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modernAKIS Together for Systems' Innovation

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List of abbreviations

AKIS	Agricultural Knowledge and Innovation System
AKIS-CB	Agricultural Knowledge and Innovation System-Coordination Body
CAP	Common Agriculture Policy
CAP-SP	Common Agriculture Policy-Strategic Plan
CCO	Cross Cutting Objective
EAFRD	European Agricultural Fund for Rural Development
EC	European Commission
EIP-AGRI	European Innovation Partnership for Agricultural productivity and Sustainability
EIP-OG	European Innovation Partnership- Operational Group
EU	European Union
EUR	Euros
FBO	Farmer Based Organization
ISS	Innovation Support Services
M01	Measure 01
M02	Measure 02
M16	Measure 16
MS	Member State
NGO	Non-Government Organization
SCAR	Standing Committee on Agricultural Research
WP	Work Package

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Disclaimer

The information presented in this report is based on available information resources on AKIS inventories and policy documents but may not guarantee completeness. The conclusions and recommendations are subjective and should be used with discretion. Opinions expressed are our own and do not represent that of the European Commission.

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Executive Summary

The European Commission is taking steps to enhance the agricultural knowledge and innovation systems (AKIS) as part of the national Common Agricultural Policy (CAP) strategy. This initiative, based on Article 114 (modernization) and Article 15 (advisory services) of Regulation (EU) No. 2021/2115 (CAP-SP Regulation), aims to facilitate the transfer and implementation of new agricultural knowledge. The focus is on improving knowledge flow organization and fostering collaboration among research, extension services, and practical agricultural activities. Ultimately, the goal is to accelerate the adoption of new knowledge in agricultural practices.

The increasing emphasis on AKIS can be attributed primarily to the demonstrated advantages of the concept over the years. It has proven instrumental in supporting researchers and practitioners to understand knowledge infrastructures, network processes, innovation processes and to promote national and regional cooperation in the green sector.

This report provides a comprehensive analysis of AKIS inventories across several EU Member States (MS), conducted through two projects: PRO AKIS (2012-2015) and i2connect (2019-2024). Additionally, it draws insights from the CAP strategic plans, in particular the chapter on modernization of agriculture, as well as other policy documents and academic literature.

The results highlight four main features of an AKIS that give insight into its functioning, which could serve as a basis for cross-comparisons among different AKISs and for identifying good practices. The features are:

i. The composition and diversity of actors and knowledge infrastructures, their roles and functions

ii. The configuration of AKIS supporting policies, regulations and funds allocated to AKIS interventions

iii. The types of coordination mechanisms that facilitate collaboration, decision-making, and resource allocation

iv. The degree of interactions among the diverse actors to facilitate knowledge sharing, innovation, and partnership

The need for deeper analysis of actor diversity via quantitative and qualitative methods to fully capture the variety of actors' and knowledge infrastructure contributing to knowledge exchange and innovation at national/regional/local level is emphasized. A comprehensive overview of all actors involved as well as their roles and interactions, sets the basis for strategizing policies and funding schemes, for optimizing efforts and maximizing collaboration.

The findings indicate that while CAP regulations support AKIS related interventions, the funds allocated for knowledge exchange, advisory and cooperation are limited. Also, only few MS appear to have national policy programs and allocate additional resources beyond the EU-Funds for supporting their AKIS.

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When considering actor interactions, it's evident that the need to enhance the interaction between research and practice has been emphasized consistently across all Member States. This need has driven the focus of planned interventions within the CAP-SPS towards promoting cooperation and facilitating knowledge exchange. Comprehensive understanding about the types and degrees of interactions between the broader AKIS actors needs to be expanded.

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1.Introduction

The modernAKIS project has been designed to support the capacity development of the governing bodies of the AKIS (Agricultural Knowledge and Innovation Systems) that implement the AKIS strategic approach, a key component in the CAP Strategic Plans 2023-2027. Specifically, modernAKIS aims to enhance the capacity of key actors of change responsible for driving change in the AKIS. Ultimately, the project aims to strengthen the effectiveness of the AKIS on the ground across the EU and support a better functioning that will contribute to the realization of a modern, resilient, sustainable, and competitive agriculture in Europe.

As described in the first SCAR AKIS report in 2012[1], a well-functioning AKIS involves innovation actors regularly connecting, engaging in peer-to-peer learning, offering training and advice, supporting innovation projects and actively disseminating results. This fosters a healthy innovation ecosystem in the Member States (MS) and regions, promoting knowledge exchange and co-creation of innovation that cater to farmers' and foresters' needs.

In a recent assessment by Cristiano et al. (2023), the importance of reinforcing and improving AKIS functioning across the EU was highlighted. Transformative change, targeted at key AKIS actors, is essential for achieving this goal. This change entails a shift in mindsets towards adopting a system thinking approach and embracing collective action. By adopting this approach to AKIS, complex challenges can be addressed and innovations that benefit the agriculture sector as whole can be promoted.

For successful transformative change, wide engagement of key AKIS actors is crucial. In ModernAKIS, we define key actors as people within AKIS related organizations who act as influencers and drivers, shaping AKIS setting and functioning (Cristiano et al., 2023, p 26). These key actors of change need to interact and collaborate with various stakeholders to initiate and support change processes that lead to a well-functioning AKIS. These communication and interaction processes are expected to take place within the EU member states (MS). Understanding the multitude of actors engaged in existing knowledge and innovation systems, as well as their interactions and degrees of cooperation, is fundamental to these processes. In this regard, background knowledge about AKIS features in own national contexts as well as in MS with similar structures, provides valuable resource to these key actors.

It is against this background that task 1.3 in modernAKIS was set up to support transformative change by providing targeted knowledge on the AKIS in the EU MS, particularly through conducting comparative analyses of selected AKIS features. The present deliverable aims to produce systematically ordered knowledge about AKIS actors, coordination, and linkages to support capacity building towards a well-functioning AKIS across countries. Conceptual bases are derived from organizational development and innovation system studies.

A comparative analysis of actor diversity, coordination mechanisms and AKIS relevant polices at national level provides valuable information for key AKIS actors to identify best practices, opportunities, and solutions for enhancing the AKIS functioning. To attain the objective, this report analyses the AKIS situation in EU MS by revising and

[1] EU SCAR (2012), Agricultural knowledge and innovation systems in transition – a reflection paper, Brussels.

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summarizing information resources from the PRO AKIS project (2012-2015)[2], the i2connect project (2019-2024)[3] and the new CAP strategic plans released in 2023. Although these information resources tend to be highly context specific, we tried to identify patterns, commonalities, and differences in terms of strengths and weaknesses.

The results of this report offer valuable information about the diversity and complexity of AKIS actors, their linkages, and the coordination mechanisms. Consequently, the information may support decision making processes including setting targets and assessing the performance of actors. Additionally, the insights gathered from this comparative analysis will inform a forthcoming AKIS benchmarking tool that will be elaborated at a later stage of the project.

The report is organized into five main chapters, beginning with the present Introductory chapter. The subsequent chapter operationalizes the AKIS concept, delineating the typologies and attributes. Chapter three compares AKIS across EU MS by further describing the main AKIS features. Chapter four briefly summarizes the AKIS related interventions planned across MS in the new policy period 2023-2027. Lastly, chapter five presents conclusions from the present assessment and its implications for developing benchmarking indicators.

2 PRO AKIS project https://430a.uni-hohenheim.de/pro-akis

3 i2connect project https://i2connect-h2020.eu/

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2.The AKIS features

2.1 AKIS – a multi-faceted concept

Numerous factors influence agriculture, including farmers' personal objectives and interests, the biophysical and infrastructural features of their farms, as well as their integration into economic, socio-cultural, political, technological, and ecological contexts at the local, regional, national, and international levels. Major drivers and challenges, such as biodiversity loss, digitalization, and climate change, also play significant roles in shaping agricultural practices.

The (social) drivers and challenges above ask for solutions on multiple levels in terms of investments, system innovations and transformation of the agriculture sector. Moreover, there is the need to evaluate and to update the organization of the AKIS to navigate through the challenges (EU-SCAR, 2015).

AKIS, the acronym for 'agricultural knowledge and innovation system' represents a concept that encompasses all people and organizations (farmers, foresters, farmers' and foresters' organizations and cooperatives, advisors, researchers, businesses, NGOs, etc.) that generate, share, and use knowledge and innovation for agriculture and interrelated fields: rural areas, value chains, environment, climate, biodiversity, society, and consumers (EU SCAR, 2012). The conceptualization of AKIS developed over decades and various perspectives have emerged over the past decades, including infrastructural, procedural, functional, and transformative approaches (Klerkx et al., 2012; Knierim et al., 2015; Toillier et al., 2018, Cristiano et al., 2023). These works have provided valuable frameworks for analyzing AKIS and have facilitated a deeper understanding by making concepts such as knowledge acquisition, voluntary learning, and behavioral change processes more tangible and assessable (Knierim et al., 2022). In other words, from a theoretical perspective, the concept is multi-faceted and requires multiple perspectives of analysis for a comprehensive understanding (Toillier et al., 2018).

In practice, the term AKIS is used to represent all or a selection of the above mentioned components, frequently aiming at a national level (EU SCAR 2012, 2015) and to improve the collaboration, information flow and knowledge exchange to pass on and use agriculturally relevant knowledge and to improve access to research results, innovation, qualifications and measures of knowledge transfer for actors from agriculture, forestry and the food industry (Müller and Knierim, 2022).

Similarly, authors use the AKIS concept to zoom in one of its components such as agriculture research, education, advisory services, innovation support services etc. (EU SCAR, 2015). When referring to such examples, it shows that each AKIS is unique and dynamic in nature. Accordingly, Cristiano et al. (2023), highlight that AKISs can be compared to an evolving ecosystems that reflect the specific situational contexts within a country and between countries. The uniqueness leads to country or region-specific knowledge and intervention practices in governing AKIS, however, also to the potential for leveraging best practices and adaptation to local context for a better AKIS governance.

In their analysis of the AKIS in Europe, Knierim and Prager (2015) sought to characterize the national AKISs in Europe across two key categories. The first category examined the strength of the systems, ranging from weak to strong. The

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second category focused on the degree of interconnectedness or integration of the diverse AKIS actors within a country ranging from integrated to fragmented. By employing this dual continuum, Knierim and Prager aimed to gain insights into the varying degrees of knowledge flows effectiveness in the European AKIS landscape.

