

EUROPEAN
EVALUATION
HELPDESK
FOR RURAL DEVELOPMENT



SUMMARY REPORT

SYNTHESIS OF THE EVALUATION COMPONENTS OF THE ENHANCED AIRS 2019: CHAPTER 7

DECEMBER 2019

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The Evaluation Helpdesk is responsible for the evaluation function within the European Network for Rural Development (ENRD) by providing guidance on the evaluation of RDPs and policies falling under the remit and guidance of DG AGRI's Unit C.4 'Monitoring and Evaluation' of the European Commission (EC). In order to improve the evaluation of EU rural development policy the Evaluation Helpdesk supports all evaluation stakeholders, in particular DG AGRI, national authorities, RDP managing authorities and evaluators, through the development and dissemination of appropriate methodologies and tools; the collection and exchange of good practices; capacity building and communicating with network members on evaluation related topics.

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SUMMARY REPORT

SYNTHESIS OF THE EVALUATION
COMPONENTS OF THE ENHANCED AIRS
2019: CHAPTER 7

DECEMBER 2019

CONTENT

ABBREVIATIONS.....	4
EXECUTIVE SUMMARY	5
1 INTRODUCTION AND CONTEXT.....	6
2 DATA AND METHODOLOGY.....	7
3 ACHIEVEMENTS OF RURAL DEVELOPMENT PROGRAMMES.....	8
3.1 Priority 1: Knowledge Transfer and Innovation	8
3.2 Priority 2: Farm Viability and Competitiveness	15
3.3 Priority 3: Food Chain Organisation and Risk Management.....	21
3.4 Priority 4: Restoring, Preserving and Enhancing Ecosystems.....	27
3.5 Priority 5: Resource-Efficient, Climate-Resilient Economy	34
3.6 Priority 6: Social Inclusion and Economic Development.....	46
3.7 Other RDP aspects: Synergies, Technical Assistance, and National Rural Networks	55
4 RDP CONTRIBUTIONS TO UNION LEVEL OBJECTIVES AND TARGETS	61
4.1 RDP contribution to EU 2020 Headline targets.....	61
4.2 RDP contribution to CAP Economic objective	72
4.3 RDP contribution to CAP Environmental objective	75
4.4 RDP contribution to CAP Socio-economic objective.....	78
4.5 RDP contribution to Fostering Innovation	80
5 OVERALL SUMMARY OF RDP ACHIEVEMENTS AND IMPACTS REPORTED IN 2019	82
6 RECOMMENDATIONS FOR BETTER REPORTING.....	89

ABBREVIATIONS

AIR	Annual Implementation Report
ATT	Average Treatment Effects on the Treated
AWU	Annual Work Unit
CEQ	Common Evaluation Question
DiD	Difference-in-Difference method
EAFRD	European Agricultural Fund for Rural Development
EIP	European Innovation Partnership
FA	Focus Area
FADN	Farm Accountancy Data Network
GHG	Green House Gas
GIS	Geographical Information System
HNV	High Nature Value
ICT	Information and Communication Technologies
JC	Judgement Criteria
LDS	Local Development Strategy
LAG	Local Action Group
M	Measure
MA	Managing Authority
MS	Member State
NRN	National Rural Network
PSM	Propensity Score Matching
RDP	Rural Development Programme
TA	Technical Assistance

European Union (EU) **Country codes**

Belgium	(BE)	Greece	(EL)	Lithuania	(LT)	Portugal	(PT)
Bulgaria	(BG)	Spain	(ES)	Luxembourg	(LU)	Romania	(RO)
Czech Republic	(CZ)	France	(FR)	Hungary	(HU)	Slovenia	(SI)
Denmark	(DK)	Croatia	(HR)	Malta	(MT)	Slovakia	(SK)
Germany	(DE)	Italy	(IT)	Netherlands	(NL)	Finland	(FI)
Estonia	(EE)	Cyprus	(CY)	Austria	(AT)	Sweden	(SE)
Ireland	(IE)	Latvia	(LV)	Poland	(PL)	United Kingdom	(UK)

EXECUTIVE SUMMARY

The Rural Development Programmes (RDPs) 2014-2020 provide support to EU agriculture, forestry and rural areas under six priorities and 18 related focus areas. In June 2019, 115 Managing Authorities (MAs) submitted their enhanced Annual Implementation Reports (AIRs 2019) demonstrating their progress up to December 2018 in the implementation of their RDPs, achievements and contributions to the European Union's objectives. This report provides a summary of the achievements and contributions of the RDPs towards the [EU Biodiversity Strategy](#) and Europe [2020 Strategy](#) for smart, sustainable and inclusive growth and the CAP general objectives of fostering the competitiveness in agriculture, ensuring the sustainable management of natural resources and achieving balanced territorial development.

To what extent have RDP achievements and contributions to EU objectives been assessed?

The majority of Managing Authorities systematically dealt with the assessment of focus areas, priorities and other RDP aspects (Technical Assistance and National Rural Networks) by answering the related common evaluation questions from 1 to 21. When achievements were not assessed nor reported, this was often due to a low level of RDP uptake, the absence of measures programmed primarily under the respective focus areas, or the lack of data to carry out more sensitive and robust evaluation methods.

A high proportion of Managing Authorities also answered the common evaluation questions from 22 to 30, which are related to the contributions made towards the Union level objectives and targets. Many Managing Authorities encountered challenges in netting out of common CAP impact indicators and in the assessment of the RDP's contributions towards the EU's headline targets. Some Managing Authorities, however, were able to demonstrate the RDP's contributions on the basis of various evidence assessed with optimal and alternative approaches depending on the specific situations in terms of data availability, level of implementation, and evaluation resources.

The application of robust quantitative methods, such as, counterfactual analysis or modelling techniques were still limited in RDPs, but there was an overall increase compared to the previous enhanced AIRs submitted in 2017. Qualitative methods were applied to fill data gaps or to triangulate quantitative findings.

To what extent have RDPs contributed to the CAP's objectives and rural development priorities?

Overall, the AIRs 2019 showed that RDPs' implementation moved forward and made considerable progress in terms of realised expenditures and the achievement of targets set up for the focus area objectives, however, there are strong differences across the RDPs and across the focus areas of the same RDP.

An aggregation at EU-28 level shows that the most progress in terms of realised expenditures (i.e. above 20% of the planned budget for 2014-2020) and achievement of targets (i.e. above 50% of the planned values for 2023) were reached in the focus areas under Priority 2 '*Farm viability and competitiveness*', Priority 4 '*Restoring, preserving and enhancing ecosystems*' and Priority 5 '*Resource-efficient, climate-resilient economy*'. This is especially true in agricultural areas and lesser so in forestry areas. Under Priority 3 '*Food Chain Organisation and Risk Management*', progress made in terms of expenditure and achievements of targets reached a medium level. Lastly, the level of implementation under Priority 1 '*Knowledge transfer and innovation*' and Priority 6 '*Social inclusion and economic development*' were generally low across all RDPs, although, some high levels of achievements were observed in the targets set up for the Focus Area 6B '*Fostering local development in rural areas*'.

