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COMMISSION STAFF WORKING DOCUMENT EVALUATION

of the CAP's impact on knowledge exchange and advisory activities

{SWD(2022) 138 final}

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LIST OF ABBREVIATIONS

AIR	Annual Implementation Report		
AKIS	Agricultural Knowledge and Innovation Systems		
CAP	Common Agricultural Policy		
EAFRD	European Agricultural Fund for Rural Development		
EC European Commission			
EIP-AGRI	European Innovation Partnership for Agricultural productivity and Sustainability		
EU European Union			
FAS	Farm Advisory System (Articles 12 to 14 of Regulation (EU) No 1306/2013)		
M1 Knowledge transfer and information action (pillar II measure)			
M2	Advisory services, farm management and farm relief services (pillar I measure)		
M3	Quality schemes for agricultural products and foodstuffs (pillar II measure)		
M4	Investments in physical assets (pillar II measure) Farm and business development (pillar II measure)		
M6			
M10	Agri-environment-climate (pillar II measure)		
M11	Organic farming (pillar II measure)		
M12	Natura 2000 and Water Framework Directive payments (pillar II measure)		
M13	Payments to areas facing natural or other specific constraints (pillar II measure)		
M16	Cooperation (pillar II measure)		
M19	Support for LEADER local development (CLLD) (pillar II measure)		
SCAR	Standing Committee for Agricultural Research		

1. Introduction

Purpose and scope

The 2014-2020 Common Agricultural Policy (CAP) contains instruments and measures to foster knowledge exchange, advisory activities, and innovation in the agricultural and forestry sectors and in rural areas. The aim is to make the policy more viable, sustainable and inclusive by informing and advising farmers.

Under Article 34 of the Financial Regulation¹ applicable to the general budget of the European Union, the EU knowledge exchange, advisory activities and innovation policy is subject to periodical evaluations. The purpose of this evaluation is to assess the effectiveness, efficiency, relevance, coherence and EU added value of these CAP measures.

The evaluation covers the relevant measures and instruments established under Regulations (EU) No 1305/2013², No 1306/2013³, No 1308/2013⁴, and No 1307/2013⁵.

The geographical coverage of the evaluation is EU-28, including the United Kingdom, as it was a member of the EU for the evaluated period 2014-2020⁶.

The evaluation period covers CAP instruments and measures from 2014 onwards. The situation in the previous programming period (2007-2013) was taken as a reference period.

The evaluation is underpinned by the support study on the CAP's impact on knowledge exchange and advisory activities, published in February 2021 (the 'support study')⁷ and takes into account additional data and information.

Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union; OJ L 193, 30.7.2018, p. 1–222.

Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005.

Regulation (EU) No 1306/2013 of the European Parliament and of the Council of 17 December 2013 on the financing, management and monitoring of the common agricultural policy and repealing Council Regulations (EEC) No 352/78, (EC) No 165/94, (EC) No 2799/98, (EC) No 814/2000, (EC) No 1290/2005 and (EC) No 485/2008.

⁴ Regulation (EU) No 1308/2013 of the European Parliament and of the Council of 17 December 2013 establishing a common organisation of the markets in agricultural products and repealing Council Regulations (EEC) No 922/72, (EEC) No 234/79, (EC) No 1037/2001 and (EC) No 1234/2007.

Regulation (EU) No 1307/2013 of the European Parliament and of the Council of 17 December 2013 establishing rules for direct payments to farmers under support schemes within the framework of the common agricultural policy and repealing Council Regulation (EC) No 637/2008 and Council Regulation (EC) No 73/2009.

For the purposes of the evaluation, which covers the period 2014-2020, the United Kingdom is considered as a member of the European Union (EU-28). To recall, the United Kingdom withdrew from the European Union as of 1 February 2020, entering a transition period until 31 December 2020, during which Union law, with a few exceptions, continued to be applicable to and in the United Kingdom.

⁷ https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/cmef/research-innovation-and-technology/caps-impact-knowledge-exchange-and-advisory-activities_en.

2. BACKGROUND TO THE INTERVENTION

2.1. Description of the policy and its objectives

Major productivity gains have been achieved with innovations in agriculture since the 1960s, with its modernisation and green revolution. However, this trend slowed down in the EU in recent years (EU Standing Committee for Agricultural Research (SCAR), 2012). In addition, these agricultural productivity gains were achieved partly by putting serious strains on the environment. The lack of resilience of specialised farms, the increasing dependence to inputs and animal welfare are also questioned. Moreover, climate change has become a major issue, with necessary actions and adaptation from all economic sectors, including agriculture.

Yet with the current population growth (among other factors), the global demand for agricultural products is expected to increase significantly. The 2007 financial crisis followed by the food crises is an illustration of potential future challenges. Public policies and regulations have increasingly integrated conditions aiming at addressing these various issues.

Beyond the respect of the numerous existing standards set by the EU, substantial change of the production systems – technical as well as organisational change – are needed to face the dual challenge of sufficient food production and sustainability.

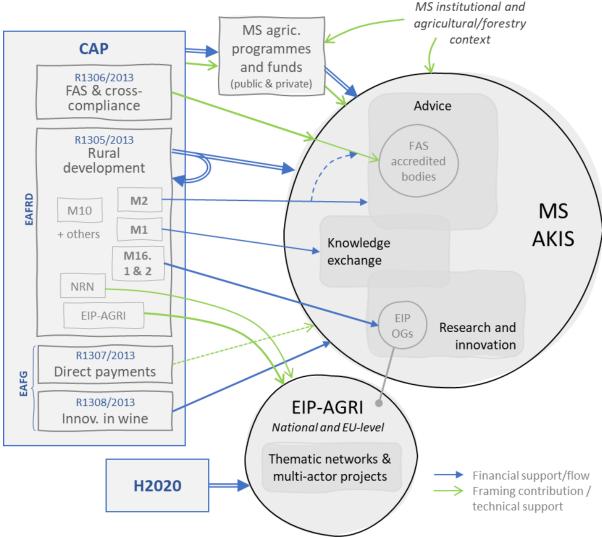
The above assessment has led to the political will of fostering innovation, cooperation and knowledge exchange in agriculture, emphasised as key levers for viable solutions. This in turn resulted in an EU knowledge exchange policy comprising of various instruments, presented in Figure 1 and 2 and described below (and in Annex 5).

Figure 1. CAP instruments to foster knowledge exchange and innovation



Source: ADE, Evaluation support study on the CAP's impact on Knowledge Exchange and Advisory Activities, 2021, leaflet.

Figure 2. Architecture of CAP implementation with regard to knowledge exchange, innovation and advisory activities



Source: ADE, Evaluation support study on the CAP's impact on Knowledge Exchange and Advisory Activities, 2021, p. 34.

As part of the Horizontal Regulation setting rules on the management and financing of the CAP, all Member States must have in place a **Farm Advisory System (FAS)** covering EU legal standards for modern, high-quality and environment friendly agriculture, including the standards covered by cross-compliance. The FAS obligation was introduced into the CAP in 2005, and the implementation of a FAS has jointly been made mandatory for all Member States since 2007. Its scope was enlarged in 2013 to cover new topics such as the greening, the Water Framework Directive, and Integrated Pest Management. It aims to raise awareness among farmers and CAP beneficiaries about the relationship between agricultural practices on the one hand, and the environment, climate change, plant/animal health, food safety, human health and animal welfare on the other. Access to advisory services by the FAS is open to all farmers of all ages. The FAS does not provide funding, which has to come either from national and regional sources or from the European Agricultural Fund for Rural Development (EAFRD) in particular the measure on advisory services (M2). In many Member States (14) the FAS is organised at national level, in other Member States the FAS is regionalised. In almost all

Member States (95%), the authority responsible for the selection of advisory bodies is public. The selection procedure of these bodies is evenly made through either call for tender or direct designation.

Under **rural development**, Member States and regions can use specific **measures** to offer financial support for training, advice, and innovation projects from the EAFRD. The choice of rural development support offered in a Member State is based on a SWOT analysis, which identifies the priority needs to be addressed. The three most important measures are:

- The measure for knowledge exchange (M1), supporting training activities, information, demonstrations, exchange, and visits;
- The measure for advice (M2), supporting the use of advice, the setting up of advice services, and the training of advisors;
- The measure for innovation through cooperation (M16), supporting the setting-up of EIP Operational Groups (M16.1), and the implementation of pilot projects (M16.2) cocreating and testing new practical solutions.

At the crossroads of the CAP and the EU's research policy "Horizon 2020" is the European Innovation Partnership for Agricultural productivity and sustainability (EIP-AGRI). This partnership, created in 2012, aims to find innovative practical solutions to current challenges, and acts as an interface between agriculture and science at regional, national and EU levels. In this approach, stakeholders form Operational Groups work on specific issues arising directly from the field. The results of all operational group projects are shared all over the EU to create a network of knowledge and innovation. EIP-AGRI is coordinated by the EU EIP Network in collaboration with the National Rural Networks / EIP networks, with support from ''innovation brokers', facilitators and service points (hubs). EIP-AGRI is a modern framework deploying new technologies, new business models, new forms of organisation and cooperation, bridging the gap between science and practice. It connects those active in agricultural innovation across regions and countries. It empowers people on the ground to design their own solutions to the problems they face. This helps acceptance of the outcomes and speeds up implementation in practice thanks to the co-ownership generated through the collaboration during the EIP innovation project. In this way cooperation proves to be a necessary ingredient for innovation.

Training, information sharing and advice are the common ways farmers build new skills and keep up to date on the latest innovations to improve their activity. But new approaches to knowledge production, diffusion and utilisation, such as **Agricultural Knowledge and Innovation Systems (AKIS)** are also needed to keep the momentum of the evolution of the farming profession, and to overcome the bottlenecks that can exist in linear knowledge transfer models (from scientists to end-users).

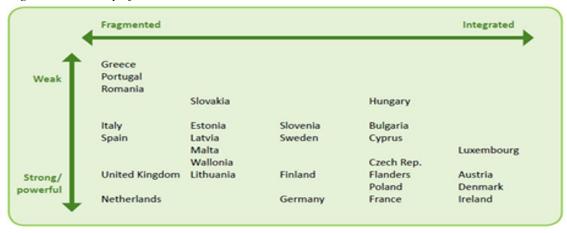
Figure 3. Actors in an AKIS



Source: DG Agriculture and Rural Development

When knowledge is co-created, used efficiently, and shared widely, it is then considered as an AKIS, and this will further support the development and scaling up of innovative solutions that work in practice. Therefore, AKIS is a concept elaborated to describe if sufficient knowledge flows are organised on a structured and regular basis between the actors in the knowledge exchange and innovation system of a Member State. A well-functioning AKIS is key to respond to numerous issues of the agricultural sector, and to achieve the EU's Common Agricultural Policy (CAP) objectives. AKIS functioning varies a lot across EU Member States (Figure 4)

Figure 4. Diversity of AKIS in Member States



Source: PROAKIS study, James Hutton Institute, 2014

Many **other CAP tools** may contribute, including the market measure supporting innovation in the wine sector, other rural development measures, and direct payments to farmers that are linked to new agricultural standards requiring knowledge update or advice. A minimum level of qualification and training is required to access some CAP aids (e.g. for farm modernisation investments, or young farmers start-up), which encourages the improvement of skills.

The intervention logic of the evaluation of the CAP's impact on knowledge exchange and advisory activities describes the theoretical causal relationship of a public policy, showing how, in theory, the inputs (policy framework and supported actions) triggered by the needs of stakeholders should provide the expected outputs, outcomes, and impacts, contributing to the CAP general objectives. It is based on the relevant regulations, including their recitals explaining the legislator's intentions. All four CAP regulations introduced before act upon the evaluation topic. The intervention logic is illustrated in Figure 5. There are strong synergies and linkages between the different measures. These are presented altogether. Indirect links are not exhaustively represented.

2.2. Baseline and points of comparison

The impact assessment of the CAP 2014-2020 entitled *The Common Agricultural Policy towards* 2020 pointed out that the instruments and measures on knowledge exchange, advisory activities and innovation would play a key role in fostering sustainable farming systems and practices, in particular addressing the multiple environmental challenges⁸.

For the CAP 2014-2020, summing up Member States programmes, the planned number of trainings of farmers was 2.9 million⁹, the number of advices 1.2 million and the number of EIP Operational Groups 3 200. These figures relate to the targets for the CAP 2014-2020, i.e. without accounting for the two year transition period of 2021-2022.

⁸ Commission Staff Working Paper Impact Assessment Common Agricultural Policy towards 2020. https://ec.europa.eu/smart-regulation/impact/ia_carried_out/docs/ia_2011/sec_2011 1153 en.pdf.

⁹ Excluding Belgium.

SUSTAINABLE MANAGEMENT OF NATURAL VIABLE FOOD PRODUCTION BALANCED TERRITORIAL DEVELOPMENT RESOURCES AND CLIMATE ACTION GENERAL CAP OBJECTIVES P6 Social inclusion poverty P2 Competitiveness P4 Ecosystems Maintain agricultural P3 Food chain P5 Resource efficiency low carbon and reduction and economic organisation climate resilient economy development in rural areas CAP P1 & 2 OBJECTIVES Improved OVERALL Enhanced competitiveness of Enhanced Increased capacity for action and Improved environmental PERFORMANCE of farmers, forest holders and resource performance (recital 12) empowerment through capacitypersons engaged in the food efficiency including sustainable building for farmers and other farm holdings management (recital 13) sector (recital 12) (recital 12) (recital 13) economically marginal groups Knowledge transfer and Innovation in agriculture, forestry and rural areas fostered Farmers & foresters Collaboration between farmers, Increased Increased confidence and self-assurance of involved in ongoing forestors advisors, research, ... in marketability & farmers/foresters learning networks or co-creation of knowledge and competitive-ness of communities of practice dissemination of results grapevine products OUTCOMES Farmers/ Farmers / Farmers are Farmers / Information flows Innovative solutions Farmers are foresters perceive foresters Increased capacity to access aware of EU adopt between practice found for adequatly the usefulness/ implement and exchange knowledge & basic information, including research and research agricultural and skilled benefit of changes standards results facilitated forestry problems dissemination of results advice/KE following KE/A Dev of new products. Knowledge transfer Farmers/ foresters Farmers take-up Operational groups LEGEND: Advisors are advice (by type events supported (n°; participate in supported (by theme processes, technologies trained OUTPUT by theme: supported events of advice) (O13) and type of partners) concerning grapevine (014) participation) (012; 011) (058) (016) products supported Instrument or Measure with direct effect by a blue arrow Direct links only in some MS indicated by a dotted M01 M02 M16 M10 Art.28(4) Art. 53 Art 12-14 orange arrow. Direct payments Art.51 Knowledge Advisory Coope-Agro-environ-EIP-Agri Farm Advisory CAP (including nnovation in services ration ment - Climate network System transfer INSTRUMENTS greening and Instrument or Measure the wine AND possibly coupled with indirect effect sector payments) MEASURES they have not been Other EARDF Measures focused on P1 Art. 54 National Crossrepresented for (M04, M6.1, 6.4, M11, M19 LEADER...) rural network compliance readability purposes. R1305/2013 R1307/2013 R1306/2013 R1308/2013 More viable agriculture More sustainable agriculture More inclusive territorial development NEEDS

Figure 5. Specific intervention logic for CAP goals and instruments related to knowledge exchange and advisory activities in rural areas

Source: ADE, Evaluation support study on the CAP's impact on Knowledge Exchange and Advisory Activities, 2021, p. 23.

3. IMPLEMENTATION/STATE OF PLAY

3.1. Farm Advisory System (FAS)

In 2019, the use of advisory services by farmers is EU-funded in 15 out of 26 Member States (Greece and Romania not included because they did not return the questionnaire), the setting up of FAS is EU-funded in 6 out of 26 Member States and the training of FAS advisors is EU-funded in 9 out of 26 Member States.

100%
80%
60%
40%
20%
0%
FAS Access
FAS Set Up Training FAS advisers

• Yes • No

Figure 6. EU funding for FAS in percentage of Member States

Source: Member States notifications in 2019.

The scope of the FAS concerns various areas. Depending on the area, the status of advisory bodies may differ and be public, private or both.

The main methods used for advice, such as provision of advice, the setting up of advice services and the training of advisors, are very heterogeneous and an overview is difficult to have. This also depends on the area covered by advice e.g.: the greening payments, identification and registration (I&R) of animals, the Food Law, The Sustainable Use of pesticides Directive (SUD) and animal welfare (AW) based on the information provided by Member States.

For the same reasons, it is difficult to have an overview of the number of advices given, due to various definitions of an advice and of the great variability of the type of advice.

3.2. Knowledge exchange and advice

At the end of 2020, budget execution stood at EUR 351 million for knowledge transfer (M1), EUR 231 million for advisory services (M2) and EUR 769 million for cooperation (M16).

In 2014-2020, out of 112 national or regional Rural Development Programmes, 101 have programmed M1 (knowledge exchange).

According to the figures reported in the 2021 Annual Implementation Report (AIR), 1.11 million participants (Belgium excluded due to multiple counting) were trained as a result of the knowledge exchange measure (M1).

The Rural Development Programme advice measure (M2) supported the mandatory FAS in several Member States. By 2020, only in 52 Rural Development Programmes expenditure was realised on M2. Five countries did not plan to use this measure (namely Cyprus, Czechia, Denmark, Luxembourg, and the Netherlands) as well as 40 Rural Development Programmes (20 in France, 6 in Germany, 6 in Italy, 7 in Spain and 1 in Belgium). This represents a 39% non-adoption rate for this measure. Greece, Malta and Slovakia planned to use this measure but have not yet done so (as in 16 other regions, which represent 16% of the total).

The number of countries, which planned the measure for advisory services, raised slightly in 2014-2020. Among the case study countries, Ireland, which did not plan the measures for advisory services in the period 2007-2013, provided a budget in 2014-2020. Some countries greatly increased their budget like Greece (+168%), Germany (+140%), France (+437%) or Estonia (+350%). Others decreased it like Poland (-79%) or Italy (-41%).

Figure 7 shows the implementation progress of the three measures (M1 (knowledge transfer), M2 (advice) and M16 (cooperation)) at the end of 2020. Overall, expenditure realised on these three measures is relatively low with an average execution rate of 27%.

100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0% DE CZ H \mathbb{H} ■ Total budget planned ■ Total budget executed

Figure 7. Execution rates up to 2020 and total budget planned for rural development measures M1, M2 and M16 (M16.1 to M16.9) for the programming period 2014-2020

Note: Expenditure up to end of 2020 when available, 2019 otherwise.

Source: DG Agriculture and Rural Development.

3.3. EIP-AGRI

Rural Development 'Establishment of Operational Groups' and 'Pilot project' measures (M16.1/M16.2), the measures funding EIP-AGRI, are new measures which did not exist in the previous programming period. Total expenditure (EU funds and national expenditure) for EIP-AGRI and pilot projects amounted to 471 million euro by the end of 2020. As shown in Figure 8 in the EU on average about 70% of M16 (Cooperation) was spent on these two measures, 30% on other cooperation measures.

Figure 8. Distribution of M16 (Cooperation) over EIP-AGRI and other measures in 2020

Source: CATS Database (Clearance of Audit Trail System)

The partnership has resulted in 2 195 completed operational groups (i.e. local interactive innovation projects) by December 2021, i.e. 69% of the EU level target of 3 200 Operational Groups planned was reached. This dynamic now covers virtually all Member States, with Eastern Member States catching up after a slower start in the early years of the programming period.