According to the authors, **strong or robust** AKIS is characterized by well-established and capable actors and organizations that have adequate funding, infrastructure, and qualified personnel. The AKIS actors actively contribute to knowledge generation, dissemination, and utilization. In particular, in a strong AKIS, research and development activities that generate new and relevant knowledge are supported and promoted to address the practical needs and challenges of the agriculture sector at national or regional levels. In contrast a **weak** AKIS is characterized by limited involvement and engagement of key AKIS actors such as farmers and advisors in decision-making and knowledge exchange processes. Moreover, the AKIS faces limitation in terms of funding and infrastructure. This results in firstly lack of diversity of perspectives for knowledge generation and limited responsiveness to the needs and priorities of end-users; secondly lack of resources for knowledge generation and dissemination hindering innovation processes.

Moreover, the authors characterize AKIS as **fragmented**[4] in a context where diverse actors operate in parallel and with limited or no coordination at regional or national levels. In this case, fragmented approaches to knowledge generation, dissemination and utilization were observed. Consequently, effective sharing of knowledge, resources, and experiences across actors horizontally and vertically are hindered. Whereas in an **integrated** AKIS, well organized coordination structures prevail. These structures facilitate actor interaction and collaboration among actors, enhancing knowledge sharing and interactive innovation processes. In an integrated AKIS, there is a shared vision, clear roles, and responsibilities, and effective mechanisms for cooperation and joint action among AKIS actors.

2.3 Addressing AKIS features with targeted analytical frames

While the generic categorization above provides a broad overview on AKIS, understanding the relationship between the categories requires a closer examination of the features within each category. It is important to assess whether and how AKIS features within one category are related to the features within the other category. Such an analysis allows for a deeper understanding of how different features of the AKIS influence one another.

In this report, we compare AKIS across EU member states, with particular emphasis on the infrastructural and procedural perspectives. Through the infrastructural perspective we explore the organizations and bodies as well as instruments and institutions that contribute to the generation, dissemination, and application of agricultural knowledge in the MS. This static perspective allows for the graphical representation of AKIS, which should provide some overview of infrastructural and

[4] In modernAKIS, the term "diverse" is favoured over "fragmented" as the latter conveys a more negative notion, while the former evokes a richer and dynamic context.

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procedural integration (Knierim et al., 2022). Through the procedural perspective, we explore the degree of linkages among the diverse actors.

To understand AKIS organization and governance, we identified key features within the infrastructural and procedural perspectives, which shape the framework, composition, and interaction of actors in a national or a regional AKIS. These features are described as follows:

1. The composition and diversity of actors and their knowledge infrastructures: this feature assesses the presence of a variety of actors such as research centers, education institutions, advisory service providers, farmers and industry to facilitate the generation, exchange, and use of knowledge
2. Policy and regulatory frameworks: The policy environment and regulatory framework play a pivotal role in shaping the structure and operation of AKIS. Supportive policies, regulations, and incentives foster collaboration, innovation, and knowledge transfer within AKIS. Furthermore, adequate funding and financial resources are essential for AKIS to function effectively. The availability and allocation of funds for research, innovation projects, extension services, and capacity building can influence the activities and outcomes of AKIS.
3. Coordination mechanisms: AKIS requires effective coordination mechanisms to facilitate collaboration, decision-making, and resource allocation. The presence of coordination mechanisms such as platforms, working groups, networks or forums that bring together different actors strengthens the knowledge flow and exchange.
4. Actor interactions: AKIS actors are in interconnected to each other by specific forms of interaction. The presence cooperation and partnerships among AKIS actors facilitates knowledge sharing, and interactive innovation. The types and degree of interactions influence the flow of information, expertise, and resources within AKIS.

The above characteristics collectively give an overview of the AKIS situation in a country and provide the basis for comparing AKIS situation across countries in terms of actor diversity, integration, collaboration, and effectiveness in addressing the needs of farmers, promoting sustainable agricultural practices, and fostering rural development.

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3. Comparing key AKIS features across the EU Member States

The AKIS in EU are characterized by a high degree of heterogeneity, stemming from various historical, economic, and socio-political factors. Additionally, the embeddedness of the AKIS in national institutions and laws and cultures make it impossible to directly compare one AKIS with another (Knierim and Prager, 2015). However, despite the difficulties in direct comparison this document aims to identify and analyze key features such as actor diversities, policy support, coordination approaches and mechanisms and actor interactions.

The analysis was based on a desk research that draws on various sources of information on AKIS in EU including academic literature, reports, discussion documents, policy regulations and websites. In particular information were gathered from three sources: The AKIS reports and the cross analysis from the i2connect project (2014-2019) published in 2021 and 2022, the synthesis report of AKIS in the EU by PRO-AKIS project (2014) and the new CAP- strategic plans of EU MS, the chapter on AKIS strategies and approaches, in particular (EU, 2023a).

3.1 increasing actors' diversity distribution disparities

Diversity in actors' category

In all EU member states, pluralistic AKIS can be observed, showcasing significant variation in actor diversity. The actors can be broadly categorized into: Public authorities, research and education organizations, farmer-based organizations, third sector non- profit organizations and private for-profit organizations (Birner et al. 2009). This category has been used to diagnose the AKIS actors in EU MS in multiple contexts (Knierim and Prager, 2015, Birke et al., 2022) and more recently by some authors of the CAP-SPs of the EU MS (CAP-SPs, 2023).

In many MS, the traditional three actor categories: Public authorities (e.g., Ministry of Agriculture, regional/local bureaus of agriculture), research and education bodies and farmer-based organizations (FBOs) have shown more visible presence in their country's AKIS (Birke et al.,2022). Also, the authors highlighted the growing presence of other types of AKIS actors, particularly private service providers increasingly contributing to the AKIS landscape, adding diversity, and expanding the range of knowledge and expertise available to support agricultural innovation and development. On the other hand, the presence of third sector organizations such as professional associations, foundations and non-profit organizations appears limited across the European AKIS landscape, particularly in eastern and central Europe.

Diversity in actors' roles

Another aspect that illustrates the dynamics of plurality and diversity within the AKIS is the phenomenon of private organizations, FBOs and NOGs, taking up roles traditionally associated with research, education and advisory services. For instance, in France, cooperatives and private agro-industries play a key role in conducting applied research project with farmers and in advising farmers. Yet another aspect is research organizations playing a key advisory roles to bridge the research practice gap. For instance, in Belgium, experimental stations and pilot centers form the backbone of the Belgian AKIS not only by conducting applied research but also by its advisory role.

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A qualitative appraisal of AKIS actor category as showcased in i2connect cross analysis, provides an overview of the diverse actor categories active in AKIS across EU MS (See Figure 1). Such an analysis gives not only a broader overview of engaged actor categories, but also paves the way for a deeper analysis of within-category diversity, interactions among actors both within and outside a category, and assessing inter-category relationships. Moreover, such an overview provides valuable insights for identifying emerging actors not yet visible in the mainstream service providers.

Still, while the qualitative assessment offers valuable insight into the actor diversity, it may not have been exhaustive enough in identifying all actors and their roles in the AKIS within each category, particularly for third sector organizations and private organizations. Additionally, the overview gives sense of which actors are involved, but with limited information on the knowledge infrastructures they have and their capacity to contribute effectively to knowledge exchange. This results in a gap for a comprehensive understanding of the actors' roles, and functions in the AKIS.



Figure 1: Diversity and pluralism of AKIS actors (Source: Birke et al., 2022)

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Advisory service providers reaching farmers

The i2connect assessment on the most prominent actors in advisory in 2022, re-confirmed the earlier results by PRO-AKIS in 2014, with only slight variations in a few MS (Table 1). Notably, in countries such as Estonia, Slovakia, Hungary, and Spain, the i2connect report revealed the growing prominence of other actors providing advisory services. For example, in Hungary, FBOs have become a prominent service provider alongside public organizations, which in the PRO AKIS assessment the latter was the sole provider. Similarly, in Estonia, the public advisory service appears to have resurfaced again after its absence during the PRO-AKIS assessment.

Table 1: Overview of dominant advisory service providers

	Countries
Public organization	Bulgaria, Cyprus, Ireland, Latvia, Lithuania, Croatia, Serbia, Montenegro, Switzerland
Farmer-based organization (FBO*)	Austria, Denmark, Finland, France, Portugal, Sweden, Poland, Slovenia, Belgium-Flanders
Private advisory organizations	The Netherlands, Greece
Public and FBO	Luxembourg, Malta, Hungary
Public and private advisory org.	Belgium-Wallonia, Czech Republic, Estonia
Public, FBO and private advisory org.	Germany, Italy, Spain, Slovakia

Source (Birke et al., 2022): The underlined countries are those where the analysis of i2connect and PRO AKIS differ. *FBO includes chamber of agriculture

In general, the i2connect report revealed the remarkable growth in the number of freelance advisory service providers in many MS in comparison with the PRO AKIS. One notable example is the case in Italy, where freelance advisors have become extensively active in knowledge dissemination. This shift can be attributed to the decline in the public organizations that traditionally played a prominent role in providing advisory services. The reduction in public funding allocated to advisory services has contributed to this phenomenon. Furthermore, private service providers have emerged to address the gaps resulted from the public authorities' challenges in organizing advisory services. This is evident in countries like Greece, where public authorities face difficulties in effectively coordinating and delivering advisory services and the private sector filling in the gaps.

In terms of scale of operations, the findings from the i2connect survey, which gathered 534 responses across 27 MS, revealed a trend wherein the predominant proportion of advisory service providers operate at regional and sub-regional levels. Notably, this trend does not include universities and research organizations, which have a wider reach (Figure 2).

Operating at regional levels signifies a primary focus on activities tailored to region-specific attributes and needs, offering potential for specialized strategies and local

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proficiency to address distinctive requirements while fostering adaptability, community involvement, and collaboration. However, this approach carries the risk of service fragmentation, disparities, and limited scalability on a national scale. Consequently, this emphasizes the necessity for good coordination mechanisms both at the regional level and across the regions.