While a high proportion of Managing Authorities made progresses in demonstrating the achievements of results under the specific Rural Development priorities, the assessment of RDP's net contributions was generally limited and will require more time, data, capacity, and higher levels of implementation. Nevertheless, good practices and several lessons learned have already been obtained in this reporting period and shall be used with a view towards preparing the ex post evaluation of RDPs 2014-2020.

1 INTRODUCTION AND CONTEXT

Within the framework of the common agricultural policy (CAP), Rural Development Programmes 2014-2020 (RDPs) provide support to the EU agriculture, forestry and rural areas under six priorities and 18 related focus areas. The achievements under these priorities contribute to the three CAP general objectives, namely fostering the competitiveness in agriculture, ensuring the sustainable management of natural resources, and achieving a balanced territorial development. RDPs are also part of the [EU Biodiversity Strategy](#) and [EU2020 Strategy](#) for a smart, sustainable and inclusive growth and contribute to the achievement of their targets.

In June 2019, the RDP Managing Authorities (MAs) submitted the enhanced Annual Implementation Reports (hereafter referred as 'AIRs 2019') to the European Commission. As established in the legal acts¹, the AIRs 2019 provide information about the implementation, achievements, and impacts of the RDPs. 11 chapters compose the AIRs 2019, and Chapter 7 shows the assessed RDP achievement and impacts.

Based on the information reported in Chapter 7 of 115 AIRs 2019, this summary shows the main findings of the RDP's achievements and impacts reported by the MAs based on evaluations conducted by functionally independent evaluators. The report covers the 30 common evaluation questions (CEQs), namely:

- CEQs 1 to 18 related to the RDP focus areas and priorities;
- CEQs 19 to 21 related to other RDP aspects (i.e. synergies, technical assistance, and NRN);
- CEQs 22 to 26 related to the headline targets set up in the EU2020 and EU Biodiversity Strategy;
- CEQs 27 to 30 related to the CAP objectives.

How is this report structured?

Section 2 of this report explains the **data sources and methodologies** used to summarise the findings. Section 3 summarises the **RDP achievements** as reported in the replies to the CEQs 1 to 22, whereas Section 4 summarises the **RDP contributions to the European Union objectives**, namely the EU2020 Strategy for smart, sustainable, and inclusive growth, EU Biodiversity strategy, and the CAP general objectives.

For each CEQ, the following information is presented:

- **Background information**, outlining the policy framework, the level of uptake of the relevant measures contributing to the achievements of the focus areas (expressed in both realised and committed expenditure), and overview statistics on reporting in the AIRs 2019 (e.g. number of RDPs answering the CEQs).
- **A summary of reported achievements/contributions**, providing a synthetic overview of the evaluation findings as reported in the replies to the CEQs. Examples of reported achievements or impacts are offered for illustrative purposes.
- **Highlights on reported methodologies** and additional indicators used by MAs to assess achievements/impacts.
- **Frequently reported limitations**, showing the factors that were mentioned by the MAs as negatively influencing the evaluation exercise or the validity and robustness of the findings.

Finally, Section 5 provides an overall summary of the reported RDP achievements and impacts, and Section 6 concludes with some recommendations for improving the future reporting on RDP evaluations.

¹ Article 50 of the Regulation No 1303/2013, Article 75 of the Regulation 1305/2013, and Article 15 of the Commission Implementing Regulation No 808/2014

2 DATA AND METHODOLOGY

This summary report is based on the analysis of the quantitative and qualitative information reported by the RDPs in Chapter 7 of the AIRs submitted in 2019. The analysed dataset refers to July 2019 and includes the following elements:

- the answers to the CEQs 1 to 30;
- values for common indicators, specifically: common result, complementary result, and common impact indicators;
- values for additional indicators, whenever used by the MAs to complement the common ones.

Complementary data on the planned budget, level of realised, and level of committed expenditures under the specific focus areas and priorities were provided by DG AGRI.

The European Evaluation Helpdesk for Rural Development screened, extracted, and analysed the reported information. Judgment criteria (JC) were used as tools to structure the analysis and summary of the findings on achievements and impacts. Whenever possible, good practices in the reported methodologies were collected, as well as limitations and factors negatively influencing the robustness and validity of the findings were noted.

The quantitative values of the complementary result indicators and the common impact indicators reported in the SFC tables were analysed concerning the level of reporting and the quantitative evidence to underpin the qualitative findings. The dataset for these indicators was analysed with regard to statistical outlier values, the overall consistency with indicator fiches, and consistency with the values inserted in the answer to the common evaluation questions.

With a qualitative approach, specific examples were analysed within their context (e.g. considering the comments made by the MAs on the validity and meaning of the findings, the level of uptake, the general trends in supported area) and highlighted in the summary of RDP achievements and impacts. The selected examples are not meant to be representative but rather to illustrate progresses made in specific RDPs.

It should be noted that the AIRs 2019 submitted by the MAs contained comprehensive and detailed information about the methodologies, the achievements and impacts obtained in each RDPs. In many cases, MAs provided very detailed answers to the common evaluation questions, enriched with background information, explanations of the methodologies, findings, conclusions, recommendations, and effective visualisation elements (e.g. maps, graphs, pictures, figures, tables), which could not be displayed in detail in this summary report.

3 ACHIEVEMENTS OF RURAL DEVELOPMENT PROGRAMMES

3.1 Priority 1: Knowledge Transfer and Innovation

This cross-cutting priority aims at transferring knowledge and fostering innovation in rural areas, with a focus on the following areas:

- Fostering innovation, cooperation, and the development of the knowledge base in rural areas (FA 1A);
- Strengthening the links between agriculture, food production, and forestry and research and innovation (FA 1B);
- Fostering lifelong learning and vocational trainings in the agricultural and forestry sector (FA 1C).

Table 1 provides an overview of the level of reporting under Priority 1, considering the share of RDPs that programmed the focus areas (first row), the share of MAs that answered the related common evaluation question (second row), and the share of MAs which reported achievements in the answer to the CEQs (third row). Achievements were reported based on various evidence, including common result indicators, or additional qualitative and quantitative evidence. When achievements were not reported in the answers, this was often explained by the low level of RDP uptake of the related measure.