While Operational Groups work at national level, 190 European multi-actor research projects under Horizon 2020 work on similar issues but at larger scale, benefiting from two thirds of the overall budget for agricultural research calls (over 1 billion euro).

4. METHODOLOGY

4.1. Short description of methodology

The evaluation is underpinned by an external support study and complemented by data and analysis carried out by the Commission¹⁰.

It also draws on the five responses to the consultation on the roadmap conducted from 22 May 2019 to 19 June 2019 and the 187 responses to the public consultation carried out between 10 November and 2 February 2021 on the Commission's web portal 'Have Your Say'. The results of these are presented in Annex 2.

The evaluation started with an analysis of all CAP Regulations (2014-2020 and 2007-2013) to recall the legal and policy framework, to inventor the CAP instruments and measures relevant to the study, and to reconstitute the intervention logic. A comprehensive literature review also

Evaluation support study Evaluation of the CAP's impact on knowledge exchange and advisory activities. https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/cmef/research-innovation-and-technology/caps-impact-knowledge-exchange-and-advisory-activities en.

included an overview of the concept, evolutions, and diversity of AKIS, the EIP-AGRI network, the FAS, the agricultural and forestry context, the existing and emerging needs in rural areas, as well as the critical factors of success for policies supporting knowledge exchange and innovation among farmers and foresters. Case studies were undertaken in eight Member States and nine regions, selected along a clustering approach in order to catch the diversity of approaches regarding knowledge exchange, innovation and advisory activities across the EU. Restitution workshops were organised online (due to the Covid-19 crises) in a selection of case studies including France, Belgium Flanders, Germany Lower-Saxony and Ireland, in order to discuss and validate the findings with Member States representatives and other stakeholders.

Besides case studies, information and data were collected at EU level. An extensive desk work regarding the period 2014-2020 included report, discussion document and database analysis (European Structural and Investment Funds, 2018-2020 Annual Implementation Report, Common Monitoring and Evaluation Framework and Joint Research Centre FAS databases). Interviews were organised with the EIP-AGRI Service Point and the European Network for Rural Development Contact Point, as well as with Commission services (DG Agriculture and Rural Development and Joint Research Centre). Rural Development Programme managing authorities (33 respondents) and national FAS coordinators (21 respondents) were surveyed through respective online questionnaires, as well as final beneficiaries (142 respondents) in the course of the French case study (Grand Est). A panel of final beneficiaries were also surveyed by telephone in Germany-Lower Saxony.

4.2. Limitations and robustness of findings

At EU level there is no reliable data covering actual and planned costs of delivery, notably for FAS. Equally, there is a lack of impact indicators e.g. on changed agricultural practices as a result of knowledge exchange and advisory activities. The robustness of findings of this evaluation is limited by restrictions in the collection of data, in particular on uptake of the measures and spending rates, as set out below:

- The relevant Rural Development measures have small decision rates and some had very low spending rates when the support study was carried out, hence it limits the assessment of impacts.
- The data on which this report builds from, the Annual Implementation Reports, do not provide a systematic view at the level of the sub-measures for financial data, while EIP-AGRI is a sub-measure of the cooperation measure (M16). The European Structural and Investment Funds (ESIF) database also does not provide data by sub-measure.
- Despite the major efforts to standardize the definitions of the indicators undertaken within the Common Monitoring and Evaluation Framework (CMEF), there are major differences in the methods used to calculate certain indicators between Member States (i.e. indicators of the number of beneficiaries of training and advice). All participants to trainings are counted towards the output indicator, whether they participated already to another training or not. The administrative costs for training organisers to avoid this double counting of participants would be too high. In addition, in Belgium for 50 persons taking a training with 4 speakers, 200 participants are counted in the output indicator. Together, this makes the comparison and interpretation of the data complex at EU level. This results in the absence of robust data on uptake of training and advice by

- farmers/foresters (CMEF indicators O11-13)¹¹. In addition, the figure cannot be accurately compared to the total number of farmers or CAP beneficiaries as same farmers can be counted several times.
- Lack of monitoring data regarding the establishment and operation of the FAS, including advice provided under the FAS, unless advice is co-founded by the EAFRD (M2M2 advisory services).

Indeed, monitoring data about the FAS rests on Member State(s) responses to a questionnaire pursuant to Article 102(2) of Regulation (EU) No 1306/2013. The questionnaire covers general questions about the establishment and operation of the FAS, as well as all FAS topics with several questions per topic. There are two main limitations:

- 1. Regionalised or decentralised Member States cannot answer the questions at national level due to the diversity of situations among their regions (Germany, Spain, France, Italy).
- 2. Figures provided for some key indicators such as the number of farmers advised are not homogenous. This is notably due to the fact that many types of "advice" are taken into consideration with multiple choices: "one-to-one on the farm"/"one-to-one outside the farm (consultations, etc.)"/"telephone helpdesk"/"Small group advice on the farm"/"Small group advice out of the farm"/"Internet"/"Publications"/"Other"; and the guidance specifies in a footnote, that the figures "do not need to be precise but only aim at giving an idea of the functioning of the system". The figure may compile all kind of information given in various forms.

As a result, Member States count differently. E.g. in Belgium, Flanders counted the farmers advised by the FAS (555) who are supported under rural development for the use of advisory services (M2.1) whereas Wallonia counted 134 000 farmers advised for a total number of farms of around 12 000. In Estonia 106 farmers received advice under the FAS while there were over 3 000 under one to one advice supported by the Rural Development Programme. France did not provide any figure nor did Ireland. Germany mentioned about half of the German farmers.

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https://ec.europa.eu/info/sites/default/files/food-farming-fisheries/key_policies/documents/output-indicator-fiches-pillar-ii en.pdf.

5. ANALYSIS

5.1. Efficiency

The analysis is based on the results of the case studies of this evaluation, complemented by comparing output data with budgets spent for the different measures as well as on the results of the public consultation¹² conducted in the framework of this evaluation in the period 10 November 2020 to 2 February 2021.

5.1.1. General overview on the uptake of knowledge exchange measures

The case studies show that in the period 2014-2020 the implementation of the CAP measures for knowledge exchange, advisory activities and innovation suffered from delays and low spending due to administrative burdens at the level of the Managing Authorities.

The lower than expected uptake in the previous programming period 2007-2013 of the measures M1-knowledge transfer and M2-advice led to a reduction of their budget in the period 2014-2020.

Rural development planned support to lifelong learning and vocational training in the agricultural and forestry sectors (M1.1) has decreased from EUR 1.9 billion in 2007-2013 to EUR 1.5 billion in 2014-2020, but the amount planned for the 2014-2020 period corresponds to the amount spent during the 2007-2013 period. The situation is however very variable from one Member State to another. The total public budget dedicated to the knowledge transfer measure (M1) in 2014-2020 represents on average only 1.1% of the public expenditure planned under rural development.

The budget planned under the 2014-2020 Rural Development advisory services measure (M2) amounts to EUR 757 million, which is also lower compared to the 2007-2013 programming period. However, this decrease does not necessarily imply a decrease of public support for these services, as in several Member States, they are supported by national funds only.

However, the budget for measure M16 (the European Innovation Platform for Agriculture (EIP AGRI) and other cooperation measures) was in 2014-2020 five times the budget of 2007-2013. The increase of the budget of measure M16 was because of the specific emphasis that has been put on innovation.

As a result, the overall budget for the sum of knowledge exchange (M1), advisory services (M2) and cooperation (M16) measures increased in both absolute (46% increase of the budgets) and relative amounts (57% increase in the share of planned budgets compared to the total budgets of the Rural Development Programmes). However, the cooperation measure does not cover EIP-AGRI and pilot projects only, but includes notably rural tourism, short supply chains and local markets, diversification and social farming. Moreover, this combined planned budget remains a small share of Rural Development Programmes' total budget (reaching only 3.6%).

The average budget execution rate for the three measures amounted to 27% at the end of 2020. Spending rates excluding national top ups at the end of 2020 stood at 24% for knowledge transfer (M1), 31% for advisory services (M2) and 29% ¹³ for cooperation (M16). These are particularly low compared to 53% for all Rural Development measures combined. No case studies identified data on the reach of FAS.

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https://ec.europa.eu/info/news/commission-seeks-views-caps-impact-knowledge-exchange-and-advisory-activities-2020-nov-10_en.

Projects are only counted when completed and may run until end 2023.

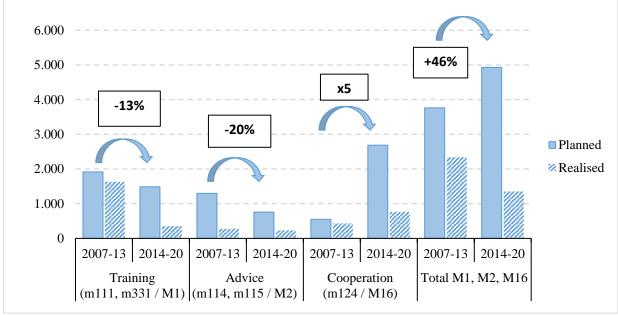
The delay in implementation is notably due to the public procurement rules applicable until end of 2017 whose constraint was relieved by the 'Omnibus' regulation. The 2007-2013 period had also shown a strong under-achievement.

Table 1. Total public expenditure EU-28 up to 2020 (million EUR, including national co-financing)

	Planned	Executed	Ratio
	Tiamica	Laceuted	Katio
M01 (knowledge exchange)	1 488	351	24%
M02 (advice)	757	231	31%
M16 (cooperation)	2 686	769	29%
Total	4 931	1 351	27%

Source: based on indicator plans and own calculations.

Figure 9. Total public budget planned and spending (end 2020) for rural development measures 1, 2 and 16 and evolution between the 2007-2013 and 2014-2020 periods at EU-28 level



Source: ADE based on ESI Funds and own calculations.

Respondents in the public consultation have a generally neutral perception about the efficiency of the CAP instruments and measures in fostering knowledge exchange, advisory activities and innovation in the agricultural and forestry sector and in rural areas. Almost half (88; 47%) of the 187 respondents found the instruments and measures to be efficient 'to some extent', with no major differences between stakeholder groups.

On the other hand, a clear majority (135; 73%) found that not all farmers have equal access to knowledge exchange, advice or innovation supported with the CAP which can explain the low uptake of the measures, in particular M1 (training) and M2 (advice). This statement is supported by the majority of all of the respondents from the stakeholdergroups, with special highlight on businesses associations (81% of them did not find that farmers had equal access to knowledge exchange), companies or business organisatinos (71%) and EU citizens (69%).

5.1.2. Uptake by knowledge exchange measures

According to the evidence gathered in the case studies carried out uptake of the measures was low due to lack of interest and opportunity costs of farmers. A lack of funding to enable stronger promotion and targeting of excluded groups is also cited by stakeholders and knowledge

providers in many cases. Moreover, the primary interest of farmers is mainly in new technical equipment. In many cases managing authorities suggest uptake rates would be higher if measures responded more fully to farmers' needs, but in some cases a majority is already covered (Ireland). However, those farmers that participated appreciated the measures and considered these useful.

There is a relationship between perceived efficiency by farmers and their uptake of the measures. For example as the case study in the evaluation support study shows¹⁴, in Greece, managing authorities and experts report that farmers often consider participating in training activities a 'waste of time' with courses not tailored to their needs.

In many Rural Development Programmes, the targeted population is the entire farming community or all trainers and advisors. However, the actual target population may be significantly lower (e.g. excluding non-active farmers in Greece, who make up a large proportion of those registered).

Case study evidence of interviews with training and advice bodies as well as the survey of farmers in France reveal both under-recognised needs for training and advice among large numbers of conventional farmers but also of small, part-time, or less-educated farmers; and demand among younger and more 'professional' farmers for more advanced training and advice.

Evidence of case studies suggests also incomplete awareness of training and advisory opportunities in many cases, especially the cooperation measure (M16) other than EIP-AGRI (Flanders, Belgium, Greece, Estonia).

Knowledge transfer (M1)

The realised expenditure compared to the planned budget at 24% at the end of 2020 for the knowledge transfer measure is low compared to other rural development measures but also compared to the previous programming period. In terms of persons trained, the implementation is closer to the target excluding Belgium (65%) with a number of 1.22 million farmers trained up to 2020. It represents around 31% of CAP beneficiaries, although this comparison cannot be done directly, as participants to trainings can be counted several times, thus this is likely an overestimate.

Furthermore, there are wide variations in the planned target numbers among Member States (see Figure 9 below). Some countries have realised more than what they had planned, such as Denmark (542%), Finland (172%), Portugal (159%), Estonia (158%) whereas others have not even realised 10% of what they had budgeted, like Hungary (0.2%), Slovakia (6%) or Sweden (9%). This depicts a clear downward trend, also in terms of annual averages of participants and training days, at EU level and in a large majority of Member States.

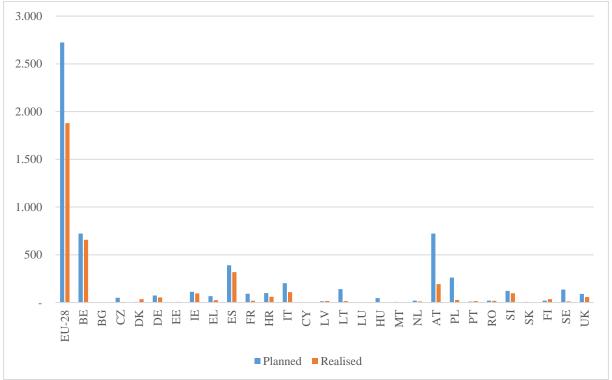
By 2020, a total of 83 441 actions or operations were supported as a result of M1 (knowledge transfer), representing more than 1 867 130 training days. Belgium, Greece and Italy supported the largest number of training days (greater than 250 000 days). Greece and Ireland adopted a strategy focusing on a few actions (respectively 12 and 10) with a large number of training days. Belgium, Spain and Italy supported a very large number of actions or operations (respectively 27 074, 10 119 and 10 088).

The majority of the measures under knowledge transfer is linked to Priorities 2 ("enhancing farm viability and competitiveness") and 4 ("restoring, preserving and enhancing ecosystems related

https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/cmef/research-innovation-and-technology/caps-impact-knowledge-exchange-and-advisory-activities_en

to agriculture and forestry"). Some Member States (such as France, Belgium and Poland) gave more weight to the economic component (with more than 70% of total public planned expenditure linked to Priorities 2 and 3) and others (e.g. Greece, Germany and Ireland) to the environmental and climatic component.

Figure 10. Comparison of numbers of participants (planned and realised, in thousands) in trainings under M1.1 (support for vocational training and skills acquisition actions) in 2014-2020 for EU-28



Source: DG Agriculture and Rural Development based on the AIR dataset. Data from 2020 when available, 2019 otherwise.

Table 2. Number of participants to supported vocational training and skills acquisition actions (M1.1) by 2020

Value	Number of participants in trainings (including Belgium)	Number of participants in trainings (excluding Belgium)	
Range	Min 102 – Max 656 437	Min 102 – Max 317 957 ¹⁵	
Median	23 051	21 820	
Average	139 112	93 967	
Total	1.88 million	1.22 million 2.72 million	
Planned	2.90 million		

Source: DG Agriculture and Rural Development.

Advisory services (M2)

As pointed out before the budget allocated to M2 – advice decreased by 20% compared to the previous period, mainly due to administrative constraints. It does not necessarily imply a decrease of public support for these services. In several Member States, these services are supported by national funds only (Wallonia, Belgium, Cyprus, Czechia, Denmark, France, Luxemburg, some German regions, Netherlands).

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¹⁵ The maximum number is for Spain.

The 2017 FAS questionnaire to Member States, indicates that the FAS reaches a minority of farmers in most Member States – only Denmark and Slovenia report a number of farmers reached under the FAS which is very close to the total number of farm holdings in their country. In aggregate, considering only those 20 Member States where the data appears similar¹⁶, 'FAS stimulated' advice reaches, at most, about 22% of farm holdings and around 26% of CAP beneficiaries, for the period 2015-2019.

Number of beneficiaries advised

A total of 643 741 beneficiaries were advised across the 2014-2020 period as a result of M2 (advice): 54% of the planned target of 1.2 million beneficiaries and almost four times the level achieved over the entire 2007-2013 period (178 500), but the advice actions might be counted differently. This covers¹⁷ up to 5.9% of the total number of agricultural holdings¹⁸.

The countries with the greatest number of beneficiaries advised by 2020 are Austria, Spain and Finland, who have each reported more than 50 000 beneficiaries.

Austria and Finland had a planned number of beneficiaries advised exceeding their 2016 total number of agricultural holdings: this implies some holdings get repeated visits. Austria and Finland are also the countries with the highest percentage of beneficiaries actually advised (175% and 121%% respectively).

Number of advisors trained

Member States did not need to plan the number of advisors trained. In addition, only nine Member States reported results by 31/12/2019: Germany, Estonia, Spain, Croatia, Ireland, Poland, Portugal, Sweden and the United Kingdom. A total of 6 540 advisors were trained across the 2014-2019 period as a result of M2 (advice). The Member States with the greatest number of advisors trained are Croatia and Ireland (1 180 and 2 950 trained respectively).

The total number of advisors trained compared to the total number of beneficiaries advised gives thus a ratio of 0.02 advisors trained per final beneficiary advised. Predictably, it varies among the different Member State(s). Ireland has the highest ratio reaching 0.7 advisors trained/beneficiary advised. Estonia and Croatia follow but at distance since their ratios are only slightly above 0.1 advisors trained/beneficiary advised.

Overall, the data suggest that uptake of advisors' training in most case study areas is relatively high, or has increased since the previous programming period (except for Germany-Lower Saxony where it has declined), whereas for advisory support the numbers are much lower than anticipated in many cases, with a lack of awareness cited as a reason in several Member States.

One common thread through case study areas is that the enhanced uptake and provision of services is mostly by farmers that are already engaged with the AKIS and there has been relatively little improvement in accessing the 'hard to reach' farmers via the application of relevant CAP instruments and measures. 'Hard to reach' farmers are those with a considerable distance to the knowledge exchange measures, that have been reluctant to engage in these so far or are not even aware of the measures. Often these are farmers of less profitable farms. The same

¹⁶ Member states not included: Belgium, Cyprus, Czechia, France, Greece, Hungary, Ireland and Romania.

Without taking into account the different categories of participants trained and the possible double-counting.

¹⁸ Based on 10.5M agricultural holdings.

groups of farmers continue to participate in training, and so it is difficult to reach out to the wider community and important to increase peer-to-peer learning.

Agricultural advice is an essential lever to change farming practice, but providing qualified and impartial advisory services remains an important issue. There is also a need to update advisers' knowledge and skills. In Germany-Lower Saxony Measure M2.1 (use of advisory services) has achieved a considerable share of the set objectives. Approximately 14 700 advisory activities were attended by around 4 200 agricultural enterprises. Nevertheless it must be noted that topics with high social and lower economic benefits for the farm, such as the advisory topics "sustainability systems" and "biodiversity" would not be taken up without funding.

The Belgium-Flanders case study indicated that for M2 (advice) between 2014-2018, around 20% of farms in Flanders benefited, which the authorities characterized as "extremely low".