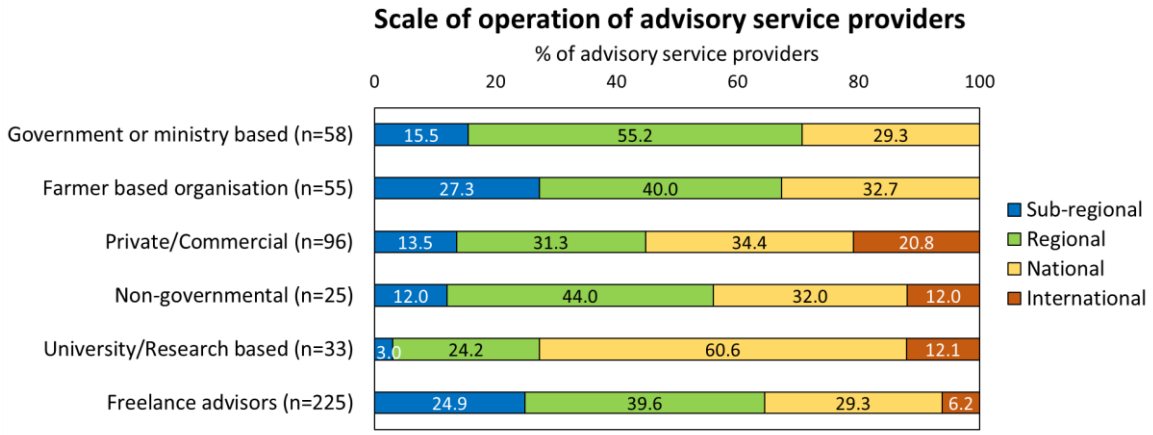

Figure 2: Scale of operation of advisory organizations (Source Birke et al., 2022)

3.2 AKIS supporting policy and funds

The EU-CAP aims to foster the vibrancy and economic sustainability of rural areas by providing funding and implementing measures that support rural development of its member states. However, it is worth noting that it is only recently in the new policy period 2023-2027 that countries are mandated to formulate national AKIS policies. In contrast, during the 2014-2022 policy period, the focus was primarily on funding impactful innovation projects.

The European Agricultural Fund for Rural Development (EAFRD) is one of the financial instruments within the framework EU-CAP that is designed to support rural development initiatives and projects in EU member states. The EAFRD provides funding for a wide range of activities aimed at promoting sustainable agriculture, rural diversification, and the improvement of the quality of life in rural areas. In total, the EAFRD budget for the current policy period 2023-27 amounts to €95.5 billion, a slight reduction from €100 billion in the previous policy period (CAP, 2023)[5].

Regarding budget allocation for AKIS related interventions, the analysis by Becker et al. (2022) sheds light on prevailing trends (See Figure 3). Many MS allocated more budget in the new policy period, with notable exception being Hungary, France, Czech Republic and Italy (EU, 2023a)

Across all MS, a considerable amount of budget is earmarked for the cooperation measure, signifying its prioritization within the AKIS intervention. In contrast, EAFRD resources planned for the knowledge exchange and information measure remains below 4% in several MS (Annex 1). It is noteworthy that three countries: Belgium-Wallonia,

[5] EAFRD funds for the new CAP https://agriculture.ec.europa.eu/common-agricultural-policy/financing-cap/cap-funds_en accessed in June 2023

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Denmark, and Luxembourg plan to use only national funds (no EFARD) for knowledge exchange and dissemination of information.

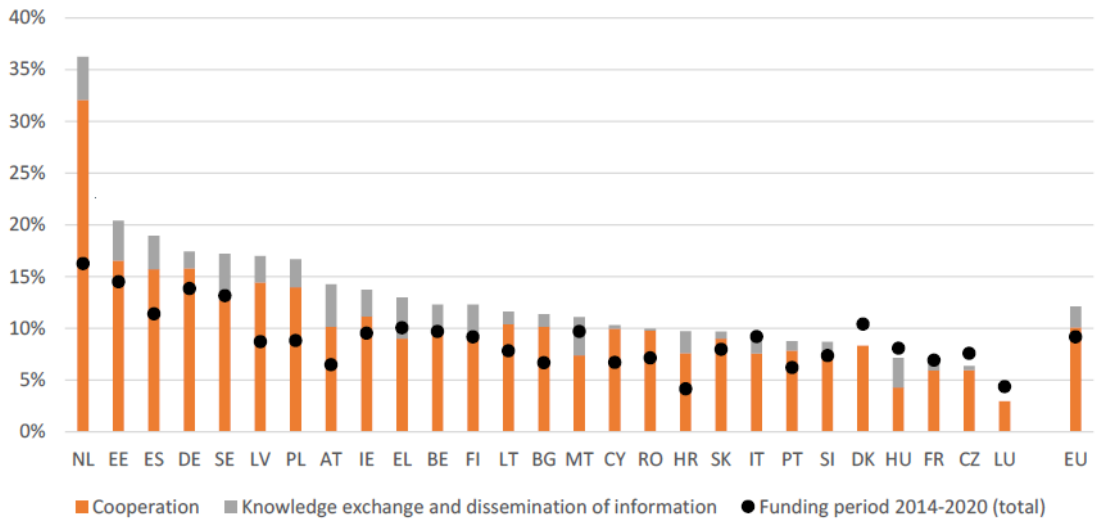

Figure 3 Share of planned public funding for cooperation (Article 77), knowledge exchange and dissemination of information by MS. Source Becker et al. 2022.

Exploring the implementation of AKIS related interventions within the EAFRD measures across the MS in the policy period 2014-2020, The ADE (2020) report revealed that M01-Knowledge transfer and information actions had a notable achievement against the target. Additionally, although to a lesser extent, M16-Cooperation for innovation projects demonstrated increased delivery of the output targeted. In particular, EIP-OGs target had far exceeded the initial target of 3,055 as many MS such as Portugal, Netherlands, Poland established more EIP- OGs than initially planned (ADE, 2020, EIP-AGRI, 2023). In the new policy period, 26 SPs envisages support for over 6,600 EIP Operational Groups establishment (EU, 2023b). The new EIP-OGs would benefit from insights and lessons gathered from the already established EIP-OGs. Access to up-to-date information on the list of EIP-OGs across the MS would facilitate knowledge sharing.

Another example of an AKIS supporting policy at EU level is the European Research and Innovation Program, which is an instrument to support research and innovation with various measures, such as Horizon Europe and the European Innovation Partnership for Agriculture (EIP-AGRI). These programs provide funding, promote collaboration, and coordinate research efforts across European countries to address agricultural challenges, develop innovative solutions, and enhance the competitiveness of the agricultural sector. In particular, this policy instrument follows the multi-actor approach (MAA) that promotes the joining of forces by multiple actors with complementary types of knowledge – scientific, practical, tacit, and explicit to bring practical solutions to real world challenges.

In addition, many MS have national or regional funds outside of CAP funds dedicated to implementing AKIS-related policies. These funds are often allocated through research and development programs that support agricultural research and innovation. For example, countries like France, Ireland, Denmark, Luxembourg, Belgium and Germany have multiple programs specifically focused on agriculture

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research and innovation. Moreover, it is worth noting that the private sector may also allocate significant funds for agriculture research, education, and advisory activities, although these figures may not be publicly disclosed or officially known. For instance, in Belgium, although public resource takes the lion's share for supporting agricultural knowledge and innovation, additional funds through sales of research related services and products, cooperatives and auctions are used for knowledge and innovation programs. In Ireland, 40% of the advisory budget comes from farmers' contribution and joint industry partners. Similarly, in France, the AKIS, particularly the education, research and advisory organizations rely on complementary private funding.

In summary, understanding the diverse policy programs and sources of funds allocated to AKIS-related interventions and an overview of the policy schemes between MS provides a broader overview of AKIS supporting policies and their implementation. Such information promotes collaboration and knowledge sharing among MS. Also, an overview of up-to-date EIP-OGs in each MS would facilitate knowledge dissemination as well as serve as inspiration for the new EIP-OGs planned to be established in the new CAP.

3.3 AKIS Coordination: organization, approaches and mechanisms

Coordination, in its simplified conceptualization, is a process that brings the activities of many disciplines, systems or organizations together to achieve a desired goal (Bdier et al., 2013). Coordination mechanisms enable collaboration between actors for knowledge exchange by using diverse methods and processes that facilitate cooperation among AKIS actors. In doing so, the mechanisms are meant to encourage, ensure, and institutionalize vertical and/or horizontal cooperation between AKIS actors.

In a pluralistic AKIS, effective coordination is becoming increasingly important due to the diverse and interconnected knowledge actors involved in knowledge generation, exchange and use. While the aspiration for well-coordinated AKIS is shared among EU MS, previous studies suggested that only a few countries have achieved effective coordination (Knierim and Prager, 2015). The challenge lies in strategically aligning knowledge exchange and collaboration between diverse actors at various levels

3.3.1 Contextual dynamics in organizing AKIS

The organization of AKIS at a national level is shaped by the political system of the respective countries. Accordingly, the MS can be categorized into three broad categories: (i) countries with a centralized AKIS; (ii) countries with a tendency towards a decentralized AKIS; and (iii) countries with a decentralized AKIS (Table 2).

In the case of countries with a centralized AKIS, the public sector at the national level formulates policy scheme(s) such as EAFRD measures, national and regional programs, and manages their implementation in all the lower-level regions in a country. In the EU, all countries except four (Belgium, Germany, Italy, Spain) organize their AKIS centrally at the national level. The role of public authorities in shaping the AKIS in these countries, however, may differ due to the high diversity in terms of size, socio-economic context, policy, and history. In **Poland, Bulgaria, Latvia**, **Lithuania, Croatia, Czech Republic, Estonia, Slovakia, Slovenia,**

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Romania, Portugal, Cyprus, Malta, and Ireland the public authorities at the national level plays an active role in AKIS policy development as well as its implementation through subordinate institutions. Whereas in countries such as **France, Hungary**, **Luxembourg, and Finland,** the public authorities provide regulations and policy programs to be implemented by farmer-based organizations in the various regions or states. This indicates the key role FBOs play in the AKIS. In contrast, in countries such as **Greece and the Netherlands,** although the AKIS is expected to be organized at the national level, the public authorities at the national level appear to have limited contributions to implementing AKIS supporting policies. Instead, local private actors operate in parallel with little interaction with the national or regional actors.

In four countries, namely **Italy, Spain, Germany**, and **Belgium**, a decentralized federal system is in place. This system involves the transfer of resources and responsibilities to subnational governments at regional or local levels. For instance, in **Germany,** the education and advisory services are governed solely by the federal states. As a result, each state pursues its own policies creating different programs not only between the old and new German states but between all the 16 states or "Bundesländer". The national government plays a key role in defining the strategic direction of AKIS, providing funding for research and innovation, and coordinating national-level initiatives.

Similarly, in **Italy**, AKIS governance is shared between the state and the regions. Each of the 20 regions and autonomous and provinces has its own government responsible for regional agricultural policies and AKIS initiatives. The regional governments provide funding for agricultural research and innovation and coordinate the interaction between the regional actors.