Table 1. Overview of RD Priority 1 programming and reporting in the AIRs 2019

	FA 1A	FA 1B	FA 1C
1. Share of RDPs that programmed the focus area out of the 112 ² RDPs 2014-2020	97%	95%	89%
2. Share of MAs that answered the related common evaluation question over those programming the FA	94%	93%	88%
3. Share of MAs reporting achievements among those that answered the related common evaluation question	86%	76%	77%

Source: Screening of AIRs 2019, European Evaluation Helpdesk for Rural Development

More in detail, MAs reported achievements in terms of:

- Development of the knowledge base in rural areas
- Fostering innovation in agriculture, forestry, and rural areas
- Creation of EIP-AGRI operational groups and involvement of various partners
- Establishment of long-term collaborations between agriculture, food production and forestry entities and institutions for research and innovation
- Rural people finalising lifelong learning and vocation trainings

Additionally, positive contributions were reported also in relation to cooperation operations in the field of environmental management and performance in agriculture, the increase of knowledge and skills among farmers, and transversal effects towards the achievements of other RDP priorities.

Achievements were assessed mainly through the analysis of monitoring data combined with qualitative methods, such as in-depth case studies, beneficiary surveys, focus-groups, interviews to beneficiaries and managers of the relevant measures contributing to this focus area.

² Out of the 118 Rural Development Programmes 2014-2020, only the 112 national and regional Programmes have been considered because National Frameworks and National Rural Network Programmes do not allocate budget on measures.

CEQ 1 related to Focus Area 1A: To what extent have RDP interventions supported innovation, cooperation and the development of the knowledge base in rural areas?



Background Information

Focus Area 1A contributes transversally to numerous focus areas and was programmed in 109 out of 112 RDPs 2014-2020. Under this focus area, RDPs provide support through Measure 01 *Knowledge transfer and information actions*, Measure 02 *Advisory Services*, and Measure 16 *Cooperation* in relation to the total RDP expenditure.

Up to 2018, the overall progress in implementing RDP expenditure under this focus area was relatively limited. The EU-28 achieved 12.2% of the target indicator T1 planned for 2023, which express the share of expenditure for M01, M02, and M16 in relation to the total RDP expenditure.

Nevertheless, 88 MAs reported achievements in the answer to the related common evaluation question.



Summary of reported achievements

Development of the knowledge base in rural areas

Beneficiaries of vocational trainings acquired new knowledge and skills in numerous fields, for example in agri-environment and climate actions (e.g. ES Murcia); animal health (e.g. UK Norther Ireland); information and communication technologies (e.g. DE Baden-Wurttemberg); mechanical pruning and harvesting, as well as water irrigation systems (e.g. ES La Rioja); decision tools in precision farming (e.g. IT Emilia Romagna); sustainable use of phytosanitary products (e.g. ES Andalusia); grassland management (e.g. FR Centre).

*In FR Bourgogne, an online survey showed that **81% of the beneficiaries changed their farming practices** after attending vocational trainings.*

Farm advisory services facilitated the sharing and application of new knowledge and skills. To a different extent, beneficiary surveys showed that the skills and knowledge transferred through farm advisory services are finally adopted in farming, food processing, and forestry related activities (e.g. ES Castilla Leon, HR). Farm advisory services were addressed to various target groups, for instance: agricultural and forestry holdings (e.g. AT) or conventional and organic farms (e.g. DE Niedersachsen/Bremen).

Information and demonstration actions contributed to the dissemination of knowledge, mainly through farm visits, meetings, workshops, and seminars. RDPs supported the dissemination of technical information in various fields, such as environmental performance (e.g. FR Aquitaine); organic farming and agroecology (e.g. FR Midi-Pyrenees, FR Languedoc Roussillon); health and safety, ICT, Nutrient Management & Soil Analysis Interpretation (UK Norther Ireland).

Fostering innovation in agriculture, forestry and rural areas

While the effects of RDPs in fostering innovation take more time to be tangible and measurable, several MAs were successful in demonstrating how **multiple interventions supported the adoption of new technologies or working methods** to increase the efficiency of production processes (e.g. IT Lazio, FI Mainland, SI). Investment measures in modernisation and restructuring contributed secondarily to the innovation of the agricultural sector, by supporting the installation of innovative technologies, machinery, and infrastructures (e.g. ES Castilla y Leon).

*In UK England, innovation activity reported via the Farm Practices Survey suggested that **82% of farms applying for support under FA 1A had engaged or planned to engage in innovation**, compared to 48% of farms not applying for support.*

RDPs increased the capacity of rural actors to innovate by different means, e.g. by creating operational groups under the European Innovation Partnership – AGRI (e.g. DE Brandenburg-Berlin, DE Schleswig-Holstein); supporting networking and innovative projects under LEADER (e.g. DE Bayern); carrying out pilot projects and field experimentations in farms (e.g. FR Aquitaine); or organising training courses (e.g. IT Bolzano, ES Andalusia).

RDPs built an enabling environment to boost innovation in rural areas, for instance through the creation of new partnerships linking knowledge institutions, consultancy firms and farmers (e.g. NL), or the creation of exchange spaces in which local entities cooperate to approve instruments for sustainable forest management (ES Navarra).

Creation of operational groups and involvement of partners

Up to 2018, the number of created operational groups largely varies across the RDPs, ranging from a few ones (e.g. PT Azores, LT or LV) to more than 93 in IT Emilia Romagna or 200 in SE. Operational groups involved a large variety of partners. As reported in ES National and ES Galicia, the supported groups mobilised a wide network of actors that would have not otherwise interacted. Several other AIRs (e.g. EE, FR Guyana, IT Abruzzo, UK England) mentioned the involvement of processing companies, farms and forestry holdings, research and development institutions, commercial associations, independent consultants, agricultural education partners, universities, professional agricultural organisations, NGOs, SMEs, etc.

*In IT Emilia Romagna, the EIP-AGRI operational group's involvement of an integrated cooperative composed by 5.000 grape producers and 18 wine producers created a **spill-over of knowledge and information from one single partner to multiple actors** involved in the entire food supply chain.*



Highlights on the reported methodologies

Surveys were largely used as data collection tool in the context of RDPs with limited quantitative data. Such surveys were addressed to beneficiaries of vocational trainings, farm advisory services, and operational groups (e.g. DE Baden-Württemberg, ES Castilla y Leon, FI Mainland, FR Normandie, FR Poitou Charentes, IT Puglia, SE, SI, UK Northern Ireland). In several cases, the answer to this common evaluation question was based on interviews to the managers of RDP measures. Thematic focus groups on innovation were used in FR Bourgogne, FR Compte, SI and UK Northern Ireland. Despite the low level of implementation, some MAs applied the evaluation approach suggested in the guidelines: [Evaluation of Innovation in Rural Development Programmes 2014-2020](#) (e.g. ES Navarra, IT Puglia), while ES Valencia showed a logical link between reported findings, conclusions and recommendations. 11 MAs reported achievements through additional indicators. For instance:

- Share of the total number of farms reached through RDP support to farm advisory services (DE Niedersachsen/Bremen);
- Share of vocational trainings focused specifically on topics related to innovation (e.g. precision farming, ITC) (IT Emilia Romagna);
- Share of beneficiaries satisfied after having received vocational trainings (SI).