Ireland has seen a large increase in advice activities, and it has been reported in the literature Kinsella (2018) that two thirds of farmers choose to formally engage with advisors through contracts¹⁹. In 2015 approximately 43 500 farmers were clients of national public agency Teagasc and a similar number contracted the services of private sector agricultural consultants. Less is known about services purchased from private consultants but Kinsella estimates that 58% of all farmers have either no engagement or the lowest level of engagement with advisory services. The case study revealed that CAP instruments and measures have resulted in a larger number of advisors becoming involved in providing advisory support (e.g. through FAS, Green, Low-Carbon, Agri-Environment Scheme (GLAS), and running Knowledge Transfer groups), and a higher level of training for advisors. Farmers have thus benefitted from greater access to advisory support and better trained advisors.

In Poland, actual impact is limited due to late launch of the measures. In addition, the demand for advisory support is small, as it was in the previous Rural Development Programme 2007-2013. Reasons for low uptake of support for using advisory services were identified by the Managing Authorities in 2013 as: the requirement to cover the entire cost of the service; the psychological barrier related to farmers' fear of being found to be in non-compliance and fear of disclosing this information; complicated application procedures; too narrow range of services and low funding limit per farm; unprofitability of production in small farms; and too low expenditure on promotion and poor flow of information. In relation to M2 (advice, based on 2019 data), 230 agricultural advisors were trained (no trained forest advisors). This is viewed by the Polish Rural Development authorities as a good basis to intensify the implementation of Submeasure M2.1 (advice) in the future, which involves reaching farmers and forest owners with professional knowledge.

For Italy-Veneto the rate of achievement for M2 (advice) is very low, due to the delay in implementation, starting only after the Omnibus revision of rules on public procurement.

Kinsella, J. (2018). Acknowledging hard to reach farmers: cases from Ireland. International Journal of Agricultural Extension, 61-69.

Cooperation (M16)

Number of EIP-AGRI Operational Groups supported

A total of 20 Member States provided data on the number of completed EIP-AGRI Operational Groups²⁰. The notification takes place only when the project is completed, which might explain also the lack of notification in certain Member States. Nevertheless, by December 2021, 69% of the target to support 3 200 EIP-AGRI Operational Groups was reached.

Farmers represent 28% of the partners in operational groups. The involvement of farmers in the partnership of Operational Groups is recognised as an added value of the measure by all stakeholders, as it promotes solutions adapted to farmers' needs. However, in practice this involvement is not so simple. Institutional structures often provide de facto leadership because they know the EAFRD procedures and have resources to allocate to them. For farmers, the main difficulties are the mobilisation of time to participate in these Operational Groups at the expense of time spent on the farm.

The difficulty of integrating agricultural advisors was also noted in several Member States. The Operational Groups make use of different types of knowledge (practical, scientific, technical, organisational, etc.) in an interactive way.

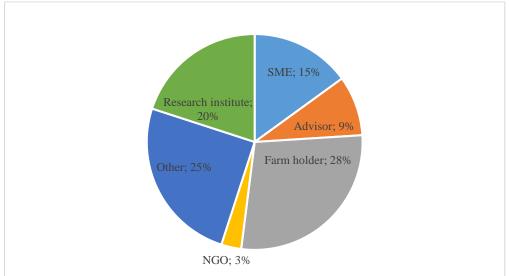


Figure 11. Distribution of partners (percentage of total number of Operational Groups)

Source: European Commission.

5.1.3. Administrative burden of CAP instruments as a cause for low budget execution

According to the analysis of the case studies and the public consultation, the low execution rate is, in particular for the measures M1 (knowledge transfer) and M2 (advice), largely due to administrative burden, such as the complexity of the application procedure in combination with adequate staff numbers of Managing Authorities. Member States have implemented EIP-AGRI to a higher degree due to the larger interest in the latter by farmers.

Administrative burdens for the farmers are quite negligible for M1 (knowledge transfer) and for M2 (advice), since most of the burden for private beneficiaries (farmers) has been charged to

The other 8 Member States did not implement it or did not provide on the result indicators. These Member States have been: Bulgaria, Denmark, Estonia, Croatia, Malta, Luxembourg and Romania. Out of this group, only Luxembourg had not programmed any expenditure under this measure.

training and advisory bodies. Even in case of individual advice, the procedure set up for farmers is quite simple.

The burden for farmers participating in an Operational Group (EIP-AGRI) is variable according to the case studies and the distribution of roles within the Operational Group. The burden is noticeable in coordinating and managing the Operational Group, especially when the lead partner is a farmer, who are reportedly not accustomed to managing innovation projects.

According to the consultation, the amount of administrative requirements is the most burdensome (see Figure 11). Furthermore, with regards of the administrative burden for the receivers of advice, the most significant administrative burden across all stakeholder groups were the large number of administrative requirements. Only exception to this were academics and/or research institutions which found the complexity of the operations as the major source of the administrative burden (31% of all of them). The respondents also gave their opinion on the sources of administrative burden for providers of advice. The administrative requirements were found to be the major source of administrative burden for all groups. The providers of advice also point at the time consuming preparation of CAP files.

Figure 12. Most important aspects of administrative cost and/or burden in the implementation of the current CAP measures and instruments fostering knowledge exchange, advisory activities and innovation in the agricultural and forestry sector and in rural areas



Source: Public consultation.

Administrative burden at the level of Member States' administrations.

Concerning M1 (knowledge transfer), M2 (advice) and M16 (cooperation): the process phases with the more critical issues regarding administrative burden for public administrations are the projects' implementation and the preparation of the call for applications.

For these measures, the different kinds of factors of burden can be summarised in three categories: a) related to EU Regulations; b) related to measures design and public administration procedures; c) related to characteristics of the delivery structure.

a) burden related to EU regulations, includes:

- M1 (knowledge transfer):
 - o the definition of eligible expenditures and the related control and payment system (Umbria, Italy, Flanders, Belgium, Lower Saxony, Germany, Estonia);
 - o the rigid allocation of EAFRD support by priorities and focus areas (Umbria);

- o the lack of advance payments (Lorraine (France)), mentioned by training bodies who find it hard to start projects only with their own financial resources.
- M2 (advice): there was a very general problem with public procurement rules. In some Member States like Lorraine, the Managing Authorities dropped the Rural Development advice measure (M2) due to this obligation. In other Member States like Umbria and Veneto, the 'Omnibus' regulation (Regulation (EU) No 2017/2393) solved this problem at the end of 2017, meaning much-delayed implementation. In a few Member States where a call for tender was launched (in 2016 or in late 2019), its preparation and issuing required a substantial effort from public officials (e.g. Lower Saxony in Germany, Veneto in Italy). Furthermore, the maximum level of support and the rigidity in allocating the resources to the different Focus Areas were mentioned in Italian cases.
- EIP-AGRI: includes the early difficulty of interpreting the logic and the novelty of the EIP-AGRI approach; the allocation of the resources per focus areas; the lack of advance payments.

b) burden related to measures design and public administration procedures, includes:

- M1 (knowledge transfer):
 - o the complexity of selection criteria in the phase of the selection process (Veneto and Umbria (Italy), and Flanders (Belgium));
 - o standard costs or "reasonable costs", which are adopted to facilitate the approval and administrative management of the projects (Veneto and Umbria (Italy), Lorraine (France) and Estonia);
 - the difficulties and hard process of accrediting and certifying training bodies (Lorraine, France and Estonia); and
 - o the already burdensome EU rules regarding controls which were more constraining for training bodies (Umbria, Italy, Flanders, Belgium).
- M2 (advice): includes the short deadline given to potential project promoters to prepare and submit their project proposal; use/non-use of simplified costs; requirements and accreditation procedure for beneficiaries; changes of implementing rules over time; workload for advice projects' management; and finally, burdensome control and payment system.
- M16 (cooperation): the complex management of selection criteria;
 - the short deadline given to potential Operational Groups to prepare and submit their project proposal;
 - o the coordination and financial management of the Operational Group, especially when the lead partner is a farmer;
 - the rigidity of the partnership structure; the public procurement rules for external services;
 - o the non-adoption of standard costs;
 - o administrative controls not proportionate to the budget and duration of the projects.

c) burden related to characteristics of the delivery structure, includes:

• M1 (knowledge transfer):

- o the burden relates to the number of staff involved in the instruction of project applications (lack of regional staff) and the organisation of personnel employed in the selection process. In some cases, a more general problem of governance between national and regional institutions arose where these institutions had different policy and budgetary preferences;
- o the rigidity of the partnership structure; the public procurement rules for external services;
- o the non-adoption of standard costs;
- o administrative controls not proportionate to the budget and duration of the projects.
- EIP-AGRI: the burden concerns the organisation of a two-stages procedure for selecting innovation projects: more in detail the setting up of Operational Group plus innovation project versus expression of interest plus full project proposal (like in Ireland case).

Administrative burden at the EU level

There was no significant administrative burden related to M1 (knowledge transfer) and M2 (advice).

As regards M16 for innovation projects, the novelty of the EIP-AGRI approach has created the need for a learning process both in the public administration and in Operational Groups. It required a strong initial effort in Commission services in coordination, training, technical support and communication.

5.1.4. Administrative burden derived from the FAS in the Member States

Administrative burden was identified in Member States and regions where the advisory system is financed directly through Rural Development Programme measures (M2). Regarding Member States and regions where the advisory system was already pre-existent and supported by national legislations and financial provisions (Germany, France and Ireland), the administrative burden was (i) very limited in cases of a simple designation of operating bodies, and (ii) higher in cases of application of an accreditation process, even if no data was available to specifically assess this burden.

The FAS and the associated requirements as conceived by the legislator should not generate substantial administrative burden – provided that the needed resources pre-existed. Establishing the FAS does nevertheless generate **costs and burden**, especially (i) for the drafting of specific decrees, (ii) for the definition and application of procedures to select/designate/accredit operating bodies, and (iii) to ensure the "suitable qualification and regular training of FAS advisors" is respected (either through checks and/or organisation of training activities).

Also, the use of M2 (advice) to support the FAS (M2.1 for the use of advisory services, M2.3 for the training of advisors, or to a lesser extent M2.2 for the setting up of the FAS), adds administrative constraints linked to EAFRD requirements, e.g. the public procurement rule applying to the selection of bodies.

Case studies revealed that, despite the CAP goal of simplification, the latter increasingly became a burden due to staff cuts in public administrations during the evaluation period.

Of course, those constraints are not of the FAS itself, but of the M2 used for funding the FAS (advice) package', as are the benefits.

5.1.5. Cost and organisation of training

For M1 (knowledge transfer), beneficiaries (knowledge exchange providers) confirmed their ability to achieve good results with a limited budget, although in some cases they reported struggling with covering the cost of delivery, using own resources to fulfil financial requirements, for example in Flanders Belgium, Lorraine France and Poland. In some Member States the budget is viewed as sufficient by training bodies (for example Lower Saxony, Germany), who argued that perceived cost efficiency depends on the complexity of the projects funded.

Interviews with training bodies suggest measure funding does not cover the costs of outreach and promotion activities. There is very limited connection with "hard to reach" farmers. Farmers in some cases complain it is not easy to find out about available activities, largely because of inconsistent and fragmented information (e.g. Greece, Poland). This can cause reduced efficiency in measure performance.

5.1.6. Cost and organisation of advice

The cost for farmers entails any financial outlay to receive advice (which varies between case studies from free to 100% of direct cost), also the time spent on these activities, which may be perceived as too high.

Some case studies (Poland, Greece) reported farmers' opinion that it is hard to find an interesting activity in which to participate. However, expert interviewees say this may be because there is low appreciation by farmers of the value of expert advice. Training advisors to deliver information in a way that is understood and valued by farmers was highlighted as a way to enhance cost-effectiveness of advice. Such advice does not only focus on sustainability issues but also on technical and productivity ones.

In respect of the FAS obligation, no information on costs of meeting this obligation could be provided by interviewees in case studies. In those cases (Lorraine France, Lower Saxony Germany) where it was widely agreed that the FAS had not made any difference to the extent or operations of previously-existing provision, both administrative costs and benefits were considered negligible. In other Member States, the FAS obligation is linked to Rural Development support through M2 (advice), thus comments relating to administrative efficiency apply to the delivery of the funded measure(s) via which the FAS obligation is ensured. It has not been possible to make a generalised assessment of the cost-efficiency of the FAS obligation because its implementation varies considerably between Member States, and the implementation costs are not separately monitored or acknowledged by the public administration.

Interviews with stakeholders within the case studies indicated that for advisory bodies, although the process has been simplified since the last period, making it easier for beneficiaries to apply, M2 (advice) brought difficulties in estimating and covering emerging costs (e.g. Lower Saxony, Germany). This results in some advisors losing interest in participating in the activities because the rewards are insufficient compared to the 'paperwork' and time spent calculating implementation costs.

The promotion of advisor training is essential to meet the key CAP objectives, as required both by the FAS and the Rural Development advisory services (M2). Together, they have been beneficial for advisors to enhance their understanding of best practice (e.g. animal welfare in Ireland). They have also assisted the maintenance of jobs in advisory services, and advisors' ability to deliver flexibly to meet the needs of their recipients. Thus, requiring and funding training for advisors can enhance their efficiency. Conversely, strict administrative rules (e.g.

standard assumptions on costs as imposed in Flanders, Belgium) impede the ability of advisors to be flexible in designing attractive courses or consultations, decreasing efficiency.

5.1.7. How the benefits of the policy compare to the costs

Looking at the benefits, the Joint Research Centre found that setting up of the FAS during the 2007-2013 programming period helped to raise awareness of farmers on cross-compliance topics (Statutory Management Requirements (SMRs) and Good Agricultural and Environmental Conditions (GAEC)) and to introduce good practices for farm management²¹.

Focusing on the 2014-2020 period, the FAS in the surveys and interviews of the case studies was found beneficial for the agricultural sector mostly:

- to raise awareness of beneficiaries on the offer of advice:
- to ensure the existence of advice on specific topics (in particular environmental standards); and
- thanks to EAFRD support for training of advisors, to enhance the quality of advice, with well qualified and updated advisors.

These benefits and how they are proportionate to costs are heterogeneous between Member States/regions.

From case studies, benefits appeared rather limited in Member States where the offer of farm advisory services is already comprehensive and embedded in a **strong and integrated AKIS**. This is the case for instance in Germany and France, where the FAS obligation is not considered of added value. In Ireland, a general improvement and homogenisation of advisor's skills was encouraged through training schemes (supported by M2.3 (training advisors) of the EARFD) and these are linked to the FAS²². In those three Member State(s) (Germany, France, Ireland), tasks related to FAS are part of the usual tasks of the concerned advisory bodies. Hence the establishment and application of the FAS had overall limited costs but also with very limited secured benefits (France, Germany). In Flanders, M2.1 (advice) supported the FAS and together they led to the integration of new topics, especially on environment linked to advisory modules of interest to farmers but more focused on economic issues.

Other Member States characterised by an **intermediate AKIS** (e.g. Estonia, Italy-Umbria and Veneto), with a weaker advice offer and more budgetary constraints, chose to use Rural Development advisory services (M2 - advice) to support the FAS. In those Member States, representatives appeared to strongly assimilate the two instruments, and could not differentiate the respective contribution of each. Hence, they considered the 'FAS-M2 package': costs arose mainly from the accreditation procedures (public procurement rule), and the advisors' training requirement; the benefits regard the structuring of AKIS (improved integration of advisors), the improved services' offer (topics and quality) and the increased farmers' awareness. Overall, the benefits outweighed the costs, the CAP FAS-M2 contributing to a better functioning of the AKIS and providing a helpful financial support.

In order to be eligible to participate in other Rural Development Programme focused training schemes and advise farmers on those (e.g. Green, Low-Carbon, Agri-Environment Scheme (GLAS), Knowledge Transfer groups, EIP-AGRI, Burren Programme, etc.) advisors need to be FAS registered.

JRC (2017). FAS database 2017/2018 based on the FAS questionnaire to Member States, pursuant to Article 102.2 of the Regulation (EU) No 1306/2013; Vincenzo Angileri, Farm Advisory System in the EU: proposals for improvement, JRC Scientific and Technical Reports, Luxembourg, 2011.

Finally, in Member States with a weak and fragmented AKIS such as Greece (and Malta), Rural Development M2 (advice) and the FAS are expected to have a substantial contribution to the development of advisory services, in terms of topics and quality (potentially the case for Greece - still under development, and already functioning in Malta). Historically, the FAS obligation exists since 2007, but Greece had not mobilised the Rural Development advice measure (m114) across 2007-2013. In the current period, the Rural Development advice measure (M2) was well selected and, while its implementation is delayed, it is slightly ahead of the FAS setup. Overall, the Rural Development advice measure (M2) appears an essential tool to support the establishment and operation of the FAS in Member States/Regions facing strong financial and institutional capacity constraints.

Overall, despite the data limitations described in the beginning of this chapter, it can be concluded, according to case study interviewees in Managing Authorities and stakeholder organisations, that CAP funding appears to be an efficient way to enhance AKIS functions, and according to the same source and evidence EIP-AGRI is widely considered to be efficient. Notably the EIP-AGRI Service Point²³ is perceived to have substantially assisted cross-border communication by national networks and to play an important role in dissemination of information and knowledge exchange between stakeholders at EU level.

5.2. Effectiveness

5.2.1 Entry and maintenance of adequately skilled farmers

In 2010, the percentage of farmers with basic agricultural training²⁴ was quite low (12%) whereas 81% had practical experience only. This inhibited largely the pass-through of CAP objectives to agricultural practices. Between 2010 and 2016, the number of farmers with basic training raised by 1 million. However, in 2016, 68% of farmers still had practical experience only.

Between 2010 and 2016, there has been a very small progress, for all age groups, in the number of farm managers having a basic training (22.1% to 22.5%, +0.4pp) and a significant progress in terms of full agricultural²⁵ training (6.9% to 9.1%, +2.2pp). This increase is notably linked to the entry of young farmers with higher education levels than their elders.

The interviews of the case studies pointed out that the Rural Development young-farmer measure (M6.1) has contributed to this improvement. Despite this progress, the level of trainings remains an issue. As was shown in Table 1 in 2016 less than a third (31.6%) of farm managers had at least a basic agricultural training. Less than one farmer in 10 has a full agricultural training.

The EIP-AGRI Service Point in Brussels, established in 2013, acts as a mediator within the EIP-AGRI network, enhancing communication and cooperation between everyone with a keen interest in innovating agriculture: farmers, researchers, advisers, businesses, environmental groups, consumer interest groups and other NGOs.

Basic agricultural training is any training courses completed at a general agricultural college and/or an institution specialising in certain subjects (including horticulture, viticulture, silviculture, pisciculture, veterinary science, agricultural technology and associated subjects); a completed agricultural apprenticeship is regarded as basic training (source: Eurostat).

Full agricultural training refers to any training course continuing for the equivalent of at least two years fulltime training after the end of compulsory education and completed at an agricultural college, university or other institute of higher education in agriculture, horticulture, viticulture, silviculture, pisciculture, veterinary science, agricultural technology and associated subjects (source Eurostat).

Table 3. Training level of farm managers 2010-2016

	2010	2013	2016	2016
Training level of farmers	all farmers	all farmers	all farmers	young farmers
Practical experience	8.1 million	7 million	6.6 million	0.6 million
only	81%	71%	68%	57%
Basic training	2.2 million	2 million	2.2 million	0.2 million
	22%	20%	23%	21%
Full agricultural	0.7 million	0.9 million	0.9 million	0.2 million
training	7%	9%	9%	22%

Source: Eurostat (EF_MP_TRAINING); Evaluation of the impact of the CAP on generational renewal, local development and jobs in rural areas.

