarz *et al.*, 2021).

Within this framework, this article aims to shed light on the potential for a set of policies to remove relevant barriers to agroecological transitions. This aim was achieved through the development of a multiple case study (Yin, 2014) that used participatory research methods, i.e. based on the active involvement of multiple actors, in a three-step process (Figure 1 and Box 1).

The rationale behind the selection of a participatory approach for this study lies in the need to properly



Typical agricultural landscape in the Nienburg County, Germany. © Johannes Carolus

consider the plurality of perspectives of the various actors that coexist and characterise agricultural contexts (Winowiecki *et al.*, 2021). This enables the understanding of context-specific issues and priorities, and the development of responses that take them into account.

The following paragraphs synthesise and integrate the findings of each research step. **Box 1** presents the essential research methods; more detailed information about methods, data and case-study specific findings are available from Galioto *et al.* (2021), Linares Quero *et al.* (2022), Schwarz *et al.* (2021) and Zilans *et al.* (2019).

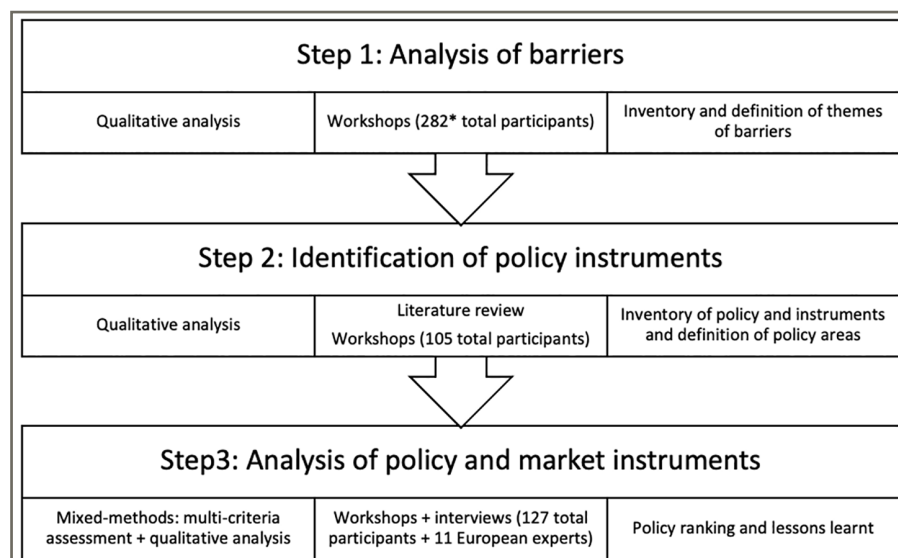
### Barriers to agroecological transitions across European contexts and farming systems

Barriers are factors that hinder agroecology transitions, such as by reducing farmers' willingness and/or ability to shift to more sustainable farming methods. Different barriers relate to specific aspects of the decision-making process, namely technology, knowledge, financial resources, social environment, institutional arrangements, policy-making and bio-physical elements (Gruère and Wreford, 2017; Schwarz *et al.*, 2021).

“ Le soutien public à la création de connaissances et la coopération est d'une importance capitale pour favoriser les transitions vers l'agroécologie. ”

A participatory inventory of barriers was developed at the case study level. Inventory analysis returned three major categories of barrier: i) actor capacity; ii) value

**Figure 1: Steps of the multiple case study, including research methods (left), data (centre), output (right)**



Note: \*The figure includes 177 total participants in Step 1 workshops and 105 total participants in joint workshops between Step 1 and Step 2.

Source: Authors' own elaboration.

chain; and iii) policy (Schwarz *et al.*, 2021).