Frequently reported limitations

The low level of uptake was the most common limitation reported by the MAs when showing RDP achievements with more quantitative results (e.g. comparisons with non-beneficiaries). Moreover, around 20% of the AIRs mentioned that the analysis was limited by the lack of primary data and the time lag needed between the project implementation and the measurement of its actual effects. Other AIRs stated that the assessment of achievements under Focus Area 1A was methodologically challenging because of the low awareness on the specificities of the interactive approach of EIP AGRI, the lack of measures programmed with primary contributions to FA 1A, and conceptual difficulties in defining and evaluating a multidimensional concept like 'innovation'.

CEQ 2 related to Focus area 1B: To what extent have RDP interventions supported the strengthening of links between agriculture, food production and forestry and research and innovation, including for the purpose of improved environmental management and performance?



Background Information

Focus Area 1B is programmed in 106 out of 112 RDPs 2014-2020. RDP measures contributing to FA 1B are M01 *Knowledge transfer*; M02 *Advisory services*; M16 *Cooperation*.

The level of uptake of these measures was overall low across the MAs, except some RDPs with a good progress. Up to 2018, the EU-28 achieved 21.3% of the common result indicator T2 planned for 2023, which expresses the total number of supported cooperation operations (e.g. operational groups, network cluster, pilot projects).

In total, 75 MAs reported achievements in the answer to the related common evaluation question.



Summary of reported achievements

Establishment of long-term collaborations between agriculture, food production and forestry entities and institutions for research and innovation

Long term collaborations need time to be observed along a stretched time frame. However, the achievements reported by the MAs show that RDPs contributed to the creation of solid partnerships and potential long-term collaborations.

The composition of supported partnerships is large and varied to favour interdisciplinary cooperations. Numerous MAs (e.g. AT, DE Brandenburg/Berlin, DE Niedersachsen/Bremen, ES Andalucía) reported that the total number of supported cooperation operations involved altogether more than 100 different partners from research, education, farm advisory, agriculture and forestry innovation networks, with a strong representation of agricultural enterprises, associations and NGOs.

*In Ireland, over 70% of farmers benefitting from knowledge transfer and cooperation suggested that the **RDP had an impact on strengthening of the link between research, innovation and agriculture innovation**, supporting lifelong agricultural learning and vocational training and innovation, co-operation and knowledge base expansion in rural areas.*

RDP supported preparatory activities to create long-term cooperations. For instance, ES Andalucía carried out coordination and animation activities, as well as preliminary studies to facilitate the conception and design of cooperation operations. Networking, knowledge transfer and dissemination/communication are important success factors for long-term cooperations. For instance, IT Veneto, AT, FR Mayotte organised and disseminated the results of innovation brokering activities through working meetings, webpages and events.

Cooperation operations are created through a bottom-up approach and cover a broad range of topics. For instance, in BE Wallonia and NL, regional knowledge hubs were involved in cooperation projects and offered opportunities for far-reaching innovation with a view to the future. SI reported that the involvement of LEADER Local Action Groups (LAGs) in cooperation projects helped solving common problems and circulate ideas. Several MAs reported that cooperation projects can address specific issues concerning the RDP territory, such as: farm productivity and sustainability (ES Aragon); green industries (SE); application of agri-ecological practices (FR Guyana).

Cooperation operations are often based on agreements or plans, like for instance the forest management plans in DE Sachsen-Anhalt. In EE, a long-term thematic action plan was prepared for up to four years support to involve multiple actors cooperations related to short supply chains and local markets. There is still limited tangible evidence on the actual continuation of created partnerships after

receiving RDP support. The qualitative information collected through surveys in BE Flanders, ES LA Rioja, SI showed that there is good will among the partners to continue their collaborations after RDP support.

Cooperation operations related to environmental management and performance in agriculture

Numerous AIRs showed that the implementation of cooperation operations aimed to improve the environmental management and performance of agriculture (e.g. AT, BE Flanders, BE Wallonia, DE Baden-Württemberg, DE Sachsen-Anhalt, FR Mayotte, IT Emilia Romagna, LV, SI, SK). For instance, in ES Aragon, 42% of the 92 supported EIP-AGRI operational groups were set up for environmental purposes. Due to the limited number of completed operations, the quantification of achievements after the implementation of cooperation operations in this field was commonly considered to be difficult. However, the design of the projects and the partial results achieved so far indicated that cooperation in this field can bring beneficial results for agricultural landscape management (see example in Box 1).

Box 1: Cooperation operations in the field of landscape conservation and management

Key nature conservation objectives in agricultural landscapes can be achieved through effective cooperation between actors from the nature conservation and agricultural and forestry sectors. Such cooperation, however, requires enough human resources to organise and control the process.

In DE Niedersachsen-Bremen, cooperation projects (M16.7) related to landscape conservation and territorial management supported the cooperation between actors in the agriculture and nature conservation. For example, a cooperation structure was established to support the floodplain management in the biosphere reserve [Elbtalaue](#), where a farm association acts as 'agri-environmental advisory board'.

In DE Schleswig-Holstein, 8 cooperation structures in nature conservation are an indispensable complement to other RDP measures (e.g. AECM) and make an important contribution to the high-quality implementation of nature conservation projects. The knowledge base and cooperation between the various actors in nature conservation is improved, especially with regard to Natura 2000.



Highlights on the reported methodologies

In-depth case-studies on innovation were often used to assess RDP achievements under this focus area (e.g. DE Brandenburg/Berlin, DE Hessen, DE Thüringen). Case-studies combined multiple methods (e.g. surveys, expert interviews, monitoring data and theory-based analysis). To assess the contribution of cooperation operations, MAs often used focus groups or theory-based approaches as suggested in the guidelines: [Evaluation of Innovation in Rural Development Programmes 2014-2020](#). 10 AIRs described achievements with additional indicators. For instance: a) share of satisfied members in supported EIP AGRI operational groups (e.g. DE Hessen, DE Schleswig-Holstein); b) average number of partners composing EIP AGRI operational groups (e.g. FR Auvergne); c) share of supported cooperation projects in the field of environmental management (SI); d) share of cooperation projects that continue after RDP support in order to improve environmental management and performance (ES Pais Vasco).



Main limitations of reported achievements

The low level of uptake was the most frequently reported limitation by the MAs in the assessment of achievements under Focus Area 1B. Evaluation methods and data collection tools were applied only on RDP beneficiaries. Therefore, little or no evidence was available on the RDP effects on the larger scale. In addition, some AIRs mentioned that more time and data was required to capture RDP effects on long-term collaborations.