In **Spain**, the federal system allows regional governments to define and implement their own research priorities within a national framework. The central government is responsible for setting basic national objectives and guidelines for agricultural research policy, overall coordination of projects included in national research programs, and international scientific relations in the field. In **Belgium,** there are two decentralized AKISs in the two regions–Flanders and Wallonia. Each region possesses an independent and pluralistic AKIS with numerous independent research and education institutions, a huge concentration of farmer-based organizations and diverse upstream and downstream industries.

The last category, countries with a tendency for a decentralized AKIS includes those countries such as **Sweden**, **Denmark,** and **Austria,** where regions have greater autonomy to organize their own AKISs. For example, in Austria, although the AKIS organization is in principle at the national level the nine regional governments, nevertheless actually organize their own AKIS. Similarly, in Denmark, regional actors independently organize their regional AKIS and have little interaction with national bodies. Sweden follows an approach where regional clusters and private platform organizations play a critical role in governing knowledge generation and development activities in the green sector without active national coordination mechanisms or policies in place.

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Table 2 AKIS organization at Member States

	High public sector engagement	Medium public sector engagement	Low public sector engagement
Centralized AKIS: at the national level	Croatia, Czech Republic Estonia, Latvia, Lithuania, Poland Slovakia, Slovenia Bulgaria, Ireland Portugal Cyprus, Malta, Romania	France Hungary Luxembourg Finland	Netherlands Greece
Centralized AKIS with a tendency for decentralization	Austria		Sweden Denmark
Decentralized AKIS: at the regional level	Spain, Italy Belgium, Germany		

In sum, there is heterogeneity in AKIS organization across the MS, which is embedded in the national institutions and laws. The public sector assumes a prominent role in organizing the AKIS in many MS and is most frequently centralized at the national level. Equally noteworthy is the emerging collaborative approach where the public authorities actively delegate FBOs and other organizations to organize and coordinate their AKISs.

Understanding the overall AKIS organization and actors' role would provide insights for designing events such as networking and capacity building in WP2 and WP3, respectively.

3.3.2 Approaches and roles of AKIS coordination bodies in CAP-SPs

As outlined in D 1.1 by Cristiano et al. (2023), the increasing importance of the AKIS approach for agricultural policies and sustainable performance of the sector has resulted in the emergence of new actor "AKIS coordination bodies (AKIS-CB)". AKIS-CBs, are agents that foster collaboration, facilitate well-orchestrated interactions of CAP Strategic Plan interventions and ensure a more efficient, qualitative, and inclusive AKIS functioning. Simply put, these actors play a central role for coordinating and aligning knowledge exchange and innovation between diverse actors.

Section 1.3.1 of the "Tool 8.1 Tool for the CAP Cross-Cutting objective CCO" (EU, 2021 p7) proposes roles and functions for AKIS-CB that can be summarized into (i) Strategic planning and progress monitoring (ii) facilitating collaboration by cooperating with AKIS multi-actor platforms (iii) Maintaining an overview of progress and performance as outlined in the CAP plan. By fulfilling these roles, AKIS-CBs are expected to contribute to the development of coherent and coordinated agricultural

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policies, enhance knowledge transfer and application, and promote sustainable agricultural practices at the national or regional levels.

The AKIS strategic approach outlined in chapter 8 of the MS' new CAP-SPs provides a comprehensive breakdown of the AKIS coordination tasks, encompassing aspects such as the extent of coordination, the approach to be employed, and the specific strategic and operational coordination roles and responsibilities attributed to AKIS-CBs (See Annex 2).

In general, as observed in the individual CAP-SPs, the managing authorities are the main actors that play a pivotal role in strategizing the AKIS coordination and serving as the umbrella organization. These entities take up the responsibility of coordinating AKIS at the national level and act as the point of contact with the European Commission in all matters related to the AKIS. The coordination arrangements follow the existing governance structures at the regional and the national level (See section 3.3.1).

Also, as stated in the CAP-SPs, the managing authorities have established or plan to establish a specific AKIS coordination committee, group, or a unit within the agriculture ministries or managing authorities. Various terms have been used, such as "follow up and monitoring group" in Portugal, "AKIS cooperation unit" in Austria, "AKIS excellence center" in Slovakia and, "AKIS platform" in Romania, among others. Depending on the MS, the committee is composed of actors from the various categories who would be contributing to the design, implementation, and monitoring of the planned AKIS interventions

While the strategic coordination tasks are taken up by the managing authorities, multiple approaches/models are observed across the CAP-SPs for the operational coordination tasks. MS plan to assign the coordination task to a specific unit or department in the agriculture ministry or the managing authority. E.g. in the unit Green Development and New Knowledge- Research and Foundation team, the Danish Agricultural Agency, or the Research and Innovation unit in the German ministry of food and agriculture. Also, some MS have assigned or planned to assign the operational coordination tasks to the CAP networks, and still a few assign the coordination activities to advisory organizations and research organizations (Figure 4).

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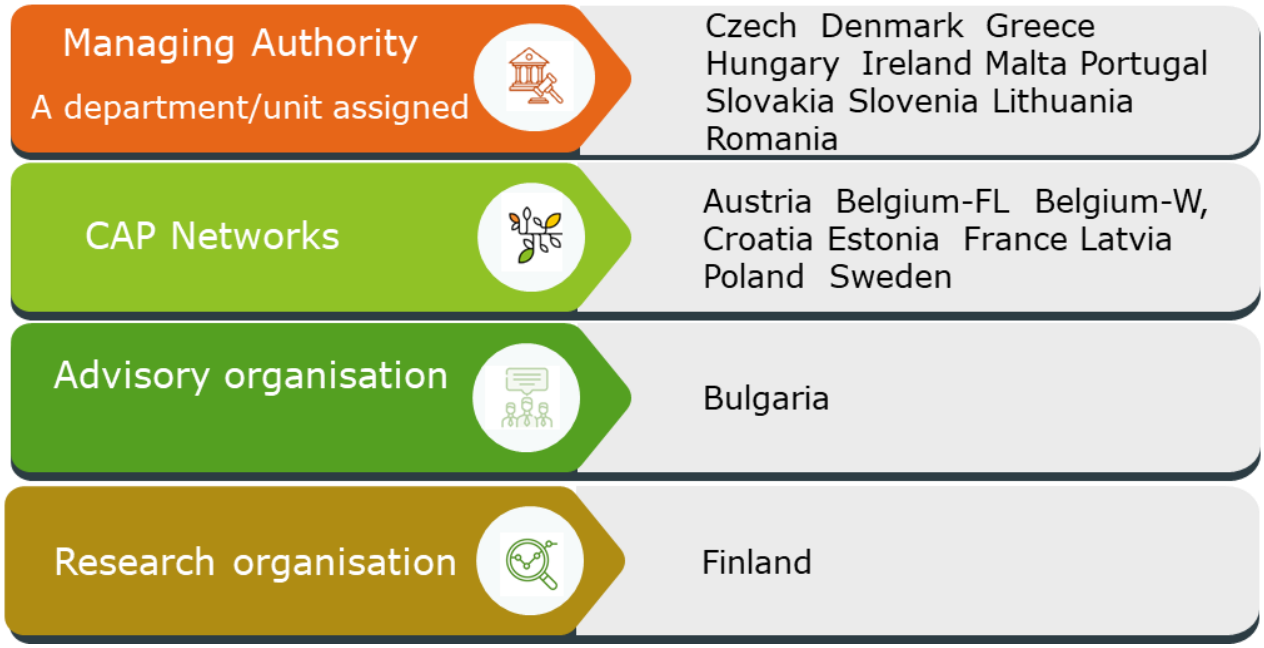

Figure 4: Actors implementing operational AKIS coordination tasks by MS. Source compiled from CAP-SPs

In MS with a decentralized AKIS organization (cf. 3.3.1), particularly Germany, Italy and Spain, role of AKIS-CBs at the national level is dedicated to bringing regional or provincial AKIS coordination bodies together by setting up a working group or an advisory board in which the group proposes an overall strategy and facilitate knowledge exchange between the regions. In this regard, Germany's SP offers a comprehensive insight how the AKIS coordination unit at national level collaborates with the AKIS-CBs in the regions. (See example of Germany's SP in Box 1).

Box 1 Exemplary AKIS coordination approach in Germany

In Germany, AKIS coordination unit at Federal level receives assistance from two bodies: The AKIS federal state round table and the AKIS expert advisory board. The former consists of AKIS coordination bodies from the 16 states and is chaired by the coordination unit. This group meets annually to discuss topics such as promoting innovation, sharing knowledge, and improving communication between different levels of actors in agriculture and rural areas. The federal states provide progress reports on the implementation of the cross cutting objective, challenges and best practices on an ad hoc basis. The AKIS expert advisory board will comprise stakeholders with expertise in achieving cross-sectional goals. This board will include organizations like DVS, BZL, DAFA, and representatives from advisory, education, and research institutions. The composition of the advisory board will be reviewed periodically, and its role will be to provide guidance to the AKIS Coordination Unit and the Federal-state Roundtable on research, education, advisory, knowledge transfer, and the development of a Two-Year Action Plan on knowledge exchange between the federal and state levels. The main role of the AKIS coordination unit at the Federal level includes: Strengthening and expanding the thematic exchange carried out by Operational groups and Rural networks; Establishing stronger networking between the responsible actors in the federal administration. (CAP SP-Germany, 2023)

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In sum, the trend observed above in the planned AKIS coordination approaches across the MS has implications for the design and implementation of capacity building activities for AKIS-CBs including:

- Tailoring the training and support of AKIS-CBs to address both strategic aspects like planning and priority setting, as well as operational tasks such as collaboration facilitation and communication.
- Taking into account the growing emphasis on collaborative efforts, assisting AKIS-CBs in developing skills to engage and align diverse actors to create a coordinated approach
- Assisting AKIS-CBs in developing skills related to AKIS actor diagnosis, assessing interactions and benchmarking performance.
- Given the variation in approaches across MS, create opportunities for AKIS-CBs to learn from each other's experiences and best practices, fostering cross-border collaboration and mutual learning.

3.3.3 Coordination mechanisms facilitating knowledge flows

Multiple coordination mechanisms are initiated in response to policy programs related to EAFRD interventions as well as non-EU funded national policy programs in some MS, for example, France, Germany, and Ireland. The mechanisms, including platforms, alliances, councils, working groups etc. bring a variety of actors together and facilitate knowledge exchange and networking, support priority setting, and designing research and innovation policies at the national or regional level.