**Actor capacity** includes the skills or abilities that may support actors in achieving their objectives. Research findings show that knowledge of the environmental benefits and economic opportunities of agroecological practices and networking ability are important actor capacities, which should result in better development across the case studies to improve the value-added of products. The development of stronger agroecology skills is needed not only by farmers, but also by advisors and trainers. Networking can help to create a favourable environment to share experiences and reduce farmers' aversion towards the risk of changing farming methods. Actors' networking ability depends on multiple conditions, such as willingness to cooperate, individualism, rivalry, trust. Study findings suggest that the actors involved in the EU's Agricultural Knowledge and Innovation System (AKIS) are not always well-coordinated among themselves. Only a few farmers are involved in peer-to-peer networks for the exchange of knowledge and know-how. Results from case studies in post-socialist countries pinpointed the reduced networking ability and willingness for cooperation of actors as key issues, probably due to past negative

experiences with nationalised collective agricultural systems (Hagedorn, 2014).

**Value chain barriers** include the conditions related to the lack of adequate physical assets; of sufficient value added in agricultural products; and of a strong demand for agroecologically produced food. Most farms do not own all the required infrastructure for the transition (e.g. storage and processing facilities for raw materials) and often they need to increase the labour force, as agroecological practices tend to be more time consuming than conventional practices. An additional concern of farmers is the lack of well-developed value chains dedicated to agroecologically produced food. Such value chains should generate greater value-added on agricultural products compared to conventional markets, where farmers lack sufficient bargaining power to negotiate fair prices. On the one side, this might be due to cultural or economic reasons. On the other hand, a large share of European consumers lack adequate education and awareness about agroecologically produced food.

**Policy barriers** refer to aspects of the current design of specific measures relevant at the case study level, which, in principle, are expected to foster the



diffusion of agroecological practices but in practice do not have that effect. In some case studies, actors highlighted unsuitable prescriptions in current policy measures that have prevented the achievement of their expected environmental benefits. In other case studies, actors emphasised issues related to the heavy burden of bureaucracy and the complexity of the CAP. For example, the complexity of regulations and the detailed level of monitoring requirements for the CAP's agri-environmental measures increases actors' perceived risk of financial penalties in case of non-compliance with the rules and prescriptions. This can reduce farmers' willingness to sign up to agri-environmental measures that support the adoption of agroecological practices.

### Participatory inventory of policy instruments

Policy instruments can direct financial support and regulatory change to the multiple actors involved in the adaptation of farming systems towards greater sustainability. This can



A workshop with local actors in Vysočina, Czechia. © Jaroslav Prazan

encourage a transition from the supply (e.g. agri-environmental measures addressing sustainable practices (on farm) or the demand-side (e.g. product certifications to stimulate changes in consumer behaviour).

An inventory of policy instruments was created at the case study level through a literature review (Zilans

*et al.*, 2019) and workshops with a variety of actors (Linares Quero *et al.*, 2022). The instruments were classified under eight policy areas, based on their key purpose (Table 1) (Galioto *et al.*, 2021).

Overall, the inventory includes a total of 148 instruments, across the initiating and enhancing case studies (Figure 2).

**Table 1: Policy areas resulting from the analysis of policy instruments**

Area	Purpose	Description
Income and market	Viability of farming; regulation of agricultural markets and producer organisations	Public incentives to maintain farming (e.g. direct payments, cross compliance, payments for areas with specific constraints) and to control the market (e.g. price support, coupled payments, Single Common Market Organisation)
Agri-environment	Adoption and maintenance of agroecological practices	Public incentives to adopt agroecological practices (mainly agri-environment schemes) and to create and/or restore habitats or landscape elements, such as wetlands, traditional boundaries, hedges or drystone walls (mainly payments for non-productive investments)
Investments	Capital investments on farm	Public incentives on loans for capital investments in physical assets, e.g. for processing/marketing or to improve farm sustainability (e.g. payments for physical assets), and to support multifunctionality, e.g. payments for other simultaneous gainful activities
Knowledge	Knowledge advancement about sustainable farming, including agroecology	Public and private measures to trigger knowledge creation and diffusion across multiple actors, from farmers to consumers (e.g. advice, information and training, formal and continuing education)
Certification standards	Consumer information about the sustainability of the agricultural production of food	Set of rules developed by private organisations or local actors and voluntarily adopted by farmers, which result in sustainability labelling of food (e.g. carbon emission/reduction, biodiversity-friendly)
Food policy	Regulation of the production and distribution of food	Public measures to improve sustainability in the phases of processing, distribution and consumption of food, which can drive the adoption or diffusion of agroecological practices and technologies on farm (e.g. green public procurement, food carbon tax)
Cooperation	Creation and maintenance of formal or informal networks across multiple actors	Public or private support for the establishment of partnerships to advance the sustainability of food production and consumption (e.g. cooperation measures, innovation hubs)
Other	All the measures that could not fit any of the types above	Measures to boost sustainable farming, including agroecology, as a tool to drive economic growth, job creation and better quality of life in rural areas (e.g. the EU LEADER). Landscape management rules, wildlife laws, land use planning, forestry laws. Hygiene and food safety regulations. Energy policy to encourage the diffusion of biomass plants, including different taxes on biomass-based and fossil fuels