CEQ 3 related to Focus area 1C: To what extent have RDP interventions supported lifelong learning and vocational training in the agriculture and forestry sectors?



Background Information

Focus Area 1C is programmed in 100 out of 112 RDPs 2014-2020. The main measures programmed under this FA are M01 *Knowledge transfer*, M02 *Advisory services*; M16 *Cooperation*.

Up to 2018, a high number of participants received trainings under RDP support. This can be observed with the EU-28 achievement of 39.4% of the common result indicator T3 planned for 2023, which express the total number of participants trained under Article 14 of Regulation (EU) No 1305/2013.

In total, 68 MAs reported achievements in the answer to the related common evaluation question.



Summary of reported achievements

Lifelong learning and vocational trainings in the agriculture and forestry

Achievements in terms of number of rural people who have finalised lifelong learning and vocational trainings largely varies across RDPs. Some MAs reported high levels of achievements (e.g. EE reached 83.2% of the target values planned for 2023, and HR reached 88.7%) or even overachievement of the target (e.g. ES Aragon, ES Murcia, ES Valencia, DE Rheinland-Pfalz), which means that the number of participants who received trainings up to 2018 exceeded the number originally planned for 2023. Lower levels of achievements were reported in RDPs with low level of uptake, no measures programmed with primary contributions to this focus area, or with limited data availability (e.g. ES Extremadura, IT Molise, RO).

Vocational trainings focused on a wide range of topics related to agriculture, forestry, and agri-food sectors. More specifically, numerous RDPs provided trainings that covered environmental and sustainability aspects, such as sustainable forest management and fire prevention (e.g. ES Canarias), agri-ecological practices (e.g. FR Basse-Normandie, FR Haute-Normandie), grass management (e.g. FR Centre), restoring, preserving and enhancing ecosystems (e.g. IT Friuli Venezia Giulia), health and animal welfare (e.g. FR Basse-Normandie, SI).

Vocational trainings were targeted to different beneficiary groups. For instance, young farmers (e.g. CY, CZ, GR, ES Galicia, IT Campania, IT Lazio, IT Lazio); workers in the agricultural sector (e.g. CZ, DE Niedersachsen/Bremen, DE Thüringen); or actors working in the agri-food sector (e.g. ES-LA Rioja). Numerous MAs reported a low share of women attending trainings or educational projects (e.g. 2.6% in IT Emilia Romagna; 9% in FR Haute-Normandie, 17.61% in ES Baleares, or 24% in ES Castilla la Mancha). In a few cases, AIRs showed a medium share of women receiving trainings (e.g. 56% in DE Nordrhein/Westfalen, 32% in CZ).

Vocational trainings were provided in different formats, such as long-term seminars for more effective personal and company development (e.g. DE Niedersachsen-Bremen), trainings combining theoretical and practical elements (e.g. ES Andalucía), short courses adapted to the availability of agricultural entrepreneurs and combination of face-to-face and distance learning (e.g. FR Haute-Normandie), online trainings (e.g. ES Castilla-La-Mancha).

Vocational trainings were provided in synergy with other RDP measures, as for instance the measures supporting the new entrance in agriculture (e.g. CZ, ES Galicia), farm modernisation (e.g. CZ, ES Castilla-la-Mancha, IT Emilia Romagna), LEADER (e.g. BE Flanders, ES Castilla-La-Mancha, ES La Rioja).

Knowledge base and skills of farmers

Numerous AIRs stated that lifelong learning and trainings increased the level of knowledge and skills of participants. According to some of the reported answers, trainings enable beneficiaries to:

- to improve economic performances or competitiveness (e.g. DE Brandenburg/Berlin, FR Auvergne);
- to better understand environmental aspects (e.g. ES Castilla la Mancha, HR) and preserve ecosystems with activities that rationalise pest control and enable organic production (ES Navarra);
- to solve specific problems of the young farmers' holdings, develop their business plan and support the management and monitoring of farms (ES La Rioja).

In several AIRs, findings from beneficiary surveys showed that a high share of beneficiaries from trainings (e.g. ranging from 60% to 80%) put the acquired knowledge and skills into their day-to-day practice (e.g. ES Andalucía, FR Franche-Comte, FR Rhone-Alpes).

Beneficiary surveys showed a high level of satisfactions (i.e. ranging from 80% to 95%) for the content, usefulness or type of trainings received (e.g. 95% in DE Niedersachsen/Bremen, 94% in DE Schleswig-Holstein, 81% in ES La Rioja, 91% in FR Bourgogne, 80% in HR, 80% for forestry related trainings in SI).

Highlights on the reported methodologies

In most of the cases, this common evaluation question was answered through the analysis of monitoring data (e.g. numbers of participants), often complemented with descriptive statistics on the types of participants (e.g. women/men, young farmers, etc.), interviews to RDP measure managers, as well as surveys that depicted the opinion of participants on the topics, content and relevance of the training received. Some answers were particularly comprehensive, based on well-structured information on the characteristics of participants, focus and objectives of trainings, linkages with other RDP priorities, and RDP expenditure (e.g. CY, CZ, ES Navarra).

Frequently reported limitations

In a significant number of AIRs, no limitations were described in relation to the validity of the reported achievements. However, around half of the MAs mentioned that the assessment of achievements was limited by the low level of RDP uptake or the lack of data. Other limitations included the lack of relevance of the common result indicator (i.e. number of participants) for assessing achievements, the poor quality of available data, the lack of implementation or late start of measures, problems with the RDP management tools, difficulties with obtaining contact details for the survey due to data protection regulation, and other public procurement/legislative issues.

3.2 Priority 2: Farm Viability and Competitiveness

Priority 2 aims at improving farm viability and competitiveness, with a focus on the following areas:

- improving the economic performance, restructuring and modernisation of supported farms in particular through increasing their market participation and agricultural diversification (FA 2A)
- facilitating the entry of adequately skilled farmers into the agricultural sector and in particular, generational renewal (FA 2B)

For the period 2014-2020, the **EU-28 planned 32.46 bn euro of public expenditure** to achieve this priority, which corresponds to 21% of the total Rural Development planned public expenditure. Up to 2018, the EU-28 realised 28.2% of Priority 2's planned public expenditure.

Table 2 provides an overview of the level of reporting under Priority 2, considering the share of RDPs that programmed the focus areas (first row), the share of MAs that answered the related CEQs (second row), and the share of MAs that reported achievements in the answer to the CEQs (third row). Achievements were reported based on various evidence, including common result indicators, complementary result indicators (i.e. R2), or additional qualitative and quantitative evidence. When achievements were not reported in the answers, this was often explained by the low level of RDP uptake of the related measure.