On the question of the effectiveness of CAP measures and instruments in fostering knowledge exchange, advisory activities and innovation in the agricultural and forestry sector and in rural areas, respondents of the public consultation found them, in general, more ineffective than effective. That meant, as figure 12 shows, that the sum of the categories "not effective at all" and "to a very small extent" was larger than the categories "to a very large extent" and "to a large extent effective", with no significant differences by stakeholder category. The only exception to this statement is 'Support for knowledge exchange and information actions (M1)', which 27% found effective to a large or very large extent, in comparison with 20% who found it effective to a very small extent and 2% not at all effective, with similar percentages across all stakeholders.

On support for lifelong learning (LLL) and vocational training (M1), the case studies such as Estonia, Lower Saxony Germany, Lorraine, France and the 2018 AIRs²⁶ showed that many participants considered trainings useful, in particular with regard to their aim of technical improvements of farming and viable food production.

The case studies were not able to report effectively on the number or share of farmers and foresters involved in ongoing learning networks or communities of practice. In Flanders and Estonia, circles of farmers organised farm visits and met several times a year. However, the issue remains the low proportion of farmers participating in training, with a large majority not receiving adequate training.

²⁶ The impacts reported in the 2018 AIRs of M1-knowledge transfer are generally positive, with 24 AIRs specifically stating that the final beneficiaries were satisfied with the training they received.

Support for knowledge exchange and information actions (M1)

Support for the Advisory service measures (M2)

Cooperation and EIP projects (M16)

Support for networking, notably EIP (M20)

AKIS 2886 37% 24% 09 10%

FAS 6% 11% 34% 25% 17% 17%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

To a very large extent To a large extent To some extent

To a very small extent Not at all No opinion

Figure 13. Effectiveness of CAP instruments in fostering knowledge exchange, advisory activities and innovation in the agricultural and forestry sector and in rural areas

Source: Public consultation.

Notwithstanding the result of the public consultation mentioned above it can be concluded on the basis of the case studies and the surveys carried out that CAP instruments and measures have supported the entry and maintenance of adequately skilled farmers into the agricultural sector mainly in four ways:

- funding knowledge transfer (supported by the equivalent Rural Development knowledge transfer measure M1);
- funding advisory services (supported by the Rural Development advisory services measure M2);
- the obligation to implement a FAS offering advice to farmers in each Members State, and directly;
- specific requirements notably in terms of skills, related to CAP Priority 2 'Farm Viability and Competitiveness' and Focus area 2B (designed specifically to facilitate the entry of young adequately skilled farmers into the agricultural sectors).

The Rural Development Programme advice measure (M2) supported the mandatory FAS in several Member States, and in this way, they have fostered together the maintenance of adequately skilled farmers in various ways.

According to the AgriLink project²⁷ and the survey of FAS coordinators, the FAS on its own increased the awareness of farmers on the offer of advisory services and also the specific mandatory topics, in addition to cross-compliance (such as greening, maintenance of agricultural area, the Water Framework Directive, Integrated Pest Management, etc.). In several Member States, support by the Rural Development advisory services measure (M2) is instrumental for the implementation of the FAS. Together, they contributed to the improvement of the quality of advice proposed.

Other CAP instruments and measure have been identified in case studies and AIRs, as encouraging farmers and foresters to participate in lifelong learning and vocational training

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https://cordis.europa.eu/project/id/727577.

actions: investment support (M4), setting-up of young farmers (M6.1), cooperation (M16) and LEADER (M19).

If the implementation choices of the Member States include the Rural Development investment (M4) and young farmer (M6) measures, they mainly encourage farmers and foresters to undertake training as a condition of accessing these CAP supports.

Regarding new entrants, the conditions set both by the EU and Member States on the Rural Development start-up-aid (M6.1) are the CAP's main lever for improving the level of qualification of young farmers. The requirements in terms of a minimum initial level of qualification or compulsory vocational training and advice during the first years of installation increase the initial qualifications among young farmers. The associated mandatory business plans also stimulate uptake of training and advice. It appears that often such training or advice is funded by national/regional funds, with the Rural Development Programmes, and potential synergies between the various measures remain little exploited.

Some training or advisory measures are targeted more specifically to young farmers and are included under the CAP Priority 2 'Farm Viability and Competitiveness' and Focus Area 2B 'Entry of skilled farmers into the agricultural sector'. It represents 6.8% and 4.4% of planned expenditure under respectively Rural Development knowledge transfer (M1) and advisory services (M2) measures.

M19 (LEADER) or M20 (Technical assistance and Regional Rural Networks) also contribute to influence knowledge exchange, innovation and advice to various degrees in each Member State, in some cases by funding innovation support services. LEADER (M19) measures can foster lifelong learning and vocational training in a direct way by setting up training or demonstrations. However, these occurrences remain rare. Among the other European actions, the Horizon 2020 research and innovation programme is directly related to the implementation and extension of the EIP-AGRI. To a much lesser extent, other programmes such as the LIFE programme, INTERREG and the European Regional Development Fund (ERDF) also contribute to the strengthening of the AKIS.

Regarding the wine sector, the innovation measure (Article 51 of Regulation (EU) No 1308/2013) was included by just three Member States in their National Support Programmes (NSP), namely Germany, Spain and Cyprus, with a very limited budget. In addition, the implementation of the measure was very low within these Member States. The main reason is the combined requirement for "new products" that are strictly connected to wine products (defined explicitly in the annex of the regulation) and the fact that grape producers who do not own a processing facility cannot benefit from the innovation measure.

5.2.2 Change in farming practices

Agricultural advice remains an important lever to change farming practices, as highlighted in a recent survey (performed for the 2018 AIRs) of over 150 advisors in Lower Saxony (Germany)²⁸.

The topics covered by the training and advice actions are broad. Those supported by the CAP or national funds not only aim at meeting the needs expressed by farmers such as enhanced

Eberhardt, W. (2018). PFEIL - Programm zur Förderung im ländlichen Raum 2014 bis 2020 in Niedersachsen und Bremen: Einzelbetriebliche Beratung (TM 2.1) - Auswertung der Erfahrungsberichte der Beratungsanbieter zum 1. Vergabezeitraum (5-Länder-Evaluation, 12/18). https://www.eler-evaluierung.de/fileadmin/eler2/Publikationen/Projektberichte/5-Laender-Bewertung/2018/NI_EB_Bericht_Befragung_Berat-Anbieter_2018_Endversion.pdf.

competitiveness, but also, as envisaged by the intervention logic of the policy presented in figure 5 and explained in chapter 2, especially integrate environmental and climatic needs or societal requirements like animal welfare, to a rather large extent, as illustrated by the case studies. This public support for training and advice enables independent advice. It covers more broadly topics such as agro-ecology, alternative to use of pesticides or chemical inputs, animal health and welfare, security at work, organic farming, water, biodiversity, soil and climate measures.

In most case studies, there are however no specific training or advice provided related to the management of seasonal workers, the relevant labour standards or working conditions.

The EIP AGRI was effective in bringing innovation, augmenting human capital and changing agricultural practices (although with small spill- over to farmers outside the cooperation) but also for EIP AGRI, there was a lack of involvement of farmers.

The CAP had a potential to promote knowledge exchange, advisory services and innovation also to support climate action, in particular the change of farming practices to integrate climate needs such as carbon farming, but this potential was not fully used, mainly due to the low uptake of the measures. Yet the importance of such measures must be stressed for the purposes of creating enabling conditions for land managers to transition to sustainable management practices, in particular carbon farming. To that end, also digital solutions in the context of the FAS such as FaST could play an important role and be promoted across the EU.

The public consultation identified various fields of advice, which reflect the topics mentioned above (Figure 13, 187 respondents). 34% of advice activities relate only to economic aspects, while 47% to environmental and climate actions and 19% are more holistic. The major recipients of training were companies and/or business organisations and EU citizens, with special focus on farm management in general covering farm economics, environmental sustainability, climate action and/or animal welfare and environmental trainings. The stakeholder groups do not show significant differences in the training received.

Operational Groups are working on a wide range of themes such as water and soil management, control of pests and diseases, food quality, competitiveness of the value chains, energy efficiency and many others. 18% of them are testing new technology solutions. Around 65% work on environment or climate related issues. The results of all projects are pooled into the EIP-AGRI network, providing lots of new ideas and inspiration for the farming community.

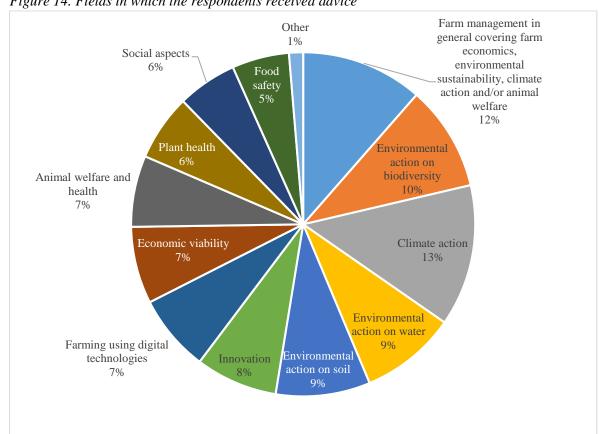
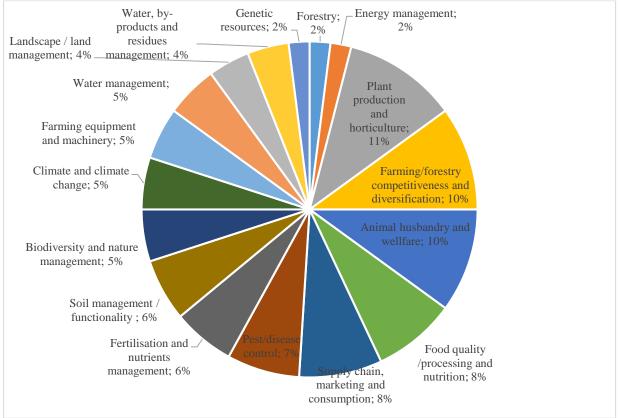


Figure 14. Fields in which the respondents received advice

Source: Public consultation.





Source: European Commission.

5.2.3 Flow of information between researchers, advisors and famers

A condition for the effectiveness of the knowledge exchange is the strong flow of information between researchers, advisors and famers. According to the public consultation (187 respondents), there seems to be a common perception by respondents that current measures and instruments are not very effective on fostering information between researchers and the other two stakeholder groups. Between researchers and advisors 46% of the respondents found it not very effective (sum of 'to a very small extent' and 'not at all'), and 60% of the respondents found it not very effective between farmers and researchers.

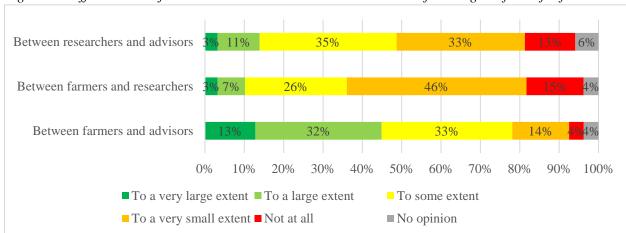


Figure 16. Effectiveness of current CAP measures and instruments on fostering the flow of information

Source: Public consultation.

On the other hand, 45% of the respondents found positively effective (sum of 'to a very large extent' and 'to a large extent') the information flow between farmers and advisors. There were not major differences across stakeholder groups for any of the categories asked.

The cornerstone of AKIS and EIP-AGRI is the strengthening of information flow between farmers, advisors, researchers. The case studies illustrate that (1) making a link between research and farmers is a challenge in all Member States; (2) in some Member States, the information flow between researchers and advisors is weak; (3) the information flow between advisors and farmers is generally good but depends on the quality and number of impartial advisors, and in some Member States where advice is charged for, on the ability of farmers to pay for the service.

5.2.4 Other critical success factors

The assessment of the effectiveness of the CAP measures in terms of more viable, sustainable and inclusive agricultural practices considers the critical success factors that increase the impact of the policy on knowledge exchange, advisory activities and innovation. On the basis of longstanding experience and/or other sources of evidence such as surveys it was perceived by the Managing Authorities that training or advice were a critical element in encouraging beneficial changes in farming practices. However, in all case studies, it was reported that Managing Authorities are unable to say what proportion of those receiving training or advice actually implement changes as a result.

Factors regarding policy design

Widespread beneficiary awareness of opportunities for training and advice is an essential factor for success as is shown by the assessment of the implementation of the knowledge exchange policy in the case studies.

A strong emphasis upon effective promotion is demonstrated as important in Flanders, Lorraine, Ireland, Umbria and Veneto where according to interviews and surveys the uptake of the measures is found to be higher than in other regions with less promotion.

Policies which recognise and work with existing providers/groups/networks can according to case studies interviews be more effective than those designed in isolation, particularly if established providers are well-known and trusted. However, it is important to ensure their quality and capacity.

Evidence from interviews with farmers organisations and surveys of managing authorities in Lorraine, Estonia, Poland, Lower Saxony, Umbria and Veneto reveals that sources of knowledge exchange and advice have to be easy to access / locally based close to farmers (i.e. less than one hour's travel away), seen as credible, and able to deal with a wide range of individual situations. Trainers need to offer courses in places and at times of the day, week and year which suit beneficiary groups, and relief services may be needed to enable them to undertake training. Advisors need to be located close to where their client base is, and familiar with local practices and systems. Those delivering services must keep up to date with research and relevant practice. Evidence confirms these points in Lorraine, Estonia, Poland, Lower Saxony, Umbria and Veneto.

Collective learning approaches can be particularly useful for new ideas, but there can be organisational or behavioural barriers to establishing groups. A group approach offers potential benefits over advice or information taken individually, in both efficiency and effectiveness due to group dynamics and interaction. However, where collective structures do not already exist or are viewed with suspicion, farmers need encouragement to get involved and develop trust and this takes time and effort to create or strengthen collective structures. Formal collective structures require people skilled in organisation and coordination.

It follows from the surveys of the managing authorities and national FAS coordinators that a proper qualification of advisors and trainers is necessary – both initial/formative qualifications. Linking aid to qualifications can help to ensure advice is relevant and up to date as for example in Ireland, Lorraine and Lower Saxony.

Factors of Rural Development Programme operational design

From the assessment of the policy implementation in the case studies it becomes clear that new legislation or making training compulsory or key to accessing other measures can be a strong trigger for uptake as was the case in Lorraine, Flanders and Lower Saxony.

In the survey of managing authorities these pointed out that bureaucratic obstacles and narrow focus can reduce effectiveness: setting "verifiable and controllable" requirements on innovation projects can be limiting, also restricting reallocation of funds to where uptake is most successful. This happened in particular in Estonia and Italy. It is clear that innovation is difficult to measure and that the funds must follow the need for the knowledge exchange, advice and innovation measures rather than being fixed to a particular location without the possibility to switch to an expenditure items in a different place. CAP interventions may be fragmented and uncoordinated both because of EU requirements and implementation in the Member States, whereas experts suggested that a more systemic and coherent approach to knowledge exchange for agricultural transformation could be more effective in achieving policy objectives.

Intermediary organisations and multi-actor initiatives/institutions can help to overcome administrative issues and increase efficiency – e.g. setting up an intermediary body to handle

procedures and funding to simplify/accelerate access to training and advice, or enabling preexisting collective institutions to play a key linking role to beneficiaries.

Coordination and linkage between providers of knowledge (encouraging collaboration between training and consultancy/advisory operators) is necessary and valuable to enhance their efficiency and effectiveness. Farmers undertake training to learn new skills and then advisors help them to put these skills into practice, on their farms: this, as the case studies of Italy, Poland and Flanders demonstrated, requires services to work together in a coordinated way. The case study Veneto showed that:

- Including EIP-AGRI intervention within the Local Development Strategy (LDS) of LEADER Local Action Groups (LAGs) can ensure a stronger linkage between LDS and Operational Groups activities and innovation meeting local needs.
- Stimulating successful producer organisations and cooperatives acting as local bodies to ensure communication, advice, training and spread innovative solutions in their territories, can be highly effective.

The results of the evaluation suggest that 1) ease of implementation of measures affects outcomes but this is not in itself a sign of success 2) measures are more likely to be impactful in Member States and regions where there is a broad and well-integrated AKIS and 3) the measures have effectively targeted CAP Priorities, in many situations, but on its own this is not a critical factor of success.

The more successful policies are those moving towards more participatory, locally designed approaches which involve strong inter-institutional coordination and multiple actors working together. This trend is based upon widely shared experience across case study countries.

Case studies have demonstrated that often the success of the EIP-AGRI is linked to the efforts of individuals, notably within "innovation support services" whether or not they are carried out under a national rural network (NRN), regional rural networks (RRN) or by other actors. At the EU level, the EIP-AGRI network plays an important role in stimulating dynamic and fostering information exchange at all levels.

According to recent studies and surveys the uptake of the agricultural EIP is adequate (all member states except Luxembourg fund Operational Groups), with the farmer-led approach "truly distinctive" and "highly appreciated by stakeholders". The great majority (between 81% and 92%) of participants in EIP Operational Groups are very satisfied with the group partnership and cooperate with external entities. However, there is room for improving cooperation with research projects (only 14% of Operational Groups are currently collaborating with Horizon 2020 projects). Another important challenge is the dissemination of projects' results. This requires intensifying networking activities dedicated to agricultural research and innovation.

Taken together, all the CAP instruments and measures (M1, M2, M16, the FAS and other specific measures) contributed to strengthening knowledge exchange, innovation training and advisory activities in rural areas from a significant to a limited contribution to Member States' AKIS. Despite limited financial allocation and administrative burdens in implementation, each instrument and measure mentioned above contributes individually to strengthening knowledge exchange, innovation and advisory activities in rural areas.

5.3 Coherence

5.3.1 Coherence of CAP instruments with regard to knowledge exchange, innovation and advisory activities

Regarding the legal framework, the CAP 2014-2020 sought to strengthen the links between direct payments and rural development, to reinforce the CAP's internal coherence. As coherence depends not only on the policy design but also on the implementation this does not automatically implicate strengthening of coherence. In this perspective, with the CAP 2013 reform, common objectives were explicitly assigned to the CAP as a whole, and a single common monitoring and evaluation framework (CMEF) was set. However, in contrast to the European Structural and Investment Funds, no such common programming was carried out for direct payments funded by the European Agricultural Guarantee Fund - EAGF and rural development funded by the EAFRD. Both pillars of the CAP are mostly managed by different competent authorities, often based in different locations, particularly in regionalised or devolved Member States. The resulting approach, intended at EU level as more comprehensive and integrated, remained in the strategic documents without materialising in the case study Member States.

Regarding the CAP's internal coherence, the mandatory topics of the FAS fall under the regulation on financing, management and monitoring of the CAP, while support for advisory services (M2) falls under the Rural Development Regulation. As a result, FAS and Rural Development supported advisory services (M2) are managed by authorities from different departments and, in regional Member States, by authorities with different jurisdictional powers. According to the case studies this influenced negatively the coherence of the CAP regarding advice to farmers.

The successive CAP reforms (2007-2013 and 2014-2020) have also sought to strengthen internal coherence within Rural Development (and its different measures). In the context of the 2014-2020 period, Priority 1 is a cross-cutting priority, and funds for Measures 1, 2 and 16 are allocated within the thematic Priorities 2 to 6. Jointly with the introduction of primary and secondary contributions, they have strengthened the coherence between these support measures and the other Rural Development Programme measures (at least in the design phase). Measures 1, 2 and 16 were also conceived by the Commission to work together, as well as to be complementary to each other.