Source: Authors' own elaboration.

The distribution of policy areas among the two case study groups suggests that different instruments matter depending on the adoption rate of agroecological practices. *Initiating* case studies are more interested in measures that deliver financial support to farmers, to introduce sustainable practices (Agri-environment), to purchase new machinery or buildings (Investments), and to access training and advisory services (Knowledge). *Enhancing* case studies prefer instruments to expand the number and type of actors involved in the transition, such as, for example, instruments oriented towards the consumer (Food policy) or supporting the diffusion of innovation and peer-to-peer learning (Cooperation). Despite this, public payments for the adoption of sustainable practices are still key instruments to enhance the transition.

“ Die politische Unterstützung für die Bildung von Wissen und die Zusammenarbeit ist von zentraler Bedeutung für die Förderung des Wandels zur Agrarökologie. ”

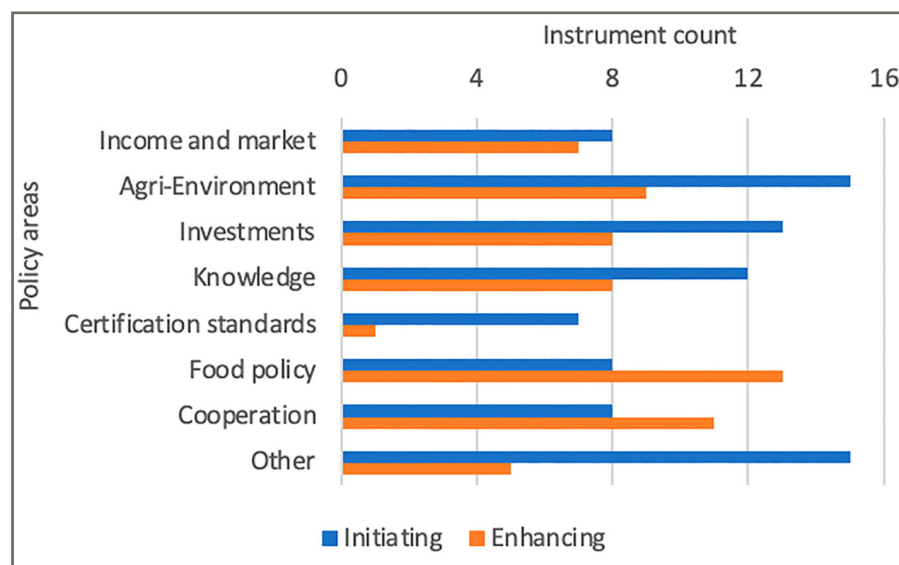
### Policy to remove transition barriers

What should the focus of policy be to encourage transitions to agroecology in the near future? To answer this question requires evaluation of different aspects that simultaneously affect the performance of specific policies, to understand which instruments show the best policy mix.

Policy evaluation relied on a mixed-methods approach, including multi-criteria assessment and qualitative analysis (Box 1).