Table 2. Overview of RD Priority 2 programming and reporting in the AIRs 2019

	FA 2A	FA 2B
1. Share of RDPs that programmed the focus area ³	98%	83%
2. Share of MAs answering the related common evaluation question over those that programmed the FA	100%	100%
3. Share of MAs reporting achievements out of those that answered the related common evaluation question	91%	90%

Source: Screening of AIRs 2019, European Evaluation Helpdesk for Rural Development

More in detail, MAs reported achievements in terms of:

- Enhancement of the economic performance of farms
- Farm modernisations and restructuring
- Support to the entrance of adequately skilled farmers in the agricultural sector
- Increase of the share of adequately skilled young farmers in the agricultural sector

Additionally, AIRs showed positive contributions to the market participation of primary producers, farm diversification, maintenance of employment in rural areas, generational renewal in agriculture, environmental benefits, improvement of working and living conditions of farmers.

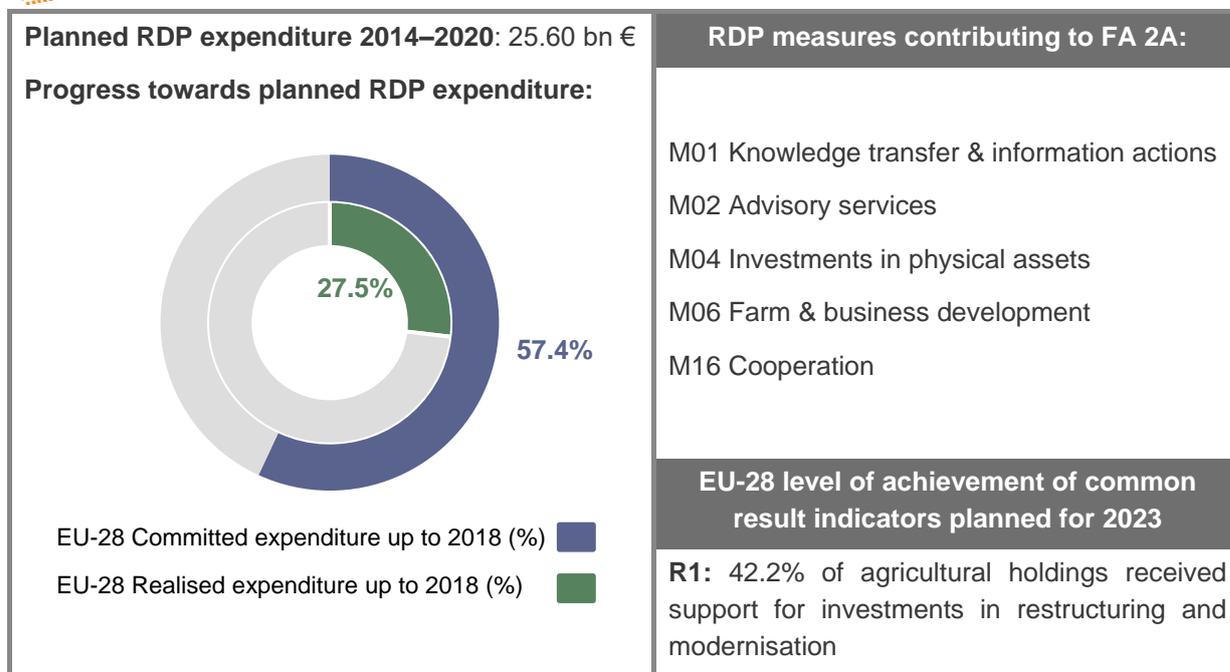
Quantitative methods were often used by the MAs to assess these achievements, such as quasi-experimental methods (e.g. PSM, DiD), econometric analysis, input-output models. Surveys, interviews, focus groups, and case-studies were often used in situation of low data availability or to triangulate quantitative findings.

³ Out of the 112 national and regional RDPs. National Frameworks and National Rural Network Programmes have not been considered because they do not allocate budget on measures

CEQ 4 related to Focus Area 2A: To what extent have RDP interventions contributed to improving the economic performance, restructuring and modernisation of supported farms in particular through increasing their market participation and agricultural diversification?



Background Information



Summary of reported achievements

Under the Focus Area 2A, RDPs aim at improving the economic performance, restructuring and modernisation of supported farms. The common result indicator linked to this focus area is R1, which measures the share of agricultural holdings received support for investments in restructuring and modernisation. Up to 2018, the EU-28 achieved 42.2% of the target value planned for R1 by 2023. In total, 100 MAs reported achievements under this focus area.

Economic performance of agriculture sector

Economic performance is measured with the complementary result indicator R2: *Change in agriculture output per Annual Working Unit (Euro/AWU)*. 60 MAs reported the net values of this indicators and, in numerous instances, AIRs were able to show a positive net contribution of investments in physical assets and business development to the value of this indicator (e.g. AT, CY, EL, DE Sachsen).

Among the reported net values (N=54⁴), the median shows that RDPs increased the economic performance of supported farms by 1,545.12 Euro/AWU compared to non-beneficiaries. However, the high standard deviation of the reported values indicates that there are strong differences across the RDPs, especially if the gross values are considered in the analysis. Furthermore, the limited sample size does not allow to show a significant aggregate picture across RDPs.

Not significant changes on the net value of R2 indicator were also reported across several AIRs (e.g. CZ, DE Rheinland-Pfalz, IT Campania). This was often connected with the low programme uptake and the lack of sufficient data to conduct a robust and reliable assessment. When negative values were reported

⁴ Six statistical outliers values were excluded from the sample

(e.g. BE Flanders), MAs explained that without investments, the economic performance of farms would have been even more negative.

Among the additional indicators used, most of the MAs reported a positive net contribution to the changes in gross added value per annual working unit (e.g. BE Flanders, CZ, DE Mecklenburg, DE Sachsen, EE, SK). AIRs mentioned also positive effects in terms of increased agriculture production (e.g. FR Aquitaine, ES Castilla-Leon, SK), energy savings (e.g. several FR RDPs), improvements in the water infrastructure (e.g. IT Veneto, FR Champagne-Ardenne), reduction of fertiliser and pesticide inputs (e.g. FR Languedoc Roussillon, FR Martinique). Positive effects were reported also in terms of increased farm turnover, net sales, production volumes, revenues, and income (e.g. BE Wallonia, DE Baden Wurttemberg, LU, LV).

Modernisation of agriculture sector

Numerous MAs reported achievements in terms of increased modernisation of agriculture sector, especially in the field of livestock (e.g. CZ, AT, BE Flanders, CY, ES Catalan, several FR RDPs, LU, SI, SE) and lesser in crop production (e.g. FR Ile de France). RDP support to modernisation contributed also to the update of electricity networks, facilities, technologies, roads (e.g. IT Lombardy). Often young farmers were reported as those leading farm modernisation (e.g. ES Extremadura, ES Navarra, FR Picardie). LV and LT reported that large enterprises were the main beneficiaries of RDP support to farm modernisation.