Overall, the case studies and interviews carried out do not show contradiction between CAP objectives, measures or instruments related to fostering knowledge exchange, innovation and advisory activities, as part of their design and the overall architecture of the CAP. There were also strong expectations in terms of complementarities between the different Rural Development measures related to fostering knowledge exchange, innovation and advisory activities (especially for those directly related but also including those indirectly related).

However, the synergies and complementarities at the design stage could not always be fully implemented due to implementation delays e.g. as a result of staff cuts of the Managing Authorities or the abandonment of certain sub-measures due to administrative burdens e.g. as a result of public procurement procedures. Although the 2014-2020 architecture is more strategic and demonstrates a greater internal coherence than the one of 2007-2013, CAP support measures remain complex and sometimes, due to the intrinsic complexity of knowledge transfer policies, difficult to comprehend and explain for stakeholders involved in Rural Development.

Within national or regional administrations, separate management by individual measure or submeasure is still common which can influence knowledge exchange policies negatively. Few managers of measures have a cross-cutting vision of their Rural Development Programmes and the way "their" measures/sub-measures support broader goals identified at the level of the programme or the CAP as a whole.

Nevertheless, the case studies show clear progress towards greater integration and coordination between the different measures, but differences exist across the Member States. Overall, the CAP architecture allows for a better integration of the measures linked to knowledge exchange, innovation and advisory activities within the different Priorities.

Some case studies show an important link with an EIP-AGRI unit or innovation support service, possibly setup within a national rural network (NRN) or regional rural network (RRN) at programme level.

These EIP-AGRI units play a role of facilitation, coordination and transfer of information. The coherent implementation of knowledge transfer and dissemination among the entities involved (EIP-AGRI Networks, National Rural Networks, various innovation support services within or outside the National Rural Networks, etc.) is an important feature both at Member State and EU level.

Although the internal coherence of Rural Development regarding M1- knowledge transfer and M2- advice has improved compared to 2007-2013, there still remains a lack of coherence due to flexible and combined use of M1 and its sub-measures with M2.1 and the Operational Groups (Measures 16.1 and 16.2), in particular regarding dissemination of results.

5.3.2 Coherence with other relevant national and EU policies

Based on the case studies and interviews, only a portion of Member States (France and Ireland) possess specific national programmes with regard to knowledge exchange, innovation and advisory activities in sectors covered by the CAP.

Despite this, a significant proportion of the current support to knowledge exchange, advice and innovation is funded by national or regional resources and/or is indicated to fall short of meeting needs. This is partly due to complexity and administrative burden linked to the implementation of the relevant CAP instruments and measures).

At the level of many Member States, the CAP only supports a (sometimes very limited) part of the knowledge exchange, advice and innovation measures and actions implemented at national or regional level. The case studies only give a partial picture of the coverage of needs, with many initiatives being taken elsewhere, which makes it difficult to assess their relevance. The case studies have highlighted different approaches to the coverage of needs in terms of topics. Most case study Member States made training and advice available for farmers, targeting their needs (technical, economic, social related topics) and societal needs (carbon management, biodiversity, environment, animal welfare). However, some have put more of an emphasis than others on societal themes and quality of life, mainly Member States with stronger AKIS (Belgium-Flanders, France, Italy, Germany-Lower Saxony, Ireland). On the other hand, other Member States have concentrated CAP-facilitated advice on themes related to farmers' needs, giving little attention to societal topics (Estonia, Greece, Poland). These Member States with notably weaker and less integrated AKIS also cover fewer emerging topics (which need to be addressed).

A strong coherence with the CAP objectives and a parallel evolution of specific national programmes are noted both in France and Ireland.

In other Member States or regions, occasional intended complementarities between the CAP and national programmes have been noted but most have not always been materialised (yet) due to

different objectives and implementation approaches, implying that the expected coherence or integration have been more limited in the implementation than in the policy design.

Table 4 National programmes with regard to knowledge exchange, innovation and advisory activities

Case study Member State - region	Presence of national programmes with regard to knowledge exchange, innovation and advisory activities		
Belgium - Flanders	■No		
Germany – Lower Saxony	■No		
Estonia	■No		
France - Lorraine	■Yes	National Programme for the agricultural and rural development ("Programme National pour le développement agricole et rural") with a strong focus on agroecology	
Greece	■No		
Ireland	■Yes	Food Harvest 2020 (FH2020), Foodwise 2025 (FW2025) and Forestry Knowledge Transfer Group (KTG).	
Italy – Umbria and Veneto	■No		
Poland	■No		

Source: ADE based on Case studies and Interviews.

With regard to knowledge exchange, innovation and advisory activities, other related EU instruments and policies play a role, notably the other European Structural and Investment Funds (European Social Fund, European Regional Development Fund) and the Horizon 2020 policy research programme.

Regarding the legal framework the EU placed increased emphasis upon coherence, especially in the context of the 2014-2020 programming period, via higher level requirements in order to strengthen the complementarities of the European instruments and programmes. The crosscutting enhancement of research, innovation and training is clearly present within two of the thematic objectives defined under the European Structural and Investment Funds legal framework (Article 9 of Regulation (EU) No 1303/2013) ensuring that each of these funds shall support these objectives, in line with Europe 2020 strategy.

The analysis of the cases studies concluded that a high degree of coherence, complementarity and potential synergies also exist between the Horizon 2020 Societal Challenge 2 - "Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy" - and the CAP (with the implementation of the EIP 'Agricultural productivity and sustainability').

The surveys of the case studies revealed that EIP-AGRI is a link between the CAP and Horizon 2020 that increases their coherence. It is a model of connecting EU policies and create synergies. The EIP-AGRI network is acting as a platform for connecting the CAP, Horizon2020 and the Digital Europe Strategy. Agricultural research and innovation under both Horizon 2020 and the CAP also link up with Regional policy through the Smart specialisation AgriFood platform, which coordinates regions that focused their smart specialisation strategy on AgriFood. Regional policy, in particular the European Regional Development Fund, plays a role in the structuring of regional innovation ecosystems and capacities and could be developed to support Member States' AKIS systems, as some examples already illustrate.

The framework and the provisions mentioned above are meant to ensure coherence and convergence in the objectives and clarify the demarcation lines between each of the funding instruments, with a view to avoid any duplication. Overall, the objectives of the 2014-2020 Rural Development Programmes have been built in line with the Common Strategic Framework, Partnerships Agreements and European Structural and Investment Funds. Attempts have been made in certain Member States or regions (France, Flanders, Belgium, Estonia, Italy and Poland), at least in the programme design phase, to link the new Rural Development measure on cooperation (M16) and/or the EIP-AGRI network with Horizon 2020.

The implementation to date however does not always reveal a search for strong synergies or complementarities between the European instruments. They are mostly being implemented independently or in parallel (notably with the European Social Fund and European Regional Development Fund). Nevertheless, overall, no contradictions were noted, with a few marginal exceptions due to the demarcation lines (e.g. non-agricultural trainings for farmers).

At EU level, the coherence with Horizon 2020 is acknowledged by EU staff involved in the policy. Effective synergies and complementarities have been built between Horizon 2020 and the CAP within the EIP-AGRI (for e.g. in the organisation of seminars by the EIP-AGRI, with the support of national EIP-AGRI units, rural networks and some Operational Groups). Synergies of EIP-AGRI with research projects under the Horizon programme could be further developed, with a view to upscaling the adoption of green business models.

In the beginning of the period, some Member States have encountered difficulties in ensuring national coordination with Horizon 2020 (Germany and Estonia), especially at Operational Group level, but most of them address it in the remaining period (until 2023) by building synergies and complementarities in the same effective way as set out above. In France, there is first evidence of synergies between the implementation of the measure on cooperation (M1M16), the EIP-AGRI network and Horizon 2020 Research and Innovation programme.

5.4 Relevance

5.4.1 CAP instruments with regard to knowledge exchange, advisory activities and innovation needs and relevance

The agricultural sector must constantly adapt to new challenges, notably "produce more with less in a sustainable way". Also, the sector has seen an escalation of a wide range of challenges: price volatility, crises (e.g. milk), diseases (African Swine Fever, avian flu, etc.), the effects of climate change (droughts), changes in regulations, limits on the use of pesticides (e.g; an anticipated glyphosate ban in numerous Member States), and risks for salaried work, farmers' groups, etc. All these challenges have to be addressed by changes in farming practices, to which knowledge exchange policies can provide support.

At farm level, these needs can relate to certain topics, such as economics (income instability, diversification, risk management and smart farming...), socio-economic aspects (stress management, quality of life, succession, management of labour forces) or technical topics. They can also refer to needs in terms of methods of knowledge exchange.

On the question of relevance, most (56%) of the 187 respondents of the public consultation have a neutral perception of the sufficiency of CAP instruments and measures regarding the need to foster knowledge exchange, advisory activities, and innovation in the agricultural and forestry sector and in rural areas, with no major difference among the respondents. It is then followed by

negative perception (25%) and positive (18%). The remaining 1% had no opinion. Not a single public authority expressed negative perceptions.

Figure 17 shows the results of a survey of the needs of farmers in the Grand-Est region in France. It reveals that the needs of farmers are more in the field of economic viability than in the field of farming practices that are beneficial to the environment. Nevertheless, trainings to adapt to climate change (droughts) is the first need expressed by these farmers.

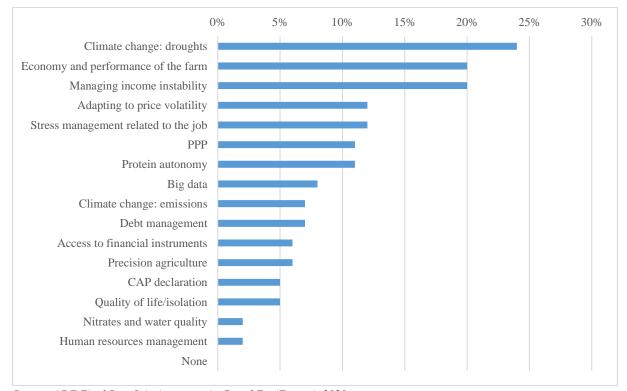


Figure 17. Emerging needs for training and advice expressed by Grand-Est farmers

Source: ADE Final Beneficiaries survey in Grand Est (France), 2020.

The survey conducted by ADE among the farmers of the Grand-Est region (France) showed that a majority of the 142 respondent farmers consider that the available training activities and advice correspond to their needs. However, 34% of them considered that the available offer was not very adapted (29%) or not adapted at all (5%) to their needs.

Droughts (24% of farmers) came as the most urgent need as the region has suffered several years in a row from severe droughts. Unstable income (20%), price volatility (12%) came close behind alongside economy and holdings' performances (17%) and stress management (12%) as insufficiently developed themes in trainings and advice. As for reasons given by surveyed respondents for non-subscription to training programmes or not seeking for advice, 36% answered the services proposed do not correspond to their needs. The other main barriers to training and seeking advice are purely material reasons: they lack the time (35%), the centres are located too far (33%) and the times chosen for the training programmes are not adapted (29%). Cost limitation (15%) and lack of information (12%) are for a minority a reason for not participating in training activities or not seeking advice.

Society also expresses relevant needs in terms of sustainability and public goods, such as environmental enhancement (reduced use of chemical inputs including pesticides), biodiversity, climate actions (mitigation and adaptation), animal welfare, food security and food safety, etc.

All the needs above can potentially be addressed by CAP instruments and measures for training, advice and innovation to meet the expectations of farmers and society. However, due to lack of specific incentives many Member States focus only on using CAP provisions to cover the obligatory requirements under cross-compliance and greening.

For the FAS, in order to meet better the needs of famers and society, the mandatory list of topics on which advice must be available for farmers has been expanded in the 2014-2021 CAP with greening, advice for beneficiaries of Rural Development supported measures (especially investments), the Water Framework Directive (WFD) and Integrated Pest Management (IPM).

In Rural Development Programmes, compared to the previous period, the framework has expanded to include new activities like information or demonstration activities or visits and exchanges at farm level (sub-measures 1.2 and 1.3), the possibility to offer one-to-one advice combined with advice in small groups (M2.1 – use of advisory services) and the training of advisors (M2.3). The EIP-AGRI Operational Groups are a completely new approach based on 'bottom-up' co-creation of knowledge in response to farmers' and foresters' needs.

However, although the EU framework of policies regarding knowledge exchange, advisory services and innovation is meant to be broad, Member States identify limitations compared to their own initial scoping of needs. This means that the policy is to some extent lacking relevance with respect to the existing needs in the field. To fund one-to-one advice combined with advice in small groups (M2 - advice), the 'duly justified and taking into account the situation of the individual user of the advisory service' condition made implementation difficult for Managing Authorities due to uncertainty of interpretation and subsequent controls. Some Member States also encountered difficulties to adapt a pre-defined national funding framework to support notably webinars or other online training courses (Flanders, Belgium, Lower Saxony, Germany, Lorraine, France, Estonia, Greece, Poland) or new types of final beneficiaries.

To respond to national/regional needs, the European Commission required a SWOT analysis within the Rural Development Programme preparation. The SWOT, linked to the explicit identification of needs and responses to those needs, is highly structured in the Rural Development Programmes and is a step forward compared to the previous programming period. This exercise has made it possible to refocus knowledge exchange, advice and innovation activities on specific themes, which was a recommendation of the European Court of Auditors report²⁹.

At the level of many Member States such as France and Ireland, the CAP only supports a (sometimes very limited) part of the knowledge exchange, advice and innovation measures and actions implemented at national or regional level which makes it less relevant than envisaged. The case studies only give a partial picture of the coverage of needs, with many initiatives being taken elsewhere, which makes it difficult to assess the relevance of the CAP in the field of knowledge exchange, advisory services and innovation. The case studies have highlighted different approaches to the coverage of needs in terms of topics. Most case study Member States made training and advice available for farmers, targeting their needs (technical, economic, social related topics) and societal needs (carbon management, biodiversity, environment, animal

²⁹ European Court of Auditors. (2015). Special Report No 12/2015. The EU priority of promoting a knowledge-based rural economy has been affected by poor management of knowledge-transfer and advisory measures. Luxembourg: Publications Office of the European Union, 2015. ISBN: 978-92-872-2998-4.

welfare). However, some have put more of an emphasis than others on societal themes and quality of life, mainly Member States with stronger AKIS (Flanders, France, Italy, Lower Saxony, Ireland). On the other hand, other Member States have concentrated CAP-facilitated advice on themes related to farmers' needs, giving little attention to societal topics (Estonia, Greece, Poland). These Member States with notably a weaker and less integrated AKIS also cover fewer emerging topics which need to be addressed.

The M1 (knowledge transfer) measure fiche³⁰ also calls for a recurrent need's analysis following the SWOT analysis. The aim of this exercise is to ensure that knowledge transfer activities really correspond to the needs of the target groups.

About half of the case studies Member States have realised an updated needs analysis with a SWOT (Lower Saxony, Germany, Estonia, Lorraine, France, Poland), while the other half has not (Flanders, Belgium, Greece, Italy, Ireland). For the Member States who have, the update of the needs analysis is rarely formalised and happens rather on a continuous basis at the initiative of operators in close contact with the field or through satisfaction surveys. A limit to these needs analysis is that these only reach farmers who regularly participate in training and advisory activities. Since an inclusive and adequate analysis of needs is necessary to address needs properly the situation described above has negatively influenced the relevance of the CAP policy on knowledge exchange, advisory services and innovation.

On the one hand, Member States with stronger AKIS are expressing needs related to the social aspect of agriculture and quality of life. On the other hand, farmers, advising bodies and managing authorities from Member States with weaker or/and less integrated AKIS go less into the details of emerging topics which need to be addressed but concentrate on needs that relate to the structure of their AKIS (e.g. ageing advisors).

Overall, the EU framework is flexible enough when it comes to the content of the training and advice activities in order to ensure their relevance. The difficulties that have been reported in the case studies mainly come from the national/regional framework or interpretation of EU framework, which, once written, can be binding and rather inflexible.

5.4.2 CAP instruments, development and the relevance for the FAS obligation

Examination of actual and planned expenditures for Measures 1 (knowledge transfer), 2 (advice) and 16 (cooperation) in Rural Development Programmes show only weak links to the notion that funding should be greatest in Member States with greatest needs for knowledge exchange, advice and innovation, as an indicator of relevance. The correlation between planned use of these measures and need as indicated by territories with weaker AKIS appears stronger than that between actual use and this indicator, up to 2018, suggesting that implementation issues may have reduced the relevance of CAP measures in practice.

However, interviewees in most case studies feel strongly that all the relevant CAP measures and instruments promote better functioning of the AKIS in their Member State or region, in a variety of ways. In some cases the AKIS is deemed highly reliant upon CAP funding to survive, while in others, funding is much less a factor and it is more the impact of the specific measures which is deemed significantly to improve AKIS functioning and relevance.

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Measure Fiche – Knowledge transfer and information actions (M1M1 – Article 14 of Regulation (EU) No 1305/2013); DG AGRI non-binding guidance.

There is evidence that the EU and Member States networks and institutional developments supporting EIP-AGRI, in particular, were relevant and have fostered significant new functionality, mobilising farmer learning and strengthening links between research and innovation in practice; albeit for relatively small numbers of farmers, to date. Many interviewees among Managing Authorities, stakeholder organisations and knowledge exchange providers in most of the case study countries express positive views about the emerging potential of the EIP-AGRI approach to transform the functionality and innovation capacity of the AKIS. Also, National Rural Networks in some Member States (e.g. Italy, Estonia) are identified by stakeholders as important in enhancing knowledge exchange among Pillar 2 beneficiaries and the advisory and training community.

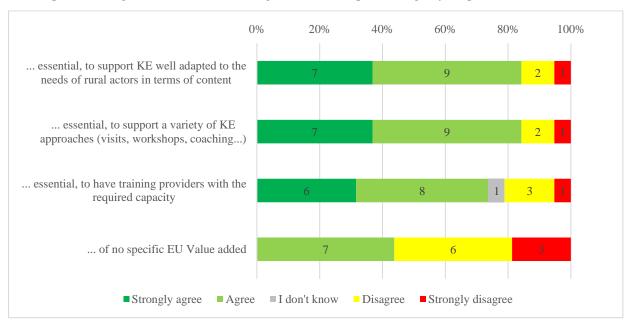
Specific examples of measures enhancing AKIS include distinctive approaches to M16 (cooperation) in Ireland, Poland, France, Germany and Estonia. To a lesser extent, M2 in Italy and M1 in Flanders are also highlighted as important and relevant. However, the case studies also emphasise that an integrated approach to deployment of all relevant measures can be particularly beneficial, as described in Italy, France, Ireland and Germany.

There is a clear division among Rural Development Programmes between those for which support to advisory services (M2) has been critical for mobilising the FAS, and those where the funding can still be important but is not directly impacting the relevance or performance of FAS (Lower Saxony in Germany, France). The former situation is encountered most often in Member States with relatively weak AKIS where implementing the FAS was closely linked to establishing one or more farm advisory services, for which EAFRD funding was and remains valuable. However, even in Member States or regions with quite strong or medium AKIS, such as Flanders, Italy and Estonia, Managing authorities used support to advisory services (M2) notably but not only to meet the FAS obligation. In those Member State(s) and regions where a pre-existing and strong integrated advisory service was simply identified to fulfil the FAS obligation, there is little influence and relevance of Rural Development Programme funding on the FAS— as appears the case in Ireland, France and Germany (Lower Saxony).