One example of coordination mechanism initiated by EU policy is the former European Network for Rural Development, now the **European CAP Network**[6]. The new European CAP network brings together stakeholders from the previous European Network for Rural Development (including the Evaluation Helpdesk) and the EIP-AGRI network. The EU CAP Network plans to support the achievement and implementation of specific objectives of the new EU Common Agricultural Policy (CAP). At MS level, there are the **National CAP networks** which are expected to steer and drive forward the policy as well as promote stakeholder engagement, knowledge sharing and capacity building. They work towards meeting the shared networking objectives, contributing to providing information to the public and potential beneficiaries about CAP and its funding opportunities.

Another example of coordination mechanism is the **Thematic Networks**[7]**,** which are collaborative networks that focus on specific agricultural topics or themes for a specific period of time. These platforms, funded by the 2014-2020 Horizon Europe research and innovation program were organized in a project format, bringing together actors and organizations from all categories to exchange knowledge, share experiences, and work together to address challenges and promote innovation in specific areas of agriculture. In many MS, these platforms have played a key role in promoting collaboration, knowledge exchange, and innovation within the agricultural sector.

[6] EU CAP network https://eu-cap-network.ec.europa.eu/about-european-cap-network_en
[7] Thematic Networks https://ec.europa.eu/eip/agriculture/en/content/thematic-networks-%E2%80%93-closing-research-and-innovation-divide.html

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3.4 Actor interactions

Assessing the linkages established in the form of networks, exchanges, and cooperation across actors both horizontally and vertically can provide insight into the degree of actor integration for knowledge production, exchange, and use.

In the frame of the PRO AKIS and i2connect projects, the authors of individual country reports conducted qualitative assessments to analyze the interactions between main AKIS actors by the degree of linkages (whether strong or weak) and the directionality of the linkage (whether unilateral or bilateral). These assessments were visualized as AKIS diagrams in both projects and were used to assess the interconnectedness of knowledge actors in the system. The diagrams and the analysis of the interactions proved instrumental in identifying the needs for strengthening the AKIS and for proposing potential AKIS related interventions in the new CAP (see Chapter 4 for the planned interventions).

In examining the degree of linkages among actors within different MS, it becomes evident that the interaction varies based on several factors, including the types of actors involved and the prevailing coordination mechanisms. Despite this variability, a consistent pattern that emerges across all MS is the notable strong collaboration between advisory service providers, public authorities, and Farmer-Based Organizations (FBOs). In some MS, these strong linkages are occasionally supplemented by the presence of third-party actors, such as vocational education institutions (for instance, in Austria, Germany, and Sweden) or development agencies (notably observed in countries like Croatia and Cyprus).

On the other hand, only a few countries reported relatively strong linkages among all AKIS actors: Czech Republic, Denmark, and France at the national level and at the regional level, Belgium, Italy, and Germany. Instances where specific linkages were observed include strong linkages between FBOs and public authorities in Poland and strong linkages with FBO and private up- and downstream industries in Portugal.

While variations exist, the assessment of the degree of linkage between research and practice generally tends to indicate weakness across all MS. Exceptions in this regard include the AKIS in Denmark and the two regions in Belgium. This prevailing observation underscores the rationale behind the heightened focus on the new CAP-SPs to strengthen the link between science and practice.

In sum, recognizing that enhancing interactions is the main task in AKIS coordination, it becomes evident for AKIS-CBs to build their capacities in participatory assessment of actor linkages. For practice, this proactive approach to assessing interactions will facilitate the identification of areas for improvement and planning for a more effective integration of knowledge, which will contribute to the overall effectiveness of AKIS coordination. Moreover, comprehensive understanding about the types and degrees of interactions between the broader AKIS actors needs to be expanded.

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4.AKIS related interventions (CAP 2023-2027)

In the new CAP-SP, the EU MS elaborated their strategic approach to enhancing the AKIS functioning, which is based on the SWOT analysis, prioritization of their needs, and the intervention logic outlined. As described in D 1.1 by Cristiano et al. (2023), the AKIS strategies of the respective MS were devised to formulate different types of interventions typically aimed at strengthening human and social capital in agriculture, facilitating knowledge exchange and information dissemination, enhancing farm advisory services and fostering Operational Groups' innovation project under EIP. In this context, the interventions can be summarized as:

1. Knowledge exchange and dissemination of information
2. Enhanced scope and improved competence of farm advisors within AKIS
3. Co-creating innovation projects via the EIP Operational Groups (OGs) and sharing outcomes broadly

For now, the strategic plans outlined are still at an early stage which are yet to be implemented and developed over the coming years. As such, the purpose of this chapter will not be to give a detailed comparative review but rather to provide a generic summary of some shared approaches and plans observed across member states.

4.1 Knowledge exchange and dissemination of information

This intervention facilitates activities that foster knowledge exchange, information dissemination, innovation promotion and collaboration. These actions (See Annex 3 for details) are designed to enhance the functioning of the AKIS by strengthening knowledge flows and establishing stronger connections between research, experts, and practical applications. The approaches observed across MS to realize this intervention are below.

Setting up and enhancing the use of information dissemination platforms

The strategic plans of many member states outline the intention to establish or strengthen a national platform for facilitating information sharing, collaboration, and networking among various actors within the agricultural and rural development sectors. These platforms will typically be digital in nature that offer a range of features and functionalities tailored to the specific needs of each MS. Services such as a central repository for hosting and sharing various types of information such as training offers and topics, publications, reports, best practices, funding opportunities and guidelines, database and links to EU projects; a national advisory database that provides an overview of advisors according to education and training, experience, qualifications, etc.; a network forum that includes thematic projects. Detailed descriptions of such platforms can be found in the SPs of Belgium (Wallonia), Finland, Bulgaria, Greece, and Germany just to mention a few (See an example in Box 2). While many of the MS indicated the planned intervention within the CAP, Ireland plans additional digital platform outside of CAP to set up digital platforms for collecting information and bridging the digital divide.

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Box 2: Exemplary digital knowledge platform for information dissemination in Finland

In 2022, AgriHub and Rural Network Services have launched a joint network platform hosted on maaseutuverkosto.fi and AgriHubi.fi. The platform aims to serve as a digital information exchange and networking platform for members of both AgriHub and the rural network. It will be developed according to user needs and aims to establish a user community for agricultural producers, professionals, and experts. The platform will facilitate the dissemination of information, events, and ideas generated by network actors and support the identification of research and education development needs. The AgriHub side of the platform will focus on bringing together research information, tools, and practices related to the skills and profitability of agricultural and horticultural entrepreneurs. It will include publications, best practices, and market intelligence tools from various research projects. The platform will also feature a project register to help find projects and their results under the Rural Development Fund and future CAP interventions. Plans are in place to incorporate information from other funds and programs, such as Horizon and nationally funded agricultural development projects. Additionally, an innovation hub will be created on the platform to provide information on funding opportunities and support for innovation projects (Finland CAP 2023, p1113)

Communicating scientific knowledge to wider actors

The strategic plans of many MS also put a strong emphasis on translating research results into accessible formats and communicating them to ensure their practical application. One notable intervention that is already being implemented in this regard is the Irish Department of Agriculture, Food and Marine (DAFM)'s Research Program, which, through its Knowledge Transfer Framework requires researchers to incorporate knowledge transfer activities in their research projects, both during the application stage and reporting stage. This framework encourages researchers to prepare relevant knowledge transfer plans and assess the effectiveness of transfer activities, thereby ensuring impactful and valuable outcomes from research projects. A similar intervention is included in the plans of Belgium (Wallonia) where an obligation to produce simplified research reports will be included in the grant calls for research organizations.

Supporting and organizing regular exchanges

Interventions regarding organized and regular exchanges among and within various AKIS stakeholders, particularly, researchers, advisors, and farmers, are common to the strategic plans of member states. These initiatives aim to facilitate effective knowledge sharing and collaboration among different stakeholders and take the form of seminars, workshops, thematic working groups, etc. Austria for example, will encourage the exchange between advisors to generate research needs from practice, as well as create dialogue formats to improve the exchange between practice, research, and advice. In Belgium (Flanders), the Flemish Rural Network (VRN) already organizes events to connect and network researchers, farmers, and advisors so that they can easily find each other for further collaborations. Researchers in these events share their knowledge with practitioners and learn about the needs and concerns of farmers and advisors. Similarly, many other MS have outlined their commitment to promote more of such organized exchanges, thereby fostering collaboration and leveraging the diverse expertise within the knowledge system to foster innovations.

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4.2 Enhanced scope and improved competence of advisors within AKIS

Farm advisors are key actors in sharing new knowledge and ideas. Therefore, the new CAP requires all Member States to offer advice on each of the 3 pillars of sustainability. To make advisors more competent, the CAP asks for integration of all impartial advisors within the AKIS, in particular the ones who have a major impact on the ground. Two broad approaches are observed across member states in this regard: (i) conducting capacity building activities (ii) Advisory certification and accreditation (see Annex 4 for details).

Capacity building

Member States are taking comprehensive measures to integrate farm advisory services within their respective AKIS through measures such as regular training and professional development programs for advisory staff to ensure the transfer of knowledge and keep them updated with the latest knowledge.

In Austria, for example, the regular technical and methodological training of advisory staff is mandated as a funding requirement. This ensures that advisors receive a certain number of training hours per year. In Bulgaria, this is a minimum of 32 training hours per year, where experts in the relevant fields will present up-to-date technological and scientific information, including best practices and innovative solutions, regulatory requirements, and changes in the European and national legislation etc.

The integration of advisory services involves close collaboration between advisors and researchers at both national and even international levels. In the Czech Republic, accredited advisors receive annual training conducted by experienced research experts in their respective fields. The training not only brings research results into practice but also facilitates collaboration between research and advisors. Moreover, the range of training topics is expanded to cover areas that are crucial for effective implementation of the Common Agricultural Policy (CAP) and the achievement of corresponding objectives. This expansion involves additional experts from research organizations, strengthening cooperation and information flow in the sector. Luxembourg recognizes the need to connect the AKIS with networks of foreign researchers to improve innovation in the agricultural sector. This connection allows for the acquisition of targeted knowledge that may not be covered by local expertise, especially in the field of animal production.

Member states also recognize the need for specialized training to address specific areas. Belgium (Flanders), for example, plans to expand specialized and professional training on topics such as knowledge of market operations, management, trade, etc. for farmers. Demand-driven training will allow farmers to also request specific courses on their own initiative from recognized service providers. In Greece, advisors will be provided with specialized training that focuses on innovation support, interactive innovation, brokerage, and digital skills.

Certification and accreditation of advisors

Ensuring the provision of reliable and impartial advice to farmers is an important aspect of the AKIS intervention plans. To achieve this, member states already have or plan to implement certification and accreditation for advisory service providers. Such mechanisms aim to guarantee the competence, independence, and transparency of advisors.