Initiating and enhancing case studies show different rankings for most instruments (Figure 4). Despite those differences, ‘Knowledge’ is the top

**Figure 2: Inventoried instruments per policy area and type of case study**



Source: Authors' own elaboration.

ranked policy area in both case study groups. Like previous research findings, knowledge promotion is acknowledged as allowing successful interventions for sustainable rural development (van Dijk *et al.*, 2016). ‘Payments’ is another high ranked policy area in both case study groups, which always outperforms ‘Agri-environment’. This pattern suggests that structural adjustments due to insufficient farm endowments, are more important than getting financial support for the introduction of specific agroecological practices. ‘Cooperation’ ranks high especially in enhancing case studies. This might be due to the greater need for collaboration in case studies at a more advanced stage in the transition, e.g. to develop strategies to create shared processing facilities or to elaborate common marketing plans.

‘Certification standards’ ranks relatively high in initiating case studies but low in enhancing case studies. This suggests that the adoption of sustainability standards has greater importance on farms that have just decided to adopt agroecological practices. ‘Food policy’ ranks relatively low in enhancing case studies, as well. The perceived low potential of Food policy to promote transitions to agroecology is an unexpected finding, which deserves more attention in future studies. This finding might be related to the under-representation of some categories of local actors during the participatory activities, such as,

consumers or consumer associations, and to the perceived complexity of Food policy instruments.

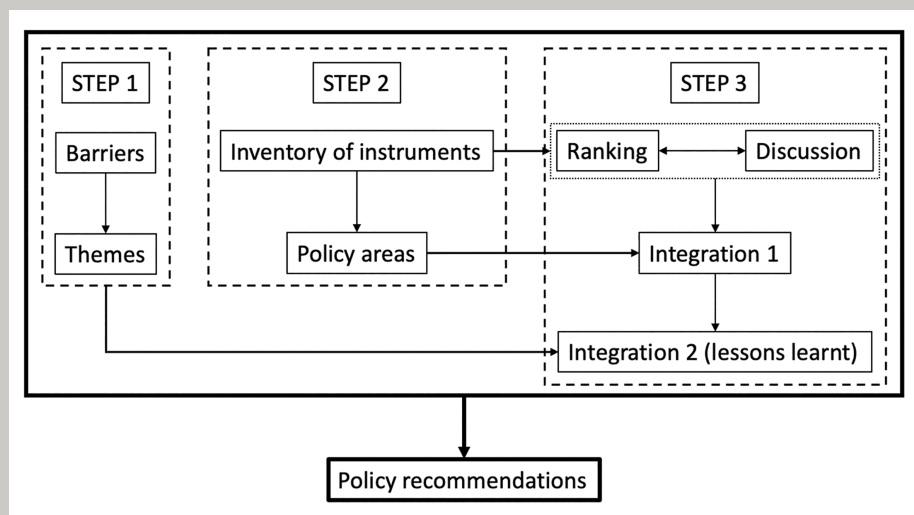
“ Policy support for knowledge creation and cooperation is of key importance in fostering transitions to agroecology. ”

**To remove the actor capacity barriers,** future policy should increase the access to advisory services by farmers to raise awareness about agroecological practices and their potential benefits. Improving the delivery of information and training, and the development of skills aimed at the agroecological redesign of farming systems, including entrepreneurial skills, would empower entrepreneurship. With agricultural diversification being a core theme in agroecology, the creation of partnerships and collective projects would be a key step towards the increased availability of agroecologically produced food on the local markets. Furthermore, there is a need for targeted interventions for intermediate institutions (e.g. Local Action Groups) and for specific cooperation measures of the CAP’s Rural Development Program (e.g. to

### Box 1: Mixed-methods within the case study framework and critical reflection on the research process

A mixed-methods approach was developed under a wider case study framework involving multiple actors, i.e. farmers, value chain actors, advisory services, research institutions, governments and local administrations, and consumers (Fetters *et al.*, 2013). Quantitative (multi-criteria assessment, MCA) and qualitative (instrument-by-instrument discussion with actors) analyses are integrated to provide a more complete understanding of complex phenomena than by applying either approach alone (Creswell, 2014). As the final outcome of the research process, this step (Step 3; Figure 1) integrates the outputs of Steps 1 and 2, to identify the key lessons learnt and to enable the delivery of policy recommendations at the project level (Figure 3).