5.5 EU added value

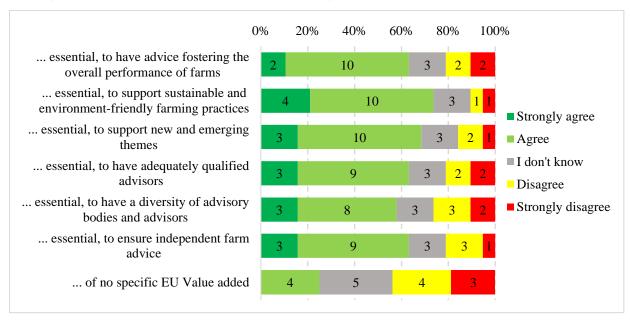
According to the evidence provided in the Rural Development ProgrammeManaging Authorities survey CAP instruments and measures have created added value regarding knowledge exchange, innovation and advisory activities across Member States because the cross-cutting Priority 1 of Rural Development encourages Managing Authorities to consider supporting knowledge exchange, advice and innovation under each thematic Priority and Focus Areas. Cross-compliance provides a core set of topics common across the Member States while the framework determined by the EU regulation and directives as well as the financial support to Member States enable to limit the risk of 'unfair competition' between the different Member States.

Figure 18. Rural Devekopment Programme Managing Authorities survey – Added value of Rural Development Programme M1 (indicating number and percentage of respondents)



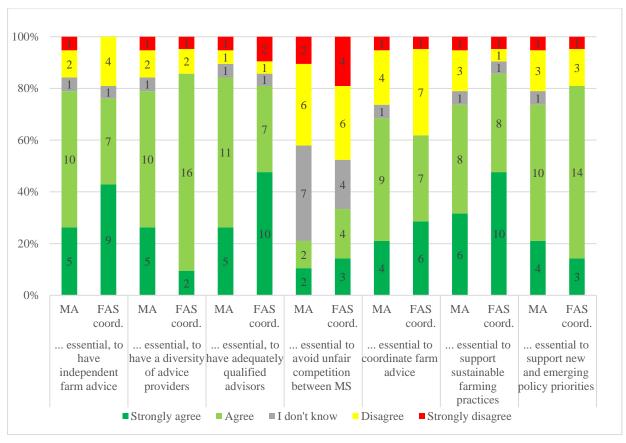
Source: ADE Rural Development Programme Managing Authorities survey (N=20/33)

Figure 19. Rural Development Programme Managing Authorities survey – Added value of Rural Development Programme M2 (indicating number and percentage of respondents)



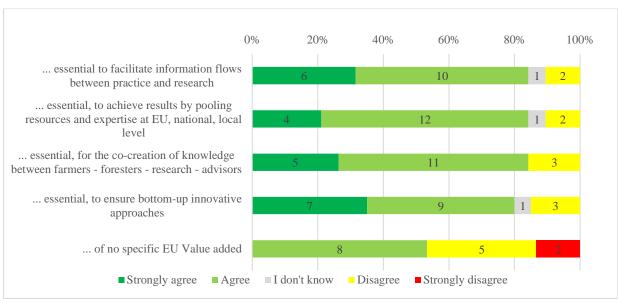
Source: ADE Rural Development Programme Managing Authorities survey (N=20/33)

Figure 20. Added value of the common framework provided by the FAS largely supported by M2 (indicating number and percentage of respondents) to Rural Development Programme Managing Authorities and National FAS coordinators



Source: ADE Rural Developemnt Programme Managing Authorities survey (N=20/33) and ADE FAS Coordinating Authorities survey (N=21/28)

Figure 21. Rural Development Managing Authorities survey – Added value of Rural Development Programme Measures 16.1 and 16.2 (indicating number and percentage of respondents)



Source: ADE Rural Development Programme Managing Authorities survey (N=20/33)

There is further evidence that CAP instruments and measures have created added value in relation to knowledge exchange, training and advice. Regarding **knowledge exchange** at the level of Member States the following elements were highlighted compared to the situation if Member States acted on their own:

- The EAFRD support enables to secure budgets dedicated to knowledge exchange in certain Member States. The EU action, also by the means of financial support, enables to drive additional achievements and deliver extended services.
- The EU policies and measures allow for a wider thematic coverage, with potentially also a greater attention given to environmental topics and resource management.
- They also initiate and/or further encourage a key evolution in terms of methods of knowledge exchange activities (away from classical training and towards a multitude of activities).
- The national and regional rural networks as well as the EIP-AGRI, which are "Rural Development concepts", play an important role in facilitating knowledge exchanges.

There is also evidence that CAP instruments and measures have created some added value related to **advisory activities** at the level of Member States compared to the situation if Member States acted on their own. The assessment of EU added value related to advisory activities is however hindered by administrative burden.

Some findings are similar to those of knowledge exchange (as listed here above):

- The EAFRD support enables to secure budgets dedicated to advisory activities in certain Member States.
- The EU policies and measures allow for a wider thematic coverage, with potentially also a greater attention given to public goods and societal issues (environment, stress, animal well-being, etc.).

Other added values of the EU action are however specific to advice:

- The EAFRD support enables to make advisory activities more accessible and/or attractive to final beneficiaries, in certain Member States. Because advice on environmental issues for instance is supported and thus less costly, farmers accept to spend time on issues, which they do not consider as essential.
- The list of mandatory topics in Member States' FAS obligation has also been broadened.

There is evidence that CAP instruments and measures have created considerable added value in relation to innovation, for example EIP-AGRI, at the level of Member States compared the situation if Member States acted on their own:

- The EU offers a decisive added value regarding cooperation and innovation, particularly in terms of approach and method. This contribution lies mainly in the bottom-up collective co-creation of the EIP-AGRI Operational Groups. Indeed, the Rural Development regulation contributes to considering, implementing and co-creating bottom-up innovation.
- The EU policy linking the CAP (through EIP-AGRI) to the Research policy (Horizon 2020 Research and Innovation programme) is acting as a booster of research and innovation processes across the agricultural sector.

•	The EU action, a drive additional border.			

6 CONCLUSIONS AND LESSONS LEARNED

The evaluation assesses the effectiveness, efficiency, relevance, coherence and EU added value of CAP measures and instruments relevant for fostering knowledge exchange, advisory activities, and innovation in the agricultural and forestry sectors and in rural areas. The evaluation period covers the 2014-2020 period and the EU of 28 Member States, including the United Kingdom. The evaluation is underpinned by the support study on the CAP's impact on knowledge exchange and advisory activities, published in February 2021, the 187 replies to the public consultation carried out between 10 November 2020 and 2 February 2021, as well as additional data and information.

Efficiency

The knowledge exchange, advice and innovation measures taken in 2014-2020 under the CAP had a low programming rate (3.5% of the rural development allocation), then delayed implementation (also due to the administrative burden) and thus low spending (with only 23% of the planned amounts spent after six years). Spending rates excluding national top ups were 33% for knowledge transfer (M1), 19% for advisory services and 18% for cooperation (M16) at the end of 2020, compared to 53% for all Rural Development measures combined.

The measures reached approximately 10% of farm holdings and were effective in building knowledge, in particular on cross-compliance and environmental sustainability. However, this figure on the uptake of the measures could be lower in reality, as the same farmers are counted several times when they participate repeatedly. Administrative burden of the CAP's policy on knowledge exchange, advisory activities and innovation was found to be an important driver of the low uptake and reach. Stakeholders and knowledge providers claim a lack of funding to enable strong promotion and targeting of excluded groups as an additional constraint.

At the level of farmers, the administrative burden is found to be low. However, there are substantial opportunity costs for famers to engage in training and advice. Moreover, the primary interest of farmers is in new technical equipment.

Administrative burdens for public administrations, often confronted themselves with staff cuts over the evaluation period, and intermediate bodies (advisory and training bodies) are important and are related to different factors: EU regulations, measures' design and public administration procedures and finally structural and institutional features of delivery.

At the level of the Managing Authorities, the administrative burden was quite significant for all knowledge exchange, advice and innovation measures and this partly explained the low degree of implementation and the delay in implementation. The specific reasons for high administrative burdens on Managing Authorities and intermediate bodies vary per measure. For example, the now 'former' obligation of public procurement (removed in 2020) was a burden in carrying out the advice measure (M2).

The novelty of the EIP-AGRI approach, relying on mixed partnerships, has created the need for a learning process both in the public administration and in operational groups.

At EU level there were no significant administrative burdens arising from Rural Development training and advice (M1 and M2) according to interviews with EU officials.

Thanks to Rural Development support under the measures M 2.1 and M 2.3 the quality of advice was enhanced, including the qualification of advisors. Overall, benefits of the advice for countries with an intermediately developed Agricultural Knowledge and Information System outweigh the costs, mainly thanks to the advisory measure (M2) contributing to a better

functioning of the Agricultural Knowledge and Information System as a whole and providing a helpful financial support. For Member States with medium to weak AKIS, facing budgetary constraints, the M2 (advice) support constitutes an essential complement to national resources. Some Member States with strong AKIS also decided to mobilise M2 (advise), mainly to support the development and use of advice on new – more societal/sustainability-oriented – topics.

Overall, while the uptake of the measures is rather low compared to other Rural Development Programmes, the cost-efficiency of knowledge exchange, advice and innovation measures and instruments appears reasonable. Yet, inefficiencies in the public administrations arising from budget cuts, lack of experience and foresight in the skills of demand management and careful targeting of measures are also evident.

Effectiveness

The level of basic training increased from 12% in 2010 to 23% in 2016, but remains too low to address the challenges for farmers of ensuring food security while bolstering environmental care and climate action.

The support for lifelong learning and vocational training (through knowledge transfer (M1) under Rural Development) was planned by a large majority (101 of 112) of the Rural Development Programmes (and in 27 of the 28 Member States). Despite a reduction of 13% of the budget for Rural Development measure M1 (training) in the period 2014-2020 in comparison with the previous period, the measure was effective in raising the number of farmers with basic training. Generational renewal may also have played a positive role. The 1.22 million farmers trained by 2020 make up only 42% of the target and around 20% of CAP beneficiaries. Despite the 20% reduction of the budget for advice (Rural Development measure M2), the number of advised beneficiaries increased from 178 500 in 2007-2013 to 643 741 in 2014-2020. However, this was only 51% of the target.

The evaluation found that there is very limited connection with "hard to reach" farmers. 'Hard to reach' farmers are those with a considerable distance to the knowledge exchange measures, that have been reluctant to engage in these so far or are not even aware of the measures. Often these are farmers of less profitable farms.

The same groups of farmers continue to participate in training, and so it is difficult to reach out to the wider community and important to increase peer-to-peer learning. Agricultural advice is an essential lever to change farming practice, but providing qualified and impartial advisory services remains an important issue. There is also a need to update advisers' knowledge and skills which is one of the main functions of a well-organised AKIS.

The EIP AGRI was effective in bringing innovation, augmenting human capital and changing agricultural practices (although with small spill- over to farmers outside the cooperation) but also for EIP AGRI, there was a lack of involvement of farmers. The latter applies to all the CAP measures for knowledge exchange, advisory activities and innovation. The partnership had resulted in 2 195 completed operational groups (i.e. local interactive innovation projects) by December 2021.

Overall, despite the low uptake, the CAP measures on knowledge exchange, advisory activities and innovation were able to raise, to a small extent, the education level of farmers, in particular on technology, cross-compliance and environmental sustainability.

Coherence

Coherence between the EU measures on knowledge exchange, advisory activities and innovation is lacking. The efforts of the national and regional administrations determine largely whether the AKIS and the FAS is strong or not in a particular country or region.

As a result of their different legal basis, FAS and Rural Development supported advisory services (M2) are managed by authorities from different departments and, in regional Member States, by authorities with different jurisdictional powers, which produces a lack of coherence between the two policy instruments, as these authorities often have different objectives.

Although the internal coherence of Rural Development has improved compared to 2007-2013 there remains a lack of flexible and combined use of measures, both among knowledge exchange, advice and innovation measures as well as between these and other Rural Development measures.

Relevance

Given that the agricultural sector must constantly adapt to new challenges, notably "produce more with less in a sustainable way", it remains relevant for the CAP to provide farmers with the means to adapt, including through instruments and measures for training, advice and innovation.

EU added value

The CAP fostering knowledge exchange, advice and innovation provides EU added value in many aspects, but subject to uptake in Member States.

The added value of the EIP AGRI and Operational Groups approach is highly recognised, throughout the case studies carried out for this evaluation as well as in the surveys and interviews with staff of the European Commission. With regard to knowledge exchange and advice, all evidence gathered for this evaluation confirms that CAP funding enables additional achievements (in comparison to what would have been achieved only with national budgets) and extended services. The created added value in relation to innovation is considerable, for example through the EIP-AGRI approach allowing to co-create bottom-up innovation.

Lessons learned

The EIP-AGRI shows potential in terms of impact by responding to a variety of innovation needs (both in terms of content and method) faced by the sector and by farmers (foresters).

There is room for strengthening the information flows between advisors and farmers, and in particular with Operational Groups and research. Advisory services that form an important part of the AKIS have to be embedded in their AKIS with a clear flow of information. Moreover, advisors need to be constantly updated on emerging topics.

Expectations and needs emerging from the agricultural sector are increasingly numerous and complex, covering competitiveness, environmental issues, climate issues, societal issues, etc. In this context, farmers need to be able to access and be strongly incentivised to use a variety of high-quality forms of advice taking into account the specificities of their farm. Emphasis is needed upon reaching the "hard to reach" famers, who include many conventional farmers.

Reducing the administrative burden is key to improving the implementation of measures, ensuring an efficient understanding of the measures' operation by the managing authorities and final beneficiaries, and reducing transaction costs for all stakeholders.

This evaluation illustrated the monitoring difficulties even for straightforward indicators (training, participants in training, beneficiaries advised (FAS)). Impact indicators – with respect

to changes in agricultural practices towards more sustainable farming as a result of knowledge exchange and advisory activities – are necessary to evaluate the effects of CAP policy of knowledge transfer and advisory activities on the economic, environmental and social performance of EU farming. Too much flexibility in the approach to collecting information is counterproductive when it comes to EU aggregation of data (multiple counting of beneficiaries, different types of training units, collection within a single indicator of different types of advice and information, no opportunity for assessing the percentage of uptake in relation to target populations, etc.).

Monitoring data about the FAS rests on Member State(s) responses to a questionnaire pursuant to Article 102(2) of Regulation (EU) No 1306/2013, which has two main limitations:

- Regionalised or decentralised Member States cannot answer the questions at national level due to the diverse situation among their regions (Germany, Spain, France, Italy).
- Figures provided for some key indicators such as the number of farmers advised are not homogenous.

There is room to use CAP tools more strategically, to find more synergies – especially with Horizon Europe multi-actor projects with a view to upscaling the adoption of green business models - and to build on well-established structures for knowledge exchange and advice in some Member States.

The EIP-AGRI shows potential in terms of impact by responding to a variety of innovation needs (both in terms of content and method) faced by the sector and by farmers (foresters).

There is room for strengthening the information flows between advisors and farmers, and in particular with Operational Groups and research. Advisory services, including digital advisory tools, that form an important part of the AKIS have to be embedded in their AKIS with a clear flow of information. Moreover, advisors need to be constantly updated on emerging topics.

Annex 1: Procedural information

Lead DG, decide planning/CWP references

Lead DG of this evaluation is DG Agriculture and Rural Development.

The registration in DECIDE is PLAN/2019/5241.

Organisation and timing

The Roadmap for public feedback on the design of the evaluation was open from 22 May 2019 to 19 June 2019.

A support study "Evaluation of the impact of the CAP on knowledge exchange, innovation and advisory services" was commissioned under Specific Contract AGRI-2019-0258 implementing Framework Contract No. AGRI-2017-0319, signed by the parties on 19 December 2017. The specific contract came into force on 13 August 2019.

The following Directorates General and General Services participated in the Steering Group of the support study: Agriculture and Rural Development, Environment, Maritime Affairs and Fisheries, Budget, Secretariat-General, Competition, Economic and Financial Affairs, Energy, Climate, Growth, Research and Innovation as well as the Joint Research Center.

The Steering Group held nine meetings. The kick-off meeting was held on 26 September 2019.

The evaluation support study was delivered on 4 December 2020 and published on 25 February 2021.

Evidence, sources and quality

The evidence of this evaluation is based on interviews and surveys of key stakeholders, ten case studies carried out by experts, comprehensive literature review and desk research. In addition an public consultation provided additional opportunities for stakeholders and the wider public to express their views.

In view of data limitations signalled in this evaluation the case studies are an important part of the evidence of the evaluation. Ten case study countries were chosen for this evaluation, each representing a country or a region.

All case studies followed the same general approach and applied the same methodology. A case study template and guidance was prepared to seek as much homogeneity as possible and to allow the results of the case studies to be synthesised in a streamlined way.

Annex 2: Stakeholder consultation

A number of consultation activities were carried out at different points in time for the elaboration of the evaluation, including consultations by the Commission and surveys and interviews in the context of the evaluation support study. The ones carried by the Commission included the roadmap consultation and the public consultation.

The table below summarises how and on which issue the different stakeholder groups were consulted and involved as regards target groups.

Table 5. Target groups

Stakeholder activities vs target group	Individual citizens	Farmers' associations/ organisations	NGOs/civil society groups	National public authorities/ designated bodies including EIP – operational groups managing knowledge and advice exchange	Selected private bodies providing advisory services	Private companies and business organisations	International organisations	Researchers/academics
Public consultation	√	$\sqrt{}$	$\sqrt{}$	V	$\sqrt{}$	$\sqrt{}$	√	$\sqrt{}$
Surveys		$\sqrt{}$	$\sqrt{}$	√	$\sqrt{}$			$\sqrt{}$
Stakeholder interviews		$\sqrt{}$	\checkmark	√	$\sqrt{}$			$\sqrt{}$
Expert groups				√				
Civil Dialogue group/s		√ √	V					

Source: DG Agriculture and Rural Development.

Roadmap

The Commission started its consultations with the evaluation of the impact of the CAP on knowledge exchange and advisory activities. The feedback of the roadmap took place from 22 May 2019 to 19 June 2019.

This roadmap included key aspects to be covered by the evaluation, such as purpose and scope, data collection and methodology, consultation of citizens and stakeholders. The total feedback received on the roadmaps were five responses from, sectorial and industry associations (1), business organisations (1), NGOs (3).

The overall position of respondents about the roadmap was neutral, deeming the evaluation necessary and raising points for the analysis of the impact of the CAP on knowledge exchange and advisory activities.

The small number of responses yields not enough robustness to be extrapolated. Nevertheless, most of them pointed to the importance of knowledge exchange on the implementation of greening practices and innovative agro-ecology measures by farmers, in the context of the new CAP and the Green Deal.

Overall, the feedback to the roadmap consultations provided useful input for the drafting of the relevant technical specifications on the evaluation support studies when not covered already in the relevant evaluation approaches.

Surveys and interviews of stakeholders

The evaluation included also several surveys of stakeholders to answer various evaluation questions. Two online surveys were conducted at the level of EU-28, among Rural Development Programme managing authorities and FAS coordinators respectively.

- The Rural Development Programme managing authorities survey has been opened from 20 January to mid of March 2020. It was sent to 115 contacts (out of 112 Rural Development Programmes; 18 appeared non-valid e-mail addresses). In total 33 partial answers were received, from 10 Member State(s) (AT, BE, CY, DE, DK, ES, FR, IT, MT and PT) and several regions.
- FAS coordinators were surveyed between 12 February and mid of March 2020. The survey was sent to 45 contacts (some non-valid). In total 28 Member State(s) opened the survey but only 21 answers were received, from 17 Member State(s) (AT, BE, CY, CZ, DE, FR, HR, HU, IE, LU, LV, MT, NL, PT, SE, SI and SK)³¹.