Restructuring of agriculture sector

Achievements in terms of farm restructuring were reported to a lesser extent, except in some AIRs (e.g. EL, ES Castilla Leon, PL). For instance, an increase in farm size was reported in EL, FR Basse Normandy, SK, etc. In PL, 22 443 farms with an average area of 4.55 ha participated in RDP supported land consolidation project and the average increase in farm size amounted to 157,94% after the project implementation (median=62,58%). In SK, farm restructuring was assessed through the change of '*gross fixed assets/crop and livestock revenue*' between 2014-2018. The level of restructuring in supported enterprises was higher than in the control group of unsupported enterprises. Finally, some MAs reported no or little effects on the farm size (e.g. FI Mainland, CY, CZ).

Market participation

Many MAs reported positive effects on the market participation of farmers, especially thanks to the introduction of innovative products, adoption of new distribution channels, shortening of food supply circuits (e.g. BE Wallonia, FR Alsace, FR Limousine, FR Bretagne, DE Mecklenburg, ES Madrid, ES Castilla Leon).

Farm diversification

Investments under the FA 2A supported the diversification of agriculture sectors, with positive implications on turnover and revenues (e.g. BE Wallonia, ES Madrid, FR Alsace). Examples of farm diversification concerned food production, energy production, delivery of environmental, social, and tourism services. LU reported that less effects were made in terms of farm diversification, where farm income is already diversified.

Secondary achievements of Focus Area 2A

Some MAs reported on the environmental benefits brought by the support to farm modernisation, such as the decrease of agricultural pressure on the environment (ES Madrid, FR Bretagne, FR PACA, FR Pays de la Loire) **or the maintenance of employment in rural areas**. In SK, an average of 5.8 jobs are maintained in each farm receiving RDP support. In total, RDP support under Focus Area 2A maintained 1164 jobs in SK between 2014 to 2018. Along with modernisation, numerous MAs reported

also side effects on the *improvement of working and living conditions of farmers* (BE Wallonia, FR Alsace, FR Aquitaine), as well as *improvements in animal welfare* (several DE and FR regions).



Highlights on the reported methodologies

Quasi-experimental methods (e.g. PSM, DiD) were often used to calculate the net values of the complementary result indicator R2 and some additional indicators. The following alternative approaches were reported for calculation of this indicator R2:

- Fixed effects dynamic panel regression (e.g. BE Flanders, DE Thüringen)
- Wilcoxon rank sum test (e.g. EE)
- Econometric analysis based on Cobb-Douglas function to estimate the effects of one percentage input increase on the standard output (e.g. IT Calabria).

Surveys, interviews, focus groups, and case-studies were often used in situation of low data availability or to triangulate quantitative findings (CY, ES Baleares, ES Cantabria, FR Auvergne, BE Flanders, EE, ES Navarra, ES Cantabria).



Frequently reported limitations

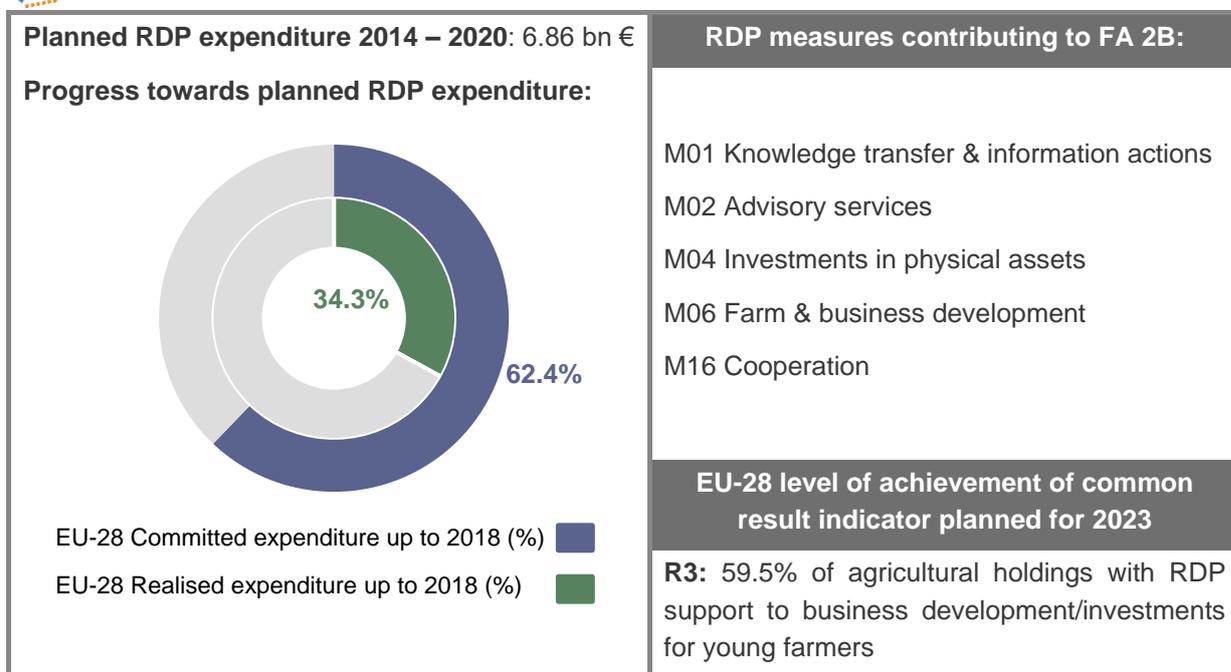
MAs reported different limitations in the assessment of achievements under FA 2A. Among the most frequently reported, MAs mentioned:

- Low or no RDP uptake
- Lack of evidence and low quality of data to build a solid control group
- Small sample size or time delay in provision of data FADN
- Application of naïve methods to overcome data gaps, with negative consequences in the robustness of evaluation findings (e.g. in some cases, weak control groups were created; before and after comparisons were used to calculate net values; or estimations of the common indicators were calculated only on the basis of beneficiary surveys)
- Using findings from the ex post evaluation of RDPs 2007 - 2013 as basis to calculate net values in 2018

CEQ 5 related to FA 2B: To what extent have RDP interventions supported the entry of adequately skilled farmers into the agricultural sector and in particular, generational renewal?



Background Information



Summary of reported achievements

Under the Focus Area 2B, RDPs aim at supporting the entry of adequately skilled farmers into the agricultural sector and in particular, generational renewal. The common result indicator linked to this focus area is R3, which measures the share of agricultural holdings with RDP support to business development/investments for young farmers. Up to 2018, the EU-28 achieved 59.5% of the target value planned for R3 by 2023. In total, 84 MAs reported achievements under this focus area.