**Figure 3: Methodological framework of the research**



Source: Authors' own elaboration.

The specific findings of Step 3 are first aggregated at the policy area level (Integration 1) and then analysed across the case studies to find common patterns with respect to the themes of barriers and to derive lessons learnt (Integration 2). The lessons learnt suggest some possible pathways to improve the current policy framework to better support agroecology, beyond the original case study, without any ambition to suggest a statistical generalisation of research findings (Yin, 2014).

The MCA was used at the case study level to rank the selected policy instruments based on six criteria, developed through a consultation with European-level experts in policy implementation and evaluation: (1) effectiveness, (2) undesired side-effects, (3) targeting, (4) efficiency, (5) feasibility, and (6) relevance.

Instrument ranking by actors occurred during workshops in each case study. First, actors expressed their perception about the relative importance (a weight ranging from 0% to 100%) of each criterion, for each instrument. Then, they rated each instrument on a 0 to 5 scale (0: the instrument does not meet the criterion at all; 5: the instrument fully meets the criterion). Information collected during the workshops was elaborated by the research team to generate a single score for each instrument through a dedicated algorithm (UK-DCLG, 2009).

Having concluded the MCA exercise, actors were engaged in a discussion to understand how the evaluated instruments could be exploited to remove barriers to transitions at the case study level.

Authors acknowledge the limitations of the proposed research approach. In particular, actors involved in data collection activities were selected through non-probability sampling and may not have had a complete knowledge of the issues at stake for a comprehensive policy evaluation. The adopted coding procedures aimed at facilitating the interpretation of findings from multiple case studies. Other researchers may have interpreted the retrieved information differently. Nevertheless, this article could be a source for policymakers and for further explanatory research, enabling the generation of reliable statistical findings that are sufficiently general regarding the Europe-wide performance of policy instruments to support agroecological transitions.

promote pilot projects around agroecology food chains).

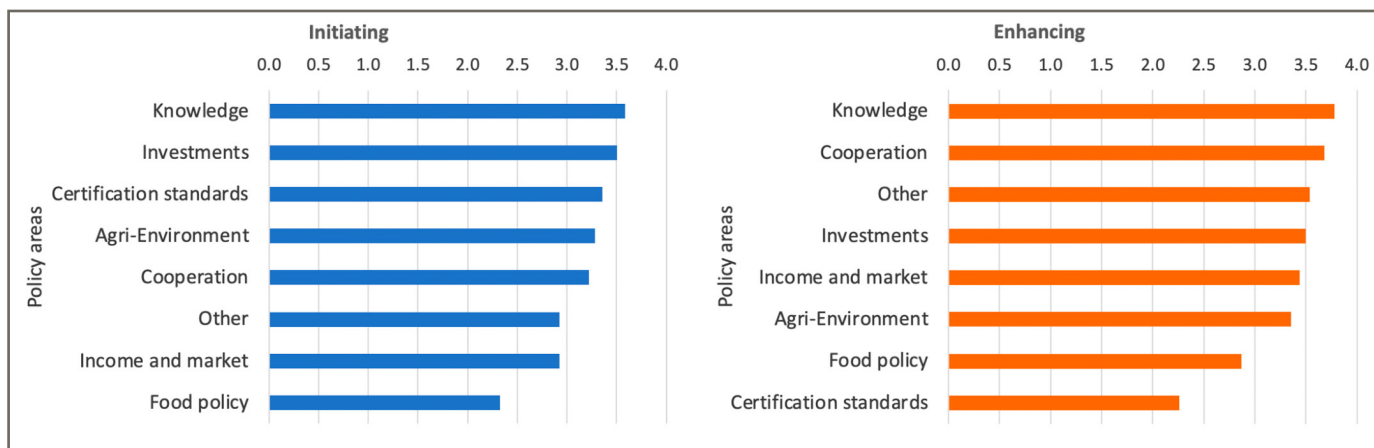
**To remove the value chain barriers,** consumers should be provided with a larger variety of sustainable food,

with supporting information about production processes. Future policies can create an enabling environment for the increase in demand for food from agroecological farming through various instruments. For example,

new voluntary agroecology certification schemes may support consumer choices with dedicated labelling. An example is Regenerative Organic Certified™, a certification scheme that embodies the principles