An additional survey was conducted among final beneficiaries (farmers) in France, in the Grand Est Region. The survey was sent to 3 600 beneficiaries of CAP Pillar 2 support, namely investment support (M4.1) and setting up of young farmers (M6.1) (contacts provided by Managing Authorities). With a response rate of 3.9%, 142 farmers have answered partially the survey. In the other case studies, beneficiaries were interviewed through focus groups and/or direct phone call with farmers.

A panel of final beneficiaries was also surveyed by telephone in Lower Saxony in Germany.

In addition, interviews were organised with the EIP-AGRI Service Point and European Network for Rural Development Contact Point, as well as with European Commission services (DG Agriculture and Rural Development - FAS unit and Innovation unit, Joint Research Center).

Public consultation

The other consultation launched by the Commission via the European Commission's website³², in all official EU languages excluding Irish, was the Public consultation on knowledge exchange.

It aimed to seek information and feedback from the relevant stakeholders, notably representatives of the agri-food and forestry sectors, as well as administrators, advisory services, NGOs and the

In Belgium and Germany, the survey addressed at national level was relayed to the regional coordinators, accounting for multiple answers received for the same Member State.

https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/1859-Evaluation-of-the-EU-agricultural-promotion-policy/public-consultation.

wider public to support the evaluation of the common agricultural policy's (CAP's) impact on knowledge exchange and advisory activities.

The public consultation was conducted from 10 November 2020 to 02 February 2021 using EU Survey, via the European Commission's website, in all official EU languages.

A total of 187 contributions (and 11 documents annexed to contributions) were received from 21 EU Member States³³ and China.

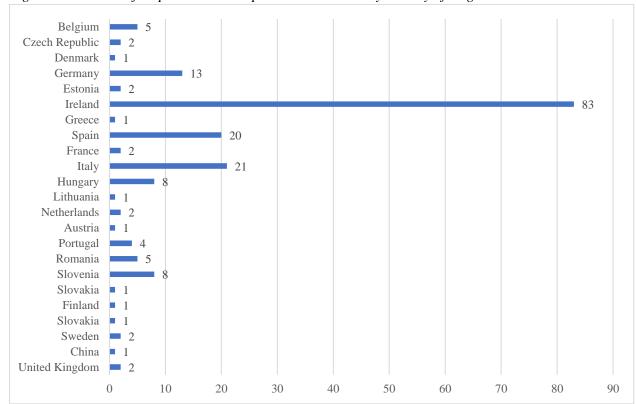


Figure 22. Number of respondents to the public consultation by country of origin

Source: Open Public Consultation.

Companies and business organisations provided the most contributions to this consultation accounting for 34% of all respondents (number of responses 'N'=63), followed by EU citizens for 22% of all respondents (N=42), business associations for 12% of all respondents (N=23) and academic and research institutions for 7% of all respondents (N=14). Of all the respondents, public authorities accounted for 5% of the total responses (N=10), NGOs for 5% (N=9), trade unions 1% (N=2) and non-EU citizens, environmental organisations, consumer organisations accounted for less than 1% (N=1) each. The remaining 12% (N=22) of respondents identified themselves as 'others'.

On the stakeholder type represented by the respondents, 'farm advisers' is the most common, with 92 respondents (50%), followed by 'farmers or foresters', 33 (18%), 'researchers', 22 (12%), 'managing authorities', 10 (5%), 'training organizers', with 6 responses (3%). The rest (11%) corresponds to 'other' sectors.

Including the United Kingdom, which was considered as a Member State for the purpose of the consultation (and in line with the observation period). There were no contributions from Croatia, Malta and Lithuania.

A total of 58 respondents (31%) chose to make their full personal details (i.e. name, organisation name and size, transparency register number, country of origin) available for publication with their contribution whereas 129 respondents (69%) opted for anonymity.

Analysis of results

In general, a clear majority of the respondents (184, 99%) are aware that the EU tries to foster knowledge exchange, advisory activities, and innovation in the agricultural and forestry sector and in rural areas by providing Member States with financial support for rural development measures via the CAP. Additionally, 163 respondents (87%) are aware that the CAP has required national administrations to set up a Farm Advisory System (FAS) to help farmers and other beneficiaries find advice to better understand and meet EU rules.

Regarding the areas on which the CAP should focus its support for knowledge transfer and innovation, responses were very equally distributed among the options given. 'Farm management in general covering farm economics, environmental sustainability, climate action and/or animal welfare' received the highest rate of responses (12%), followed by:

- 'Environmental action on biodiversity' and 'Climate action' (10%).
- 'Environmental action on water' and 'environmental action on soil' (9%).
- 'Farming using digital technologies' and 'Economic viability' (8%).
- 'Animal welfare and health' and 'Plant health' (7%).
- 'Food safety' and 'Social aspects' (6%).
- 'Other' (1%).

Most of the respondents (122, 66%) benefited from knowledge exchange, advice or innovation projects supported by the CAP in the last five years, and an absolute majority found advice to be positively useful (95%).

A majority of the respondents also found the advice given to be independent (47%), in comparison with those who found that it was not (9%). A large percentage of the respondents were neutral about it (34%) and the rest (4%) had no opinion.

Effectiveness

Concerning the question on the effectiveness of current CAP measures and instruments on fostering the flow of information between researchers, advisors and farmers, there seems to be a common perception by respondents that current measures and instruments are not very effective on fostering information between researchers and the other two stakeholder groups.

Between researchers and advisors 46% of the respondents found it not very effective (sum of 'to a very small extent' and 'not at all'), and 60% of the respondents found it between farmers and researchers.

On the other hand, a clear majority of the respondents found positively effective (sum of 'to a very large extent' and 'to a large extent') the information flow between farmers and advisors (45%).

On the question of the effectiveness of CAP measures and instruments in fostering knowledge exchange, advisory activities and innovation in the agricultural and forestry sector and in rural areas, respondents found them, in general, more ineffective than effective. This means that the sum of the categories of respondents "effective to a very large extent" and "to a large extent" was smaller than the sum of the categories "to a very small extent" and "not at all effective".

The only exception to this statement is 'Support for knowledge exchange and information actions (M1)', which 27% found it to have positive effectiveness, in comparison with 22% who found it negative.

Efficiency

Respondents have a generally neutral perception about the efficiency of the CAP instruments and measures in fostering knowledge exchange, advisory activities and innovation in the agricultural and forestry sector and in rural areas.

Most of the respondents found the instruments and measures to be efficient 'to some extent' (88, 47%). On the other hand, a clear majority find that not all farmers have equal access to knowledge exchange, advice or innovation supported with the CAP (135, 73%).

On the issue of administrative costs and burdens in the implementation of the current CAP measures and instruments, the amount of administrative requirement is the response chosen the most by responders, for managing authorities, providers of advice and receivers of advice, as it could be seen in Figure 12.

Relevance

On the question of relevance, most respondents have a neutral perception (103, 56%) of the sufficiency CAP instruments and measures need to be to address the need to foster knowledge exchange, advisory activities, and innovation in the agricultural and forestry sector and in rural areas. It is then followed by negative perception (47, 25%) and positive (33, 18%). The remaining 1% had no opinion.

Analysis of the long questions

There has been a coordinated campaign from Irish respondents (representing mostly companies and/or business associations), arguing that funds should be allocated with parity, as private advisors are not funded as public ones are. They argue that a better distribution (mainly from public advisors to private ones) of funds could increase the uptake of farmers, especially small farmers. Additionally, some users have mistakenly/purposely chosen a different user type from what stems out of the written text in the additional text/long questions.

The analysis of the long questions of the OPC, takes together the question on how to increase the uptake of farmers' beneficiaries of knowledge exchange, advisory services and innovation fostered through the CAP along with the question to elaborate further.

Company/business associations argued that it is necessary to support to knowledge links between researchers, advisors and farmers, especially on innovation. Use of AKIS and farm advisers to increase the adoption of innovative farm techniques. This could be accompanied of examples/demonstrations of the adoption of such techniques, to incentivize farmers to participate. Additionally, it is necessary to reduce the administrative burden for farmers and advisors (both public and private), making advice easily accessible for farmers. In the same line, with better infrastructure and internet connection in rural areas, farmers can reach information and data even easier. Better access to internet could increase the promotion of the measures through newsletters to mailbox on knowledge transfer. On top of that, advice made on the base of the needs of the farms, and integrated in their economic activity without causing additional cost. Lastly, uptake could be increased if made mandatory to attend a meeting with other farmers, advisers, etc., at least once a year. This continuous training could be supported with payments, especially on completion of successful knowledge transfer. On top of discussion groups, it is

argued that they should be complemented with one-on-one meetings between advisors and farmers.

Some business associations also argued that to get farmers to participate in knowledge transfer it is needed for the funds to be centrally managed and not used just as a compliance mechanism. The advisory services should include a vocational training component (modular and short-term) complemented by the audit of the agricultural holding. Lastly, respondents mentioned the necessity of including particularly novel approaches in environmental sector to be backed by legislation, so even though they are not in the priority list, as it does not benefit the production of the farm directly, knowledge transfer practices in this direction can be supported.

There are also some suggestions to reduce administrative burden (for public and private stakeholders) which revolve around harmonization of the CAP/EAFRD procedures with other EU funds (i.e., European Regional Development Fund), as they have a different management and control system. Additionally, it is proposed to create larger programmes with many operational groups on a certain topic for both farmers and advisors, so information exchanges are fostered. It is also highlighted the importance of well-functioning national structures for knowledge exchange and advisory activities in the CAP to be built upon.

Trade unions argue that less administrative burden it is necessary for farmers for joining Knowledge Transfer groups. Advice should be provided exclusively by farmers' organizations.

Research/academic institutions highlight the necessity of having public advisors, not just private ones. They also propose to ease information dissemination of the available options, less restrictions in requirements and less administrative burden. Also flexibility to potential new farmers/foresters that one to start some business in the rural areas. Earlier involvement of farmers and Small and Medium-sized Enterprises (SMEs) in innovation projects should be fostered.

They also elaborated that it is necessary to better monitor the results of the innovative projects financed, in order to be able to prioritise those with the greatest added value, and so that they are not a means of financing the operating costs of cooperatives, companies. Additionally, they find that constant communication between groups and increasing trust are critical for the viability of knowledge transfer. To ensure this, regular meetings, wide-ranging information on activities and the dissemination of good practice contributing to the co-operation of the parties are necessary, fostering consistency in the potential participation of farmers in the program.

EU Citizens propose for farmers to attend some mandatory knowledge for LEADER to reinforce the role of the local action groups to enable a higher level of adequate, constant and progressive knowledge access and production.

EU citizens also propose for more funds to support knowledge exchange activities (M1, M2 and especially M16). They also argue that a better connection should be sought between Horizon 2020 and other EU projects and knowledge transfer. Not just that, but they ask for further initiatives with community involvement as they allow to connect farm investment, management and innovation (especially focused on agro-ecology and environment) with local needs and perception. To support these initiatives, funded demonstration farms locally are proposed, to allow farmers to see best implementation practices in action, which works in their local environment.

It is also asked for public authorities to provide better information, to advertise knowledge transfer actions and to speed up the aid.

NGOs propose that advisory services should focus more on farmers' needs, with a bottom-up approach when setting the areas of focus of the advisory targets, which would increase farmers' participation in knowledge transfer programmes. This advice should focus on practical, innovative on-the-field knowledge, and should followed up and monitored. CAP should support the costs necessary to farmers to keep-up of the administrative burden, which could be deterring farmers from participating in knowledge transfer programmes. Peer to peer knowledge transfer should be supported along with training courses.

Managing authorities argue that it is necessary more flexibility for managing authorities (reduction of reporting requirements), to have simplified cost options and simplification of the conditions of state aid to support farmer's uptake.

Summary of attached documents

Agricultural Consultants Association of Ireland considered that the Knowledge Transfer scheme was good and, being the first significant knowledge transfer programme for the involvement of the private advisory sector (their own analysis also showed that feedback from farmers and managing authorities was very positive). They also claim that, unfortunately, there is no real flow of information between farmers, advisors and researchers, and whatever information exists has effectively to be collated by private advisors at their own expense, as "only the delivery of knowledge transfer was funded". They also criticize AKIS as not functioning correctly, with no formal information exchange structures in place and too many commercial entities providing advice. It is considered that private companies should be able to access freely to publicly funded research/advisory aid. Lastly, they consider that FAS requires a complete overhaul, as public sector received allowances and payments for training days, whereas private sector does not. They consider they should also get access to EU/government paid training days.

An EU citizen (private adviser) considered that there is a clear unavailability of publically funded research/advisory aids. Additionally, considers that private advisers should receive allowances and payments for training days, similarly to public advisers.

The Spanish Agri-food Cooperatives argue that cooperative and private agri-food exploitations should be also considered advisers, as they claim doing so would push more efficiently the change of production model of a country.

The Italian Association of farmers considers that advisory services should focus more on the farmers' needs and use a bottom-up approach when defining areas of focus within these areas. It is also mentioned that knowledge transfer between farmers, advisers and researchers could be done under the umbrella of Horizon 2020 Research and Innovation programme, which could increase farmers participation in these programs. They also consider that farmers should be funded further for participation on knowledge exchange activities.

Copa*cogeca argues that farmers should be able to freely choose the advisory services and topics and receive more financial backing. Horizon 2020, supporting the multi-actor approach implemented especially in EIP-Agri, is highlighted as a tool to increase AKIS between farmers, advisers and researchers.

Confagricultora (business association) highlights professional organizations as the right entity to play the role of Innovation Broker, i.e. facilitator of innovation within the farm, especially in a context of fragmentation of agricultural enterprises. They also highlight that AKIS should be directed towards advising of innovation techniques into agriculture.

The Internationale Akademie für land- und hauswirtschaftliche Beraterinnen und Berater (IALB)³⁴ argues that the following criteria for education and advisory activities is to be made binding by the EU: (a) Implementation of socially intended effects should not be an indicator for the success of advisory activities, as implementation decisions depends on the entrepreneur; (b) The control system is to be set up goal-oriented and not, as up to now, analogous to the investment measures; (c) Knowledge transfer is also to be given its own financial position as a cross-cutting objective, with a minimum quota of 5% of the funds of the second pillar; (d) advice and education should be 100% eligible for funding.

CAP (Portuguese farmers association) argues that advisers training must be funded in a different way-covering not only the trainers' costs but also the trainees costs to attend the training session. Additionally, is asked to associate added value/advantages, besides knowledge acquired, to knowledge exchange, agricultural services and innovation and for them to be recognized as equivalent to training that is already mandatory for farmers on some issues. Lastly, AKIS should have a coordination member and a platform for sharing information / knowledge / innovation by thematic area should be provided.

The Romanian ministry of Agriculture and Rural Development proposed that knowledge exchange and advisory activities should take into account the socio-economic profile of the potential beneficiary, to adapt the quantity and complexity of the information disseminated.

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https://www.ialb.org/.

Annex 3: Methods and analytical models

Information sources and tools

Table 6. Summary of the information sources and tools used for the evaluation

Information sources	Tools		
Regulations, evaluations, other	Literature review		
EU databases on expenditure	Documentary analysis (Regulations, expenditures)		
Common Monitoring and Evaluation Framework	Data analysis		
indicators' database	Multivariate analysis including a Principle		
FAS questionnaire and database from JRC	component analysis, 2-step cluster analysis and		
Eurostat and national statistics on the agricultural	econometric analysis		
and forestry sectors	Case studies (literature review, interviews and focus		
Rural Development Programmes and Annual Implementation Reports (AIR)	groups, beneficiaries' survey, and Member States restitution workshops)		
Interviews with competent authorities and relevant stakeholders (Case studies and EU levels)	Online surveys with Rural Development Programme authorities and FAS coordinator units (EU-28)		
,	Interviews at EU level		
Other data from case study country correspondents and interviewees	EU workshop		
Source: ADE.			

The different information sources have been used to support quantitative and qualitative analysis. The information from those different sources has been triangulated, ensuring that the evaluation is based on solid and cross-checked evidence.

Literature review

A **comprehensive literature review** was performed by the evaluation team, and included an overview of the concept, evolutions, and diversity of:

- AKIS,
- the EIP-AGRI network,
- the Farm Advisory System (including its evolution since 2007 in terms of objectives, scope, implementation, and organisation in Member State(s)),
- the agricultural and forestry context,
- the existing and emerging needs in rural areas, as well as
- the critical factors of success for policies supporting knowledge exchange and innovation among farmers and foresters (also including the reasons for take-up of advice and training, their impact on employment and a cost benchmark for their provision).

In addition, the evaluation team investigated relevant research projects (including ProAKIS³⁵ and AgriLink³⁶).

A comprehensive literature review was also performed by the country correspondents in the case study.

https://430a.uni-hohenheim.de/pro-akis.

https://cordis.europa.eu/project/id/727577.

Documentary analysis

The Rural Development Programme Annual Implementation Reports (AIR) of 2020 (covering the 2014-2020 period) include an enhanced report on evaluation activities, structured along the Common Evaluation Questions. 112 of these AIRs were analysed for this evaluation. Since reports are in all EU 28 languages, the 6 mentioned evaluation questions were previously translated with an on-line translator. This work allowed to validate or complete certain findings from the case studies.

Data analysis

Apart from previous evaluation studies, reports and internal discussion documents, the documentary review included an extended data analysis from various sources.

Regarding financial data, the evaluation relies primarily on two sources at EU level.

On the one hand, the **European Structural and Investment Funds database** (ESIF 2014-2020 Finance Implementation Details), which provides a view by measure of the amounts programmed, decided and spent at 31st December 2018, calculated on the same basis. Unless otherwise stated, the financial data are expressed as total public expenditure.

These data were supplemented by the so-called Common Monitoring and Evaluation Framework (**CMEF**) **indicators**³⁷, namely output and result indicators taken from the 2020 AIR database (situation at 31 December 2020)³⁸, an extraction of target values from the Rural Development Programmes (section 11 of the Rural Development Programmes and the dynamic of CAP spending from 2017 to 2018.

A multi-variate principal components analysis and regression was also implemented to examine the relationship between CAP expenditure decided on KE, innovation and advice measures 1, 2 and 16, and agricultural and rural employment, in different types of rural area across the whole EU-28.

The **JRC database** developed upon the FAS questionnaire to Member State(s) (pursuant to Article 102(2) of Regulation (EU) No 1306/2013) (2017/2018) was used, as far as possible given the limitations³⁹, in order to provide an EU perspective of the establishment and implementation of the FAS.

Case studies

A clustering approach was adopted to propose a relevant selection of case studies across the Member States, trying to capture the variety of knowledge and innovation systems in Europe as well as possible. The clustering is based on five criteria:

• Intensity of farming, describing the farm output per labour unit;

https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/cmef_en.

When 2020 not available, 2019 has been used.

The JRC database covers 15 general questions and eight questions repeated for each of the FAS topics. The responses to the general questions were assessed as fairly reliable, except the one covering the 'number of farmers advised' (due to the different counting methods and large definition of advice). The responses for the eight topic questions were assessed as insufficiently reliable. It must be noted that part of the 'unreliability' arises from the impossibility for regionalised Member States to provide one single answer as required by the FAS questionnaire.

- AKIS strength and integration, according to the PROAKIS project classification;
- FAS operating bodies status (private, public, mixed);
- 'Knowledge sharing and innovation' Rural development budget allocation;
- Decision rate⁴⁰ of planned budget of 'knowledge sharing and innovation' at the 31 December 2018.