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In Belgium, both Flanders and Wallonia emphasize the need for enhancing the quality and accreditation of advisory service providers. In Flanders, the selection of advisors is based on certification, expanding the advisory landscape and providing farmers access to a wider range of services. To ensure transparency and quality, monitoring, evaluation, and certification of advisory providers are implemented, allowing for reliable and high-quality advisory services. In the renewed interventions, farmers will also have to make a limited financial contribution of their own towards advice, depending on the theme, thereby helping to monitor the quality of training and advisory services. Similarly, Wallonia considers establishing a system of accreditation for advisors to ensure impartiality and prevent conflicts of interest.

In Ireland, the CAP strategic plan focuses on structuring interventions around tendering processes to select suitably qualified training providers and online platform service providers. This approach aims to deliver high-quality professional training in various areas of agriculture. The ongoing evaluation of the system based on output/outcome indicators and satisfaction surveys allows for identifying shortcomings and making necessary corrections to enhance the quality of services and effectively respond to the needs of beneficiaries.

Lithuania places importance on rating and ranking advisors based on the feedback received from farmers receiving advice. The ranking of advisors will be indicated next to their profile, enabling farmers to make informed decisions when choosing advisory services. On the contrary, Lithuania plans to discontinue accreditation restrictions for consultants, allowing for the involvement of associations and cooperatives in the provision of advice. This change is expected to increase the popularity of the intervention measure among smaller farm operators.

In the Netherlands, the accreditation scheme for agricultural advisory services is implemented through the Farm Advisory System (BAS). The BAS ensures that advisory services meet predetermined quality criteria and maintain a neutral stance without commercial interests. Accreditation is granted to advisory companies that pass an audit, which guarantees the quality and independence of advisors. Ongoing evaluation and feedback help improve the system and ensure high-quality advice for farmers. The BAS promotes professionalism, impartiality, and excellence in agricultural advisory services, providing farmers with trustworthy and knowledgeable advisors.

In general, the CAP SPs provide an overview of the AKIS intervention plans. However, a detailed breakdown of how these interventions will be organized and implemented, as well as clarification on the specific roles and responsibilities of the involved organizations, remains to be further elaborated.

4.3 Co-creating innovation projects via the EIP Operational Groups and sharing results broadly

One of the central objectives of the new period is to increase the coherence between the different actors involved in AKIS and to ensure better coordination of knowledge transfer and advice activities. In this regard, the general trend in all MS is to strengthen the support provided to a range of actors who want to come together and form operational groups to develop and implement innovative solutions to particular challenges and opportunities identified in the sector. The interventions in this measure

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are planned to be implemented in such a way that the activities are coordinated and synergized with the other two measures above. Noteworthy interventions planned for this measure include:

Mandatory engagement of innovation support service providers in EIP-OGs

Many SPs state that innovation support service providers will take an active role in the planning, implementation and management of OG projects in order to ensure knowledge transfer between practice and science. In concrete terms, innovation support or advisory service providers are obliged to support the composition of operational groups (serving as innovation broker/facilitator role), elaboration of an EIP project (demand articulation, project proposal writing, planning) and dissemination of project results. For instance, Austria obliges an early involvement of farmers and advisors already in the preliminary conceptualization of research projects and "Living Labs" for EIP-OGs. Germany is strengthening the roles of the innovation support services in the federal states, further developing the relationships between advisory services, research, business and practice and advocating an even better transfer of the findings. Czech Republic plans to build on previous experiences in supporting innovation in OGs and qualifying new candidates for this particular task. Lithuania foresees the appointment of representatives who will be directly responsible for the organization of innovation support services in the agriculture and rural development sector.

Simplifying the procedures for EIP-OGs projects implementation and broadening the innovations

Member States plan to revise their implementation procedures for the funding of EIP-OGs. For example, in Germany, the federal states are re-evaluating various aspects, including the maximum project duration, grant amounts, funding rates, investment possibilities, and whether the process should be conducted in one or two stages in the future. Similarly, Bulgaria plans to increase flexibility in the EIP-OGs implementation procedure so that interested actors can easily join. The Czech Republic plans to simplify the administration of EIP-OGs support. Austria restates that the application process would be as low-threshold as possible and that the groups will be given sufficient to develop an action plan for their projects.

Moreover, MS plan to extend the topics covered by the EIP-OGs beyond agri-food and forestry into social and environmental fields as well. For example, the Czech Republic plans to extend to other types of innovation in order to have a larger scope in the sector and to be able to address the diverse problems of farmers, food producers and foresters (e.g. organizational/social innovations, not necessarily linked to investments).

Using the CAP networks for disseminating and coordinating national/transnational collaborations

The CAP networks are planned to serve as a means for disseminating project results within the EIP and the wider AKIS actors. Through the CAP networks, MS plan to facilitate networking between OGs and to link OGs with other networks and programs such as Horizon Europe projects and LEADER. Furthermore, some MS, for instance Luxembourg, envisage cross boarder Operational groups.

EIP-OGs projects database

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Digital access to information about OG projects at multiple levels is planned both for disseminating results and testing the applicability of the innovations introduced. A range of digital platforms that would potentially increase knowledge flows, including websites, social media, digital newsletters, collaborative platforms, and national and transnational level databases, are foreseen in many MS.

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5.Conclusion and outlook

Comparing the AKIS situation across the EU reveals a diverse landscape with varying actor diversity, knowledge infrastructures, coordination mechanisms and degree of integration. While each country has its unique agricultural context and priorities, certain features appear instrumental for enhancing the functioning of AKIS:

- The composition and diversity of actors and knowledge infrastructures, their roles and functions
- The configuration of AKIS supporting policies, regulations and funds allocated to AKIS interventions
- The types of coordination mechanisms that facilitate collaboration, decision-making, and resource allocation
- The types and degrees of interactions among the diverse actors to facilitate knowledge sharing and innovation

In the following, we highlight important observations from the comparative view and turn the attention to findings that are of particular interest to the AKIS coordinating bodies and key actors of change in the modernAKIS project.

The composition and diversity of actors and their roles, knowledge infrastructures and interactions

The results revealed a myriad of actors in the AKIS in addition to the traditional actor categories (e.g., research, education, advisory and public authorities), particularly those from the private sector, third-sector associations and certain FBOs. As our analysis shows, some actors are dominant, easily perceptible in the AKIS, while others that equally contribute to knowledge exchange and innovation support are insufficiently in focus. Moreover, the efforts made in the past to estimate the diversity of AKIS actors within MS in terms of types and number of organizations yielded largely qualitative assessments so far (cf. Fig. 1). While such knowledge gives insight into the AKIS landscape, a more detailed and measurable understanding of AKIS actors and knowledge infrastructures at MS level, including their roles and functions within AKIS is inevitable to respond to the increased demand that comes with the new policies. In this regard, practical experiences and insights from ongoing projects can be drawn. For instance, the outputs from the EU project ATTRACTISS may provide insights into the variety of actors providing innovation support service and their role in the AKIS.

Configuration of AKIS supporting national policies and funding sources

This report shows a trend: Few countries, particularly those with a well-established AKIS, leverage a variety of funding sources and approaches beyond the EU-CAP. On the other hand, a significant number of countries are heavily reliant on the EAFRD alone. Given the limited funds allocated for knowledge sharing and information dissemination in EAFRD, it becomes imperative that MS explore alternative national policies to enhance their AKIS functioning. Drawing inspiration from countries, which successfully implements national policies (non-EU) that favor public-private partnerships in agricultural research, knowledge, and advisory, provides insights to develop and strengthen AKIS supporting policies. In particular, a strategic move towards private sector involvement is crucial, considering the growing presence of private actors in the AKIS.

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AKIS Coordination approaches and mechanisms

Variations are observed in how MS organize their AKIS and the degree of public sector engagement in the AKIS governance (cf. Table 2). Consequently, this entails differences in how AKIS-CBs may implement their coordination tasks,

- AKIS-CBs in centralized AKIS governance with strong engagement of managing authorities may have a more focused mandate at the national level with a well-defined hierarchical structures that also influence the coordination efforts.
- AKIS-CBs in a centralized AKIS governance with medium or low engagement of managing authorities need to navigate their coordination by aligning between the state and non-state structures, which may be diverse and flexible.
- AKIS-CBs in a decentralized AKIS governance will need to facilitate coordination among diverse regional actors while aligning with the strategies at the national level.
- AKIS–CBs in a hybrid AKIS governance (centralized with a tendency for decentralization), similar to those in a decentralized AKIS need to facilitate coordination among regional actors while aligning to the strategies at the national level.

Moreover, the diverse roles and functions outlined for AKIS coordination bodies across the MS (cf. Annex 2) demonstrate that these newly introduced actors have a broad spectrum of responsibilities and tasks spanning from collecting data and raising awareness to more strategic functions of planning policies and providing guidance. Many MS are in the process of organizing their AKIS coordination approaches and delegating the operational tasks. In cases where some coordination tasks are delegated (cf. Figure 4), AKIS coordination may vary between the managing authority and the other actors due to differences such as organizational characteristics, communication strategies, resource allocation mechanisms. Recognizing and understanding such differences is crucial for effective collaboration in the overall AKIS coordination.

In general, given the current stage that involves the initial CAP-SPs implementation, there is a need for future analysis of AKIS-CBs roles, the coordination approaches, tasks, resources, as well as their capacity needs to support a well-functioning AKIS.

Degree of interactions among the diverse actors

The general trend is that in many MS, there is strong cooperation of the advisory service providers with the public authorities and with FBOs. In contrast, the research practice collaboration is still perceived as weak. Comprehensive understanding about the types and degrees of interactions between the broader AKIS actors needs to be expanded. The practical experiences of establishing EIP-OGs, in particular, the process of knowledge exchange and innovation as well as responsibilities taken by the involved actors may provide insights about the types and degrees of actor interactions. In this case, the best practices collected by the i2connect project may provide valuable insights. Such insights, however, can be used for in depth understanding of interactions in a specific context rather than for a comparison at national or EU level.

As a way forward, the insights from this report offer in-depth analysis of AKIS features across the EU MS. The forthcoming capacity building activities planned in WP3 and WP4 in modernAKIS can leverage these findings to customize the content of their sessions. Additionally, specific elements of this report can contribute to shaping the upcoming AKIS benchmarking tool, facilitating comparisons of AKIS across the MS.