**Figure 4: Ranking of policy areas in initiating and enhancing case studies (0 to 5 scale)**



Source: Authors' own elaboration.

of agroecology, as it builds on the organic certification and recognises social fairness principles (Regenerative Organic Allowance, 2022). Of course, this is very much related to the challenge of creating awareness among consumers and citizens, which is subject to the promotion of educational and awareness campaigns in schools and local media. Public procurement initiatives are additional ways to drive the agroecological transition from the demand-side. These can build on already existing programmes (e.g. school programmes). However, to improve public procurement initiatives, new and more ambitious standards (e.g. local food, reducing food waste) are required in the call for tenders for public service canteens (e.g. school meals).

**To remove the policy barriers**, there is a need for targeted and more flexible mechanisms with less rigid prescriptions, as suggested by the EU's 'Farm-to-Fork Strategy', although the simplification in the requirements of policy support is an ambitious objective. Additionally, to offer farms greater opportunities in terms of access to advisory services, future policy might explicitly target small and medium farms in the process of agroecological transition. To improve the efficiency of policy delivery and policy coordination, greater integration is needed, for example, in the support for investments, adoption of practices and cooperation measures. To improve the targeting of policy

support with respect to achievements in environmental protection, the design of the policy should be targeted to specific practices and/or farm typologies. Instruments such as result-based payments and eco-schemes targeted to agroecological practices might also speed up the transition process in Europe.

### Policy recommendations

To foster agroecological transitions in Europe, policy tailoring should be based on a deep understanding of the key socio-economic barriers faced by the diversity of farming systems and social contexts. Policy development should concentrate on how to improve the delivery of existing instruments, by adjusting

their design and governance, instead of increasing the budget or issuing entirely new instruments. For example, a key challenge is how to reduce the administrative burden for farmers. This process should consider the stage of the farming system in the transition pathway, to carefully account for the different priorities of local actors to initiate or enhance the transition. Removing the barriers to initiate the transition requires strengthening of the role of advisory services in order to increase the knowledge base and reduce uncertainty of farmers and value chain actors. Removing the barriers to enhancing the transition calls for a focus on capacity building, especially through targeted governance interventions



A snapshot of the rural landscape in Tuscany, Italy. © Andrea Povellato

for intermediate institutions, such as by strengthening the cooperation measures of the CAP's Rural Development Programme. The availability of a market for products from farms in transition to agroecology, especially through creation of partnerships and collective projects, is a cross-cutting issue irrespective of the transition stage. New voluntary agroecology certification and labelling schemes and public procurement initiatives might be required to support agroecological transitions from the

demand-side, consistent with the whole food system approach of the EU's 'Farm-to-Fork Strategy'.

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# Summary


## Policy Instruments to Support Agroecological Transitions in Europe

 Agroecological transitions have the potential to deliver multiple environmental and social benefits. However socio-economic barriers have prevented those transitions in many European contexts. This article aims to inform policymakers about policy instruments that can foster agroecological transitions in Europe, especially by removing key socio-economic barriers. A multi-step methodology was carried out over a two-year period in 15 case studies across Europe. The case studies represent farming systems that are in the process of initiating or enhancing the transition. Data collection relied on a participatory process, involving a variety of transdisciplinary actors. Study findings identify three major themes of barriers to agroecological transitions, namely *actor capacity*, *value chain* and *policy*. To address these barriers, policy instruments should consider the farming system's stage in the transition pathway to take account of the different priorities of local actors. At the stage of initiating the transition, removing the barriers requires improvements in knowledge delivery mechanisms by strengthening advisory services and reducing decision-makers' uncertainty. At the stage of enhancing the transition, a focus on social capital is needed, for example by strengthening networking and cooperation measures. Generally, more attention towards state interventions which support the transitions to agroecology is needed, such as developing new voluntary agroecology certification schemes and public procurement initiatives.