Table 7. Case study selection and characterisation

Member State	Criteria 1 Intensity of farming in € (SO/AWU) (i)	Criteria 2 AKIS	Criteria 3 FAS Operating body status	Criteria 4 Sharing knowledge and innovation	Criteria 5 Decision rate (ii)
Belgium - Flanders	153 513	Strong, integrated	Mixed	7.1%	74%
Estonia	46 305	Rather weak, rather fragmented	Mixed	4.4%	77%
France	88 581	Strong integrated	Mixed	2.4%	36%
-Lorraine	93 978	Strong integrated	Mixed	2.7%	6%
Germany	100 671	Strong intermediate	Mixed	2.8%	62%
-Lower Saxony	162 172	Strong intermediate	Mixed	7.0%	83%
Greece	17 927	Weak fragmented	Private (both)	4.5%	5%
Ireland	41 603	Strong integrated	Mixed	5.0%	48%
Italy	60 895	Rather weak fragmented	Mixed	5.2%	25%
-Veneto	113 362	Rather weak fragmented	Mixed	6.1%	42%
-Umbria	63 576	Rather weak fragmented	Mixed	9.7%	41%
Poland	17 134	Strong integrated	Mixed	1.5%	4%
EU average		-	-	3.3%	66%

Source: ADE, based on clustering exercise. (i) Standard Output per Annual Working Unit (EUROSTAT 2019b); (ii) Calculations done by ADE based on European Structural and Investment Funds data (EC, 2020b).

Case studies are used to provide in-depth knowledge about the implementation choices of different Member States, to make a detailed assessment of efficiency and administrative burdens, and to gain robust understanding concerning the intervention logic and causal relations linking policy instruments (individually and in combination) to results and impacts. Cases also provide specific examples of good practice in the application of measures relevant to knowledge

measures 1, 2 and 16.

⁴⁰ The 'decided' budget is the total amount (EU + National) allocated to the projects (operations) selected by the programme managers. It can also be referred to as the total eligible cost reported by the national and regional programmes to the Commission. The 'decision rate' is the ratio between the total planned budget and the decided budget. In this specific case, the reference to 'knowledge sharing and innovation' includes Rural Development

exchange-innovation-advice. Finally, they also served to collect the views of the competent authorities with regard to the relevance and coherence of the CAP instruments and measures, their effectiveness and their value added.

The case studies include a specific and comprehensive literature review and analysis of their AKIS, policy and administrative framework and an inventory of the CAP instruments and measures mobilised. In some case studies, important literature from national/regional rural development evaluations was used (DE, FR, IT, PL). In particular, in DE-LS, the country correspondent valorised work performed by the Thünen Institute since 2007 with an essential contribution to the efficiency analysis⁴¹. In-depth investigations were also performed on the 2018 Annual Implementation Reports, especially for the FR and DE-LS case study reports.

Meetings were organised with the numerous competent authorities involved at national and, for some Member State(s), regional level. Advisors and trainers were met (face to face, through focus groups and telephone interviews) as well as beneficiaries or their representatives (one beneficiary online survey was conducted in the Grand-Est region in France and a panel of beneficiaries were surveyed by telephone in DE-LS). Interviews were also conducted with a number of other stakeholders involved in agricultural research and education, EIP-AGRI network and Operational Groups, rural networks, and some actors specifically involved in the forestry sector.

Restitution workshops were organised online (due to the Covid-19 crises) in the following case study Member State(s): FR, BE-FL, DE-LS and IE, in order to discuss and validate the findings with Member State(s) representatives and other stakeholders.

Regarding efficiency, quantitative data on the implementation costs of "human capital and cooperation measures" of the Managing Authority of Lower Saxony were collected in various evaluation studies over the three funding periods (2000-2006, 2007-2013, 2014-2020).

Annex 4: Glossary of terms

AKIS (Agricultural Knowledge and Innovation System)	The term Agricultural Knowledge and Innovation System (AKIS) is used to describe the whole knowledge flow (interaction and generation) system: the ways people and organisations interact and generate innovation within a Member State or a region. Different AKIS-components include – Extension, Education and Research – and many more actors in the food chain that directly influence the decision making of farmers and their innovations (EU SCAR, 2015). AKIS includes farmers, foresters, advisors, researchers, actors of the whole supply chain, NGOs, businesses, authorities, research, etc. and can vary a lot, depending on the Member State or sector (EC, 2018a and 2020). AKIS covers whatever topics farming and rural activities relate to, such as landscape, environment, climate, biodiversity, consumers and citizens, food and non-food systems including processing and distribution chains.
Effective functioning of Member States' AKIS	An effective AKIS bridges gaps between research and practice; a well-functioning AKIS should comprehensively cover the provision of relevant knowledge and innovation in agriculture, and network farmers and foresters with researchers, advisors, businesses etc. to this purpose . Innovation may also be generated in innovation projects/groups without the inclusion of research (e.g. a group of farmers and an advisor, a farmer and an entrepreneur, etc.).
Information flows	Mainly concerns the flow of information (mainly agricultural knowledge) from one person/organisation to another through knowledge exchange, knowledge transfer, innovation or advice. Flows involve a source and a recipient or destination.
Advisory activities	Wide range of activities that are intended to help farmers decision making.
Knowledge Exchange	Knowledge exchange is a multiple process that generates, shares and/or uses knowledge, through various methods appropriate to the context, purpose and participants involved. It involves multiple actors, especially farmers/land managers and the many actors they interact with (CCRI, 2013).
Innovation	"Innovation is often described as a new idea that proves successful in practice. Innovation may be technological, but also non-technological, organisational, or social. Innovation may be based on new but also on traditional practices in a new geographical or environmental context. The new idea can be a new product, practice, service, production process or a new way of organising things, etc. Such a new idea turns into an innovation only if it is widely adopted and proves its usefulness in practice" (EC, 2017a).

CAP implementation	Rules governing EU CAP instruments and measures are set at EU level; however, their implementation is managed by each Member State(s)/region (Rural Development Programme). Member State(s) have a certain level of flexibility in the type of schemes they use and the way they set-up programmes (in particular in Rural Development Programmes, wine, but also to a limited extent for certain aspects of DP) to take account of national farming conditions, which vary greatly throughout the EU.
CAP architecture	Refers to the CAP intervention logic, includes all CAP provisions, and the way Member States apply them considering the CAP specific and general objectives.
Critical factors for success	Success means firstly uptake, followed by the effective acquisition and application into practice, of knowledge gained by farmers and foresters (and rural development actors) through training and advice. The critical factors which promote success could be identified as certain attributes of the AKIS which could be structural, situational or behavioural, and certain characteristics of the training and advice offered (features of design and delivery, technical competence and human skills of advisors and trainers, involvement in EIP-AGRI Operational Groups), which particularly favour acquisition and application of new knowledge by farmers and foresters.
M1 Rural Development "Knowledge transfer and information action" measure	M1 (Article 14 of Regulation (EU) No 1305/2013) supports various form of knowledge transfer and information action (including vocational training, workshops, coaching, demonstration activities, short-term farm and forest management exchanges as well as farm and forest visits) which Member States (Member State(s)) may want to offer to persons engaged in the agricultural, food and forestry sector, land managers and other rural areas actors.
M2 Rural Development "advisory services" measure	M2 (Article 15 of Regulation (EU) No 1305/2013) supports various kinds of advice which Member States (Member State(s)) may want to offer to farmers, foresters, etc. This advice can be delivered by any public or private body or entity in Member State(s)/regions, irrespective of the bodies designated according to the Farm Advisory System (FAS) obligation.
M16 Rural Development "cooperation" measure	M16 (Article 35 of Regulation (EU) No 1305/2013) supports different forms of cooperation and in particular those among different actors of the agriculture, forestry and food chain sectors, the creation of new clusters and networks, as well as the establishment and operation of Operational Groups of the EIP-AGRI.

Overall CAP support (equals CAP Instruments and Measures)	Overall CAP support includes all possible support provided by CAP instruments and measures (from Regulation (EU) No 1305/2013 to Regulation (EU) No 1308/2013, namely the Rural Development Regulation (European Agricultural Fund for Rural Development - EAFRD), direct payment schemes: basic payment, green payment, Young Farmer (YF) scheme, possibly coupled support, areas of natural constraint (ANC), redistributive payment, Common Market Organisation).
Farm Advisory System (FAS)	A system for advising beneficiaries on land management and farm management, established by Member State(s) under the Regulation (EU) No 1306/2013. That farm advisory system shall be operated by designated public bodies and/or selected private bodies, and cover a scope specified in the Regulation. Member State(s) shall ensure the suitable qualification of advisors, the separation between advice and checks, and the proper information of beneficiaries on the designated/selected bodies. The FAS is accessible to all CAP beneficiaries and non-beneficiary farmers on a voluntary basis. Member State(s) may determine priority beneficiaries and shall ensure access to those farmers with the most limited access to advice other than the FAS. Member State(s) must report on farmers' participation in the FAS (see Pillar 1 output indicator O58). Member State(s) are not obliged to fund it.
Standards of modern high-quality agriculture	Market oriented agricultural production systems/farming systems providing products at affordable prices while respecting strict conditions in terms of environment, animal welfare and food safety.
Standards of sustainable and environmental friendly farming systems	Rules enhancing sustainability, notably greening under Pillar 1 and cross-compliance under the Regulation (EU) No 1306/2013 on financing, management and monitoring of the CAP: Common Agricultural Policy (CAP) Payments are linked to these standards, if not fulfilled, part of the payments may be withdrawn.

Measures to stimulate environmentally friendly practices	Several measures under Pillar 2: The implementation of Pillar 2 measures requires the application of environmentally friendly practices and strict compliance with specific production methods according to the measure (e.g. without pesticides and synthetic fertilisers for organic farming). Notably: quality schemes (M3.1), agri-environment and climate measures - AECM (M10.1), Organic farming (M11), support for Areas of Natural Constraints - ANC (M13), Natura 2000 and EU Water Framework Directive - WFD (M12). Also, European Innovation Partnership for Agricultural productivity and Sustainability (EIP-AGRI) Operational Groups (M16) stimulate testing of environment/climate solutions (around 65% according to the 2018 Operational Group assessment study). Producers' organisations (Common Market Organisation Regulation) may also work on certification schemes and activities to prove the environmental friendliness of their products.
Knowledge infrastructure	This concerns the institutions and processes in place which generate, transfer and apply knowledge: from research (pure and applied/in situ) via dissemination / sharing, to informed action and feedback. In the context of this study, the structuring of active training and advisory bodies is an element of infrastructure to focus upon evaluating; other elements provide key context.
Lifelong learning (LLL)	 All learning activities undertaken throughout life with the aim of improving knowledge, skills and competences, within personal, civic, social or employment-related perspectives. The intention or aim to learn is the critical point that distinguishes these activities from non-learning activities, such as cultural activities (EUROSTAT, 2019a). All learning activity undertaken throughout life, with the aim of improving knowledge, skills/competences, and/on gualifications for
	improving knowledge, skills/competences and/or qualifications for personal, social and/or professional reasons (CEDEFOP, 2014).
Vocational training (VT)	Training which aims to equip people with knowledge, know-how, skills and/or competences required in particular occupation or more broadly on the labour market (CEDEFOP, 2014).
	Vocational training and skills acquisition actions may include training courses, workshops and coaching (Article 14 of Regulation (EU) No 1305/2013).
Initial education and training	General or vocational education and training carried out in the initial education system, usually before entering working life (CEDEFOP, 2014).
Skill	Ability to apply knowledge and use know-how to complete tasks and solve problems (CEDEFOP, 2014).

Adequately skilled farmers	Farmers having at least basic agricultural training (Common Monitoring and Evaluation Framework (CMEF) common context indicator 24) and having the necessary knowledge to correctly implement cross compliance and standards of modern, high quality agriculture on sustainable and environmentally friendly farming system as defined above.
Coherence	The extent to which complementarity or synergy can be found within an intervention and in relation to other interventions (EC, 2017b).
Internal coherence	Correspondence between the different objectives of the same intervention. Internal coherence implies that there is a hierarchy of objectives, with those at the bottom logically contributing towards those above (EC, 2017b).
External coherence	Correspondence between the objectives of an intervention and those of other interventions which interact with it (EC, 2017b).
EU added value	Concerns achievement of results and impacts over and above what could have been achieved with national or regional programmes (measures) alone.

Annex 5: Intervention logic

The intervention addresses the societal **need** for an EU agriculture that is viable, sustainable and inclusive. It is expected that the implementation of the FAS and the knowledge exchange, advisory and innovation measures in rural development and the wine sector should deliver the following **outputs**:

- Knowledge transfer and information actions (M1):
 - o Knowledge transfer events are supported; and
 - o Farmers (forest holders and persons engaged in the food sector and rural Small and Medium-sized Enterprises (SMEs)) participate in supported events. The **target** is to train 2.9 million farmers in the period 2014-2020.
- Advisory services (M2):
 - Advice is provided for farmers and farmers take-up financially supported advisory services (M2.1) (the **target** is that 1.2 million farmers are advised in the period 2014-2020); and
 - Advisors are trained (M2.3).
- Cooperation (M16):
 - Operational Groups are supported for the preparation and implementation of their innovation projects (with a view to collaborate in finding innovative solutions for challenges in the agricultural and forestry sector at the outcome level, bringing together complementary knowledge and ensuring co-ownership to enable a quicker implementation of novelties).
 - In certain Member States, the Operational Groups can also include an information or training component (implying Knowledge transfer), including trainings to advisors.
- Agri-environment-climate (M10):
 - May support agri-environment and climate measures' beneficiaries with knowledge transfer and/or advisory activities before implementing the agrienvironment and climate measures (AECM).
 - o The National / Regional Rural Network (and the EIP-AGRI network which may be encompassed within).
 - May support Operational Groups for the implementation and the diffusion of their results.
- Farm Advisory System (FAS):
 - o A list of advisors is provided to farmers, from whom they can take-up advice; and
 - o Advisors are suitably qualified and regularly trained.
- Innovation in the wine sector (Common Market Organisation) measure.
- Support to the development of new products, processes, technologies concerning grapevine products.

The **expected outcomes** include the following, sometimes interlinked elements.

- Trained and advised farmers are aware of basic standards of EU agriculture (environment, climate change, good agricultural and environmental condition of land, public health, animal health, plant health and animal welfare etc.). Farmers/foresters are adequately skilled; some are involved in ongoing learning network or communities of practice. They perceive the usefulness and benefits of advice and/or knowledge transfer. Consequently, they implement changes from knowledge exchange and advice. The knowledge exchange and advice result in increased confidence and self-assurance of farmers/foresters.
- The Operational Groups and their projects should increase the capacity of farmers and foresters in particular, to develop innovation and exchange knowledge and information, including dissemination of results. Information flows between practice and research should be facilitated and innovative solutions found for challenges in the agricultural and forestry sector. Collaboration between farmers, foresters, advisors, research, consumers etc. is enhanced in order to co-create knowledge and disseminate results. Results from innovation projects are more easily understood and applied, with some farmers adopting research results. In the wine sector, increased marketability and competitiveness of grapevine products is expected.

All these outcomes contribute to the Rural Development crosscutting objective of fostering knowledge transfer and innovation in agriculture, forestry and rural areas. These in turn contribute to the CAP Pillar I (Income support and market measures) and Pillar II (Rural development) objectives with:

- enhanced competitiveness of farmers and forest holders and persons engaged in the food sector (recital 12 of Regulation (EU) No1305/2013);
- enhanced resource efficiency (recital 12);
- improved environmental performance (recital 12) including sustainable management (recital 13);
- improved overall performance of farm holdings (recital 13); and
- increased capacity for action and empowerment through capacity building for farmers and other economically marginal groups.

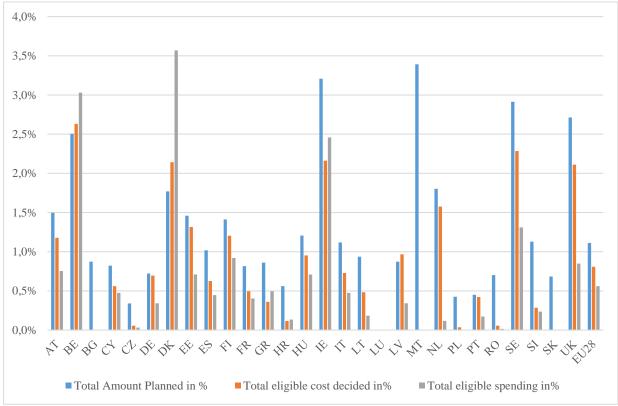
They contribute to the impacts resumed in CAP Pillar I (Income support and market measures) and Pillar II (Rural development) specific objectives, gathered in four main themes:

- maintain agricultural diversity: direct payment as well as advice and information activities and cooperation create a conducive environment for development/ maintenance of diversified and innovative value chains;
- economic performance of agriculture and forestry, which encompasses the priorities P2 (competitiveness) and P3 (food chain organisation) of the CAP Pillar 2;
- ecological performance of agriculture and forestry, including the two CAP Pillar 2 Priorities: ecosystems' preservation (P4) and resource efficiency and climate change mitigation (P5);
- Economic and human development in rural areas (P6 of CAP Pillar 2), through capacity building, networking and cooperation improving entrepreneurial opportunities and social inclusion.

Annex 6: Share in total Rural Development Programmes spending

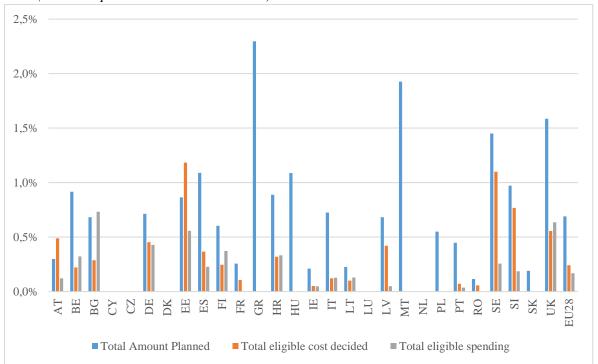
The Figures below shows the implementation progress of each of the three measures (M1, M2 and M16) at the end of 2018.

Figure 23. Share of rural development M1 in total Rural Development Programmes spending for 2014-2020 (in total expenditure: EU and National)



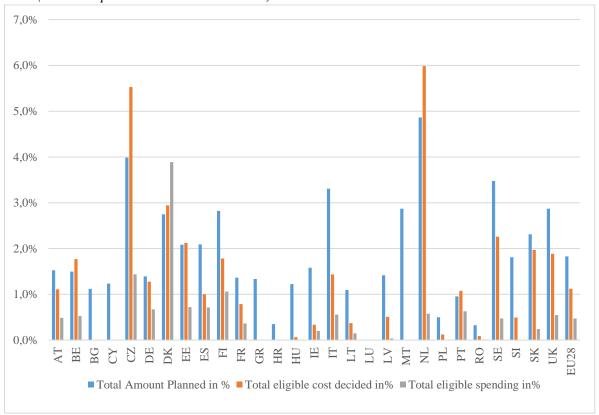
Source: ADE based on ESI Funds database.

Figure 24. Share of rural development M2 in total Rural Development Programmes spending for 2014-2020 (in total expenditure: EU and National)



Source: ADE based on ESI Funds database.

Figure 25. Share of rural development M16 in total Rural Development Programmes spending for 2014-2020 (in total expenditure: EU and National)



Source: ADE based on ESI Funds database.