Entrance of adequately skilled farmers in agricultural sector

Numerous MAs reported achievements in terms of adequately skilled farmers entering the agricultural sector. The entrance of adequately skilled farmers was ensured through the requirement of a minimum level of training/qualification or recognised practical experience before applying for support. EE reported that 40.4% of beneficiaries have a higher education, secondary education, or participated in vocational trainings related to agriculture. In some cases, AIRs stated that this requirement was considered as a barrier to the entrance of new farmers (e.g. FR Centre, PT Madeira). Often, AIRs provided descriptive statistics on the supported young farmers, categorising beneficiaries by gender, sector, type of investments, size of farms, etc.

Support to the entrance of adequately skilled farmers had positive effects on farm viability, especially in relation to farm productivity and competitiveness (e.g. ES Asturias, IT Valle d'Aosta, IT Veneto), **employment** (e.g. ES Valencia, FR Languedoc-Roussillon, FR Midi-Pyrenees), **farm structure and technologies** (e.g. AT, ES Cantabria, ES la Rioja). AT and

In FR Nord-Pas-De-Calais, an online survey showed that 50% of beneficiaries of young farmer grants increased the farm added value after taking over the agricultural holding, and 80% declared that the entrance was followed by farm structural changes, such as modernisation of production tools, diversification of farming activities, adoption of quality schemes, etc.

ES Navarra reported that interventions for young farmers incentivise their entrance into agriculture and provide an opportunity also to people outside the sector or outside the family farm to enter the sector. In FR Picardie, surveys showed that the entrance into the agricultural sector was mainly driven by their projects of become ‘young farmers’ (as opposed to those who entered the sector because of the RDP support), and 49% of respondents argued that the installation would have been identical without the RDP support.

Generational renewal in agriculture

Several MAs reported positive contributions to the generational renewal in agriculture (e.g. HR, LU, PT Mainland, IT Basilicata, ES Murcia, ES Cataluña, BE Wallonia, ES Navarra, ES Valencia, FR Aquitaine, FR Martinique, FR Mayotte, FR Bourgogne and FR Rhone-Alpes). Different factors influence the declining trends in generational renewal observed across EU-28. RDP achievements are only partially mitigated the aging trends in this sector (e.g. FR Limousine, FR Rhone-Alpes, ES Castilla la Mancha, ES Navarra, LV).

FR Poitou-Charentes reported that the RDP support to new entrance does not compensate the number of farmers leaving the agricultural sector. In FR Reunion, between 2010 and 2016, the number of farmers over 60 increased by 43%, while those under 40s decreased by 25%. Due to the limited access to land for young farmers, the number of new installations supported by RDP does not cover the number of farmers leaving the sector.

With a view of ensuring a minimum level of qualification among participants, various AIRs showed positive synergies between FA 2B and FA 1A, the latter providing support to knowledge transfer and information targeted to young farmers (e.g. AT, CY, ES Andalucia, ES Aragon, ES Castilla La Mancha, ES Extremadura, ES Galicia, ES La Rioja, ES Cataluña). Positive synergies are reported between FA 2B and FA 2A, the latter providing investment on physical assets to ensure the modernisation of farmers led by new entrance (e.g. IT Liguria, IT Lombardia, ES La Rioja, FR Bretagne, IT Emilia Romagna, IT Veneto, SI).



Highlights on the reported methodologies

The assessment of achievements under FA 2B was often conducted through qualitative methods, such as interviews, surveys, case-studies as well as data from the monitoring databases, for instance in BE Wallonia, ES Andalucia, ES Baleares, ES Murcia, FI Mainland and several French RDPs e.g. Auvergne, Basse Normandie, Bourgogne, Bretagne, France-Comte, Haute Normandie, Languedoc-Roussillon, Rhone Alpes. In FR PACA, case-studies were conducted with beneficiaries and non-beneficiaries to carry out a qualitative counterfactual analysis. A combination of qualitative and quantitative techniques (e.g. Difference-in-Difference) was described in ES Navarra, FR Limousine, EL, HU. MAs made use of numerous additional indicators to assess achievements under this focus area. Among these, IT Emilia-Romagna reported: a) gross value of agricultural production on supported farms/AWU; b) share of young newly established farmers participating in vocational training on the total number of newly established young farmers; and c) share of supported young farmers who introduced innovations.



Frequently reported limitations

Around one third of MAs reported no limitations in the answer to this common evaluation question. However, lack of data and the low level of RDP uptake were often mentioned as main challenges to assess RDP achievements under FA 2B. FI Mainland stressed that several external factors play a role in the generational renewal and therefore assessing the causal link between RDP support and effects was particularly challenging (e.g. changes in national retirement legislation, access to land, economic trends in the agricultural sector). As UK Scotland pointed out, the entrance of new farmers in agriculture is a complex process and a long time period is needed to observe RDP effects.

3.3 Priority 3: Food Chain Organisation and Risk Management

Priority 3 aims at promoting food chain organisation, including processing and marketing of agricultural products, animal welfare and risk management in agriculture, with a focus on the following areas:

- Improving the competitiveness of primary producers by better integrating them into the agri-food chain through quality schemes, adding value to agricultural products, promotion in local markets and short supply-circuits, producer groups and organisations and inter-branch organisations (FA 3A);
- Supporting farm risk prevention and management (FA 3B).

For the period 2014 – 2020, the EU-28 planned 16.28 bn euro of public expenditure to achieve this priority, which corresponds to 10.4% of the total Rural Development planned public expenditure. Up to 2018, the EU-28 realised 29.6% of Priority 3's planned public expenditure.

Table 3 provides an overview of the level of reporting under Priority 3, considering the share of RDPs that programmed the focus areas (first row), the share of MAs that answered the related CEQs (second row), and the share of MAs that reported achievements in the answer to the CEQs (third row). Achievements were reported based on various evidence, including common result indicators, or additional qualitative and quantitative evidence. When achievements were not reported in the answers, this was often explained by the low level of RDP uptake of the related measure.

Table 3. Overview of RD Priority 3 programming and reporting in the AIRs 2019

	FA 3A	FA 3B
1. Share of RDPs that programmed the focus area ⁵	90%	54%
2. Share of MAs answering the related common evaluation question over those that programmed the FA	98%	97%
3. Share of MAs reporting achievements out of those that answered the related common evaluation question	89%	68%

Source: Screening of AIRs 2019, European Evaluation Helpdesk for Rural Development

More in detail, MAs reported achievements in terms of:

- Competitiveness of primary producers by better integration in the food supply chain and introduction of quality schemes
- Quality of food production
- Promotion of local markets and short supply
- Participation of farms in risk prevention and management schemes
- Prevention of risks from flooding