## Des instruments de politique pour accompagner les transitions agroécologiques en Europe

 Les transitions agroécologiques pourraient apporter de multiples avantages environnementaux et sociaux. Des barrières socio-économiques ont pourtant empêché ces transitions dans de nombreux contextes européens. Cet article vise à informer les décideurs sur les instruments d'action publique susceptible de favoriser les transitions agroécologiques en Europe, notamment en supprimant les principales barrières socio-économiques. Une méthodologie en plusieurs étapes a été appliquée sur une période de deux ans dans 15 études de cas à travers l'Europe. Ces études de cas représentent des systèmes agricoles qui sont en train d'amorcer ou d'améliorer leur transition. La collecte de données s'est appuyée sur un processus participatif impliquant une variété d'acteurs transdisciplinaires. Les résultats de l'étude identifient trois grandes catégories d'obstacles aux transitions agroécologiques, à savoir la capacité des acteurs, la chaîne de valeur et l'intervention publique. Pour surmonter ces obstacles, les instruments d'action doivent tenir compte de l'étape vers la transition du système agricole afin de tenir compte des différentes priorités des acteurs locaux. Au stade du lancement de la transition, la suppression des obstacles nécessite des améliorations dans les mécanismes de diffusion des connaissances en renforçant les services de conseil et en réduisant l'incertitude des décideurs. Au stade de l'amélioration de la transition, il est nécessaire de mettre l'accent sur le capital social, par exemple en renforçant les mesures de mise en réseau et de coopération. En règle générale, il faut porter une plus grande attention aux interventions de l'État qui soutiennent les transitions vers l'agroécologie, telles que le développement de nouveaux programmes volontaires de certification agroécologique et des initiatives en matière de marchés publics.

## Politische Instrumente zur Unterstützung des agrarökologischen Wandels in Europa

 Der agrarökologische Wandel hat das Potenzial, vielfältige ökologische und soziale Vorteile zu bringen. Allerdings haben sozioökonomische Barrieren diese Umstellung in vielen europäischen Zusammenhängen verhindert. Ziel dieses Artikels ist es, politische Entscheidungsträger über politische Instrumente zu informieren, die den agrarökologischen Wandel in Europa fördern können, insbesondere durch die Beseitigung zentraler sozioökonomischer Hindernisse. Eine mehrstufige Methodik wurde über einen Zeitraum von zwei Jahren in 15 Fallstudien in ganz Europa angewandt. Bei den Fallstudien handelt es sich um landwirtschaftliche Systeme, die sich in der Phase der Umstellung befinden oder diese vorantreiben. Die Datenerhebung stütze sich auf einen partizipativen Prozess, an dem eine Vielzahl von transdisziplinären Akteuren beteiligt war. Die Ergebnisse der Studie zeigen drei Hauptthemen von Hindernissen für agrarökologische Umstellungen auf, nämlich die Kapazitäten der Akteure, die Wertschöpfungskette und die Politik. Um diese Hindernisse zu beseitigen, sollten die politischen Instrumente das Stadium des landwirtschaftlichen Systems auf dem Übergangspfad berücksichtigen, sodass den unterschiedlichen Prioritäten der lokalen Akteure Rechnung getragen wird. In der Einleitungsphase des Übergangs erfordert die Beseitigung der Barrieren eine Verbesserung der Mechanismen zur Wissensvermittlung, indem die Beratungsdienste gestärkt und die Unsicherheit der Entscheidungsträger verringert werden. In der Phase der Festigung des Übergangs muss der Schwerpunkt auf das soziale Kapital gelegt werden, beispielsweise durch die Stärkung von Netzwerken und Kooperationsmaßnahmen. Generell ist mehr Aufmerksamkeit für die staatlichen Interventionen erforderlich die den Übergang zur Agrarökologie unterstützen, wie z.B. die Entwicklung neuer freiwilliger agrarökologischer Zertifizierungssysteme und öffentlicher Beschaffungsinitiativen.

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