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5. Annex

Annex 1 Planned public expenditure for Knowledge dissemination and Cooperation

Public Expenditure (EU+MS co-funding)	COOP Article 77	KNOW Article 78	TOTAL 2023-2029	% public expenditure for COOP	% Public expenditure KNOW
Austria	532,375,000	206,050,000	5,165,878,515	10%	4%
Belgium-Flanders	69,679,116	30,175,267	592,690,034	12%	5%
Belgium-Wallonia	36,550,999		527,253,443	7%	0%
Bulgaria	362,689,739	60,459,502	3,450,496,431	11%	2%
Croatia	120,746,753	35,294,118	1,760,098,756	7%	2%
Cyprus	21,500,000	1,000,000	195,600,000	11%	1%
Czech Republic	224,520,994	14,994,000	3,740,625,384	6%	0%
Denmark	57,827,980		694,785,116	8%	0%
Estonia	96,924,729	23,000,000	605,378,759	16%	4%
Finland	363,680,000	122,525,000	4,019,710,200	9%	3%
France	887,352,295	138,487,748	14,151,858,245	6%	1%
Germany	1,880,012,885	221,699,731	11,664,127,698	16%	2%
Greece	403,269,019	171,388,727	4,370,650,677	9%	4%
Hungary	214,768,513	63,728,830	3,167,056,340	7%	2%
Ireland	429,605,000	98,499,908	3,855,267,203	11%	3%
Italy	1,308,740,241	222,192,428	15,519,574,215	8%	1%
Latvia	105,800,000	19,000,000	744,806,580	14%	3%
Lithuania	108,196,370	12,000,000	1,162,484,074	9%	1%
Luxembourg	12,700,000		301,171,100	4%	0%
Malta	8,471,821	4,375,000	117,231,353	7%	4%
Netherlands	437,773,905	57,746,250	1,487,605,155	29%	4%
Poland	1,064,610,000	200,998,091	7,579,729,875	14%	3%
Portugal	204,076,970	37,798,000	2,771,794,989	7%	1%
Romania	555,663,764	10,040,715	5,675,833,970	10%	0%
Slovakia	180,706,566	14,000,000	2,014,075,513	9%	1%
Slovenia	81,057,489	11,060,000	1,082,259,975	7%	1%
Spain	1,065,231,168	182,041,579	8,160,914,026	13%	2%
Sweden	325,234,646	114,703,352	2,558,436,293	13%	4%
Total Public Expenditure	**11,159,765,960**	**2,073,258,246**	**107,137,393,918**	**10%**	**2%**

Source: https://agriculture.ec.europa.eu/cap-my-country/cap-strategic-plans-country_en (Accessed 05.06.2023)

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Annex 2: Summary of AKIS coordination arrangements in the MS

Country	Organization responsible for Operational tasks	Coordination level	Coordination approach	Roles and Responsibilities
Austria	Ministry of agriculture	National	Establish an AKIS cooperation unit as part of the national CAP networking unit	- Enhance understanding of AKIS; Facilitate knowledge exchange; provide capacity building; Expand networking - Raise awareness on AKIS and the roles of different actors, Improve exchange, knowledge flow and networking, - Strengthen links between practice and research, - Capacity building and provision of support services
Belgium-Flanders		Regional	Through the Flemish rural network	- Set up a website that allows knowledge sharing, good practice calls, - Developing collaboration platform on the Rural Network website - Allowing training centers to enter upcoming events and trainings so that information of different training centers is centralized on one platform
Belgium-Wallonia		Regional	Through the national CAP network	- Implementing a platform that allows exchange between AKIS actors.
Bulgaria	Ministry of agriculture	National	Set up a focal point that organizes a working group to develop schemes and models for cooperation	- Organize periodic trainings; manage knowledge exchange, disseminate knowledge through newsletters, conferences and discussion forums
Croatia	Ministry of Agriculture	National	Set up AKIS coordination team that will operate in close cooperation with the national CAP network	- Explore ways of disseminating knowledge and innovation - Coordinate collaboration between the AKIS actors to formalise their participation in the implementation of AKIS and to regularly participate in knowledge and innovation activities

Country	Organization responsible for Operational tasks	Coordination level	Coordination approach	Roles and Responsibilities
Cyprus	The Branch of Agricultural Extensions within the Department of Agriculture	National	A single unit within the department of agriculture organizing all AKIS functions	- Facilitating increased actor participation to improve the quality of implementation of the interventions - Facilitating increased knowledge and innovation flows - Highlighting the availability of funding to potential beneficiaries of the CAP - Responsible for the National Rural Network, the EIP, the regional advisory offices, the regional training centers
Czech	Ministry of agriculture	National		- Evaluate knowledge exchange; Support networking; Support the CAP networks
Denmark	The Danish Agricultural Agency in the unit Green Development and New Knowledge-Research and foundation team	National	Through the national CAP network	- Ensuring further coordination and dialogue with actors across agriculture and rural areas in continuation of the implementation of the CAP plan.
Estonia	Ministry of agriculture- Research and Development Department	National	Set up an AKIS center that will work hand in and with the CAP network	- Responsible for the operational activities of knowledge transfer and for mapping of future needs
Finland	AgriHubi – farmers' competence network, which is located into Natural Resources Institute Finland (Luke).	National	Set up an AKIS working group	- Link and extend the AKIS network to the whole field of research, innovation and information dissemination in rural development through the Agrihubi and the rural network service unit

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Country	Organization responsible for Operational tasks	Coordination level	Coordination approach	Roles and Responsibilities
France	A rotating presidency of the AKIS committee by the stakeholders of the AKIS (CAP network, CASDAR, GTN, working group from associations of regions of France	National	Through already existing coordination body that brings together the various working groups and thematic groups	- Develop action plans, Support EIP-network; Support the existing coordination mechanism to: ○ Strengthen the links and work around priority areas ○ Increase the engagement of AKIS actors in CAP Networks ○ Mobilize a secretariat to support AKIS committee of the CAP networks
Germany	Agriculture ministries at national and regional levels	National and regional	Establish an advisor board and a round table by the AKIS coordination office at the national Ministry; Set up AKIS coordination unit at regional levels	***National level*** - Support knowledge exchange: Facilitate networking and exchange between the regional states ***Regional level*** - Organize workshops, improve dissemination methods, qualify advisory service providers
Greece	Managing authority	National	Set up AKIS working group	- Implement interventions related to training of advisors; manage and update knowledge repositories; facilitate networking
Hungary	Ministry of Agriculture	National	Establish a special body within the MoA	- Organize capacity development trainings, support in advisory service provision, oversee CAP network activities
Ireland	Ministry of Agriculture	National	Establish and chair an AKIS working group	- Provide capacity building; Enhance knowledge transfer; promotion of advisory activities; improve networking; promoting the digital agriculture
Italy	Ministry of Agriculture, Food sovereignty and Forestry	National and regional	Establish AKIS coordination unit with representatives from national and regional institutions	***National level*** - Synthesize regional strategies and propose national strategies ***Regional level*** - Offer capacity building, disseminate knowledge, manage funds from different programs

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Country	Organization responsible for Operational tasks	Coordination level	Coordination approach	Roles and Responsibilities
Latvia	Ministry of Agriculture, International Affairs and Strategy Analysis Department, and Rural Development Support Department	National	Set up a "sub-committee" of the CAP monitoring committee within the MoA Set up an AKIS contact point in the CAP network	***Sub-committee*** - Facilitate cooperation of AKIS actors, provide advisory function, develop agriculture priorities based on stakeholder input ***AKIS focal point*** - Knowledge dissemination, improve communication, awareness raising
Lithuania	Ministry of Agriculture	National	Set up AKIS coordination unit	- Participate in planning, implementation, and monitoring of AKIS activities, providing input/recommendations on the strategic plan implementation
Luxembourg		National	Not explicitly mentioned	- Create Innovation Hub as a new exchange and information platform to accelerate innovation in the sector, - Develop and implement projects in which researchers and farm advisors will construct knowledge - Facilitate collaboration between research and advisory to develop specialized databases and new specialized advisory tools for the sector
Malta	Agriculture directorate	National	Through the national CAP network and other delegated bodies.	- Provide a platform to improve synergies and complementarities between the core stakeholders Facilitate the implementation of interventions linked knowledge exchange and training - Improve networking, collaboration and development of innovation support services to strengthen links between research, registered advisors, the farming community - Facilitate cooperation and interactive innovation projects, including the digital transition in agriculture
Netherlands	Ministry of Agriculture	National	Through the national CAP network	

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Country	Organization responsible for Operational tasks	Coordination level	Coordination approach	Roles and Responsibilities
Poland	Ministry of Agriculture and Rural development, strategy and development department	National	Through the national CAP network	***Ministry of agriculture*** - Organize meetings, training courses, demonstration of developed solutions and good practices - Participate in networking meetings, trade fairs - Create and maintain membership and thematic groups on various topics - Collect data and develop databases ***CAP Network*** - Facilitating knowledge exchange and networking - Provide a forum for knowledge sharing and cooperation - Support implementation of interactive projects - Create and maintain knowledge platforms
Portugal	Directorate General for Agriculture and Rural Development (DGADR)	National	Follow up and Monitoring group	- Approve and review AKIS action plans every two years, develop activities for promoting knowledge exchange, Identify AKIS actors; Promote pluralistic advisory service provision
Romania	General Directorate for Rural Development, within the MoA	National and territorial	Set up AKIS support unit and AKIS platform	- Develop AKIS strategy, Implement and monitor; Coordinate AKIS activities; Organization of workshops, facilitate knowledge exchange between actors; collecting topics for capacity development and innovation
Slovakia	Ministry of Agriculture and Rural Development	National	Establish a center of excellence for AKIS that will bring together all AKIS actor categories and the CAP networks Set up an AKIS steering committee	***Excellence center*** - To develop and strengthen cooperation, linkages and transfer of up-to-date knowledge ***AKIS steering committee*** - Coordinate and deepen the link between the actors involved in the AKIS

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Country	Organization responsible for Operational tasks	Coordination level	Coordination approach	Roles and Responsibilities
Slovenia	Directorate for Agriculture	National	An AKIS expert group	- Coordinate the multiannual and annual work programmes of the public services - Coordinate the timetable of expert and demonstration events, Record the needs of advisers and farmers for new experts information and knowledge
Spain	Ministry of agriculture	National and Regional	Establish a Plenary with representatives of institutions and an institutional commission Set up an AKIS advisory platform that centralizes information both at national and regional level Use the National CAP network	***National*** Promote strategies supporting knowledge exchange Promote identification of good practices ***Regional through the national CAP network*** - Facilitate knowledge exchange, support advisory services, engage in monitoring and evaluation, reinforce dissemination of results, communication, training...
Sweden	The managing Authority	National	A special working group consisting of employees at the Swedish Board of Agriculture and the National Rural Network.	- Increase collaboration between AKIS actors, strengthen the knowledge system

Source: CAP strategic plans by MS https://agriculture.ec.europa.eu/cap-my-country/cap-strategic-plans-country_en (accessed June 2023)

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Annex 3 Planned AKIS interventions for knowledge exchange and dissemination of information

COUNTRY	AKIS INTERVENTION FOR KNOWLEDGE EXCHANGE
AUSTRIA	- Establish the AKIS platform for matchmaking/networking among stakeholders (national and international). - Include private and specialized advisory services (beyond agricultural chambers) on the platform. - Form expert advisor pools for cross-cutting topics: climate change, bio-economy, circular economy, etc.
BELGIUM (FLANDERS)	- Establish AKIS platform on Flemish RN website for knowledge sharing, training course information, and OG partnership.
BELGIUM (WALLONIA)	- Establish AKIS Platform to enhance actor visibly, exchange and to provide an overview of actions and initiatives undertaken by different actor - The AKIS platform will comprise three components: library (research), advisory listing and farmers- researchers – advisors interaction
BULGARIA	- Establish AKIS platform for actor interaction and comprehensive knowledge source. - Create regional AKIS centers to synchronize regional and national knowledge systems. - Facilitate network events. - Foster regular participation of researchers, advisors, farmers, and foresters in joint problem-solving discussions.
BULGARIA	- Develop and manage an interactive online information platform. - Populate the platform with a database of AKIS actors, resources, and innovation links. - Provide accessible research developments, results, and practical knowledge in agriculture, forestry, and agri-food.
CYPRUS	- Introduce "research request" system for practical and clear results. - Involve researchers in regular meetings with professionals, such as agricultural events. - Execute on-farm trials for researchers to share results and learn farmers' needs. - Organize specialized sessions for interactive innovation approaches by researchers.
CZECH REPUBLIC	- Establish repository for availing research and project outputs for the wider AKIS actors
DENMARK	- Ensure further coordination and dialogue with actors in continuation of the implementation of the CAP plan.
ESTONIA	- Organize info days, conferences - Create opportunities for advisor/research work sharing, mixed group training activities
FINLAND	- Use the joint network platform to serve as a common digital information exchanged and networking platform - Organize practical demos, webinar and articles - Develop new ways to provide condensed and easily accessible research info formats. - Develop a network of researchers entrepreneurs and living lab projects
FRANCE	- Set up a platform to avail various types of knowledge - Develop systemic visions for supporting interactions among numerous actors.
GERMANY	- Broaden thematic exchange among innovation brokers and organizations. - Strengthen knowledge flow between national and state levels via AKIS coordinators and meetings. - Enhance transparency of communication channels and networking structures. - Enforce "Begleitforschung" in BMEL research calls.

	- Integrate farm advisors as innovation brokers to enhance knowledge transfer.
GREECE	- Organize networking events for advisors and researchers. - Develop a digital advisor database containing education, experience, certifications, et
HUNGARY	- Establish a platform and e-system for project management involving advisors, educators, and end users.
IRELAND	- Disseminate key findings and lessons learned from EIP-OGs. - The Innovation Hub will facilitate translating research outcomes into practical implementation guides for primary producers and operational groups.
ITALY	- Establish and enhance monitoring networks for data collection, collation, and analysis. - Organise workshops, technical meetings, and seminars for information dissemination and knowledge exchange. - Organize thematic events at regional and provincial levels for improved research-practitioner matchmaking. - Strengthen participation in the Interregional Network for Agriculture, forestry, aquaculture, and fisheries research.
LATVIA	- Promote creativity through innovation events like meicathons and hackathons. - Guarantee knowledge transfer by disseminating progress, results, and best practices from projects in Latvia and Europe.
LITHUANIA	- Establish digital AKIS platform. - Create public advisor pool for farmers to choose from. - Organize coordinated thematic events regularly.
LUXEMBOURG	- Create new innovation Hub for enhanced actor networking. - Operate AKIS website as an information portal for funding instruments. - Offer innovation support service to aid AKIS actors in project development and implementation.
NETHERLANDS	- Encourage researchers to publish on Green Knowledge net and engage in co-creation (public/private partnerships). - Encourage advisors' active participation in CAP network. - Show good examples and encourage cooperation between OGs
POLAND	- Network activities, good practices, and innovations will be accessible on unit-maintained websites. - Arrange meetings and thematic conferences for knowledge exchange between advisors and science representatives. - Foster connections with other networks, including international ones, and actively share information through website/social media, distribution to support units, etc.
PORTUGAL	- Establish platform for knowledge sharing between advisors and farmers. - Enable advisors to publish technical articles on the AKIS Portal.
ROMANIA	- Develop user-friendly interactive online AKIS platform for data storage, processing, and sharing that: - Enable national-level access for comprehensive database aligned with farmers' needs. - Incorporate data on advisory and knowledge transfer services, allowing farmers to choose advisors. - Public interface with categories like research, innovation, and best practices. - Non-public interface for AKIS advisors' activity monitoring and evaluation.
SLOVAKIA	- Enhance networking and cooperation among research institutions and stakeholders. - Present and disseminate EIP project results to AKIS stakeholders, including educational institutions. - Establish an interoperable AKIS web platform (Knowledge Portal) linked with Farmbook and EIP-AGRI database.

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	- Create a single online AKIS platform (Knowledge Portal) within the Rural Network for knowledge and information exchange in agriculture, forestry, and food.
SPAIN	- Establish thematic programs for knowledge exchange among AKIS actors. - Develop AKIS Advisors Platform for centralizing information, activities, and knowledge sharing. Also Include advisor database in the platform - Connect research and farm advisors, provide scientific information access. - Disseminate results from AKIS intervention and complementary actions. - Organize peer learning events for sharing experiences, good practices, and research results. - Facilitate exchanges with third-country networks when relevant.
SWEDEN	- Foster inclusive network to gather diverse AKIS stakeholders. - Facilitate knowledge exchange to enhance innovation and innovation capacity.

Source: Summarized from the MS CAP-SPs

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Annex 4: Enhanced scope and improved competence of advisors within AKIS

COUNTRY	ENHANCED SCOPE AND COMPETENCE OF ADVISORS
AUSTRIA	- Continuously build the capacity of advisors (both public and private) in state-of-the-art methodologies and topical issues. - Train advisors to become "innovation scouts/innovation brokers." - Develop continuous education programs/modules to effectively communicate research.
BELGIUM (FLANDERS)	- Implement quality control for "after-school" training through farmer contributions. - Enable advisors to gain recognition for organizing customized training and interventions based on demand
BELGIUM (WALLONIA)	- Include advisors in the committees for accompanying research projects
BULGARIA	- Increase active involvement of advisory organizations in SP instrument programming, planning, and implementation.
BULGARIA	- Strengthen agricultural advisory services and foster their integration within AKIS - Provide support for the organisation of training courses and awareness-raising events, including demonstration events and on-farm exchange events
CYPRUS	- Provide education, training, and skills flexibly and innovatively. - Enhance accessibility and continuous development for farmers and advisors. - Facilitate short-term visits to innovative projects abroad.
CZECH REPUBLIC	- Certify advisory bodies - Train accredited advisors annually by research experts. - Enhance soft still training for advisors - Expand the portfolio of training topics
ESTONIA	- Introduce attractive options like online courses and voucher systems. - Diversify training topics to cater to individual and regional needs.
FINLAND	- Advisers on the register use AgriHub and Rural Network for skill development and marketing. - Platform registration allows advisers to create detailed skill profiles. - Advisers commit to offering quality advice aligned with beneficiary needs. - Advisers refrain from conflicted advice and maintain confidentiality. - Ongoing training from research institutes, AgriHub, Rural Network, and Food Authority.
FRANCE	- Mobilise "access to training, advice; actions for the dissemination and exchange of knowledge and information" to enhance skills of farmers, forestry and rural actors and the downstream agricultural sector - Strengthen interactions among actors across the agricultural sector.
GERMANY	- Enhance fluid dissemination of advisory, training, and education content in AKIS
GREECE	- Enforce mandatory technical and methodological education/training for innovation brokers. - Boost advisor training through workshops, cross-visits, and competitions. - Establish vocational agricultural education support within AKIS national committee. - Refine advisory curriculum with targeted content, duration, theory-to-practice ratio, and apprenticeships.
HUNGARY	- Conduct regular training for professionals to make them up-to-date. - Accredit potential participants in supported advisory services and training. - Continuously monitor farmers' and processors' needs and feedback through surveys and open ratings.

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IRELAND	- Provide support for advisor up-skilling and continuous professional development. provide training for farmers engaged in the National Agri-Environment Scheme.
ITALY	- Increase the effort to identify the need for advisory, training, and innovation by agriculture enterprises particular by small and micro enterprises - Organise training and advisory actions for AKIS actors with special focus on territoires and production sectors
LATVIA	- Launch adviosy intervention encompassing individual advice and incubation services. - Increase awareness and knowledge among CAP beneficiaries about CAP requirements, management obligations, and economic-social aspects. - Prioritize heightened use of individual advisory services for young farmers and SMEs. - Envisage 100% rise in "incubation support" for all beneficiaries.
LITHUANIA	- Establish an advisor evaluation system. - Enhance advisory quality. - Restructure knowledge dissemination quality monitoring system, drawing from international experiences.
NETHERLANDS	- Implement permanent education points for advisors to promote ongoing learning. - Provide "innovation on the farmyard" training for all advisors through higher education. - Utilize CAP network to showcase examples and stimulate OG collaboration. - Ensure active involvement of NCP for Horizon Cluster 6 with the CAP network.
POLAND	- Provide training for farmers in agricultural production and on-farm processing. - Aid advisors in updating their knowledge via Agricultural Advisory Centre in Brwinów lists and associated training courses.
ROMANIA	- Enhance technical, economic, and managerial training for advisors while enhancing information access. - Conduct consultations involving representative actors to determine topics of interest. - Launch advisor selection calls via the online platform. - Train advisors in relevant areas, including CAP advisory needs. - Advisors will provide customized services addressing farmers' needs.
SLOVAKIA	- Enhance skills of agricultural and forestry advisors, emphasizing innovative intermediation.
SPAIN	- Provide support for vocational training, skill acquisition, and advisor training. - Facilitate demonstration activities and short-term exchanges. - Enable skills acquisition, information sharing, and visits for training purposes.
SWEDEN	- Enhance advisory services through concept development and advisor training. - Allocate funds to support advisor training. - Facilitate knowledge accessibility for advisors and the agricultural industry.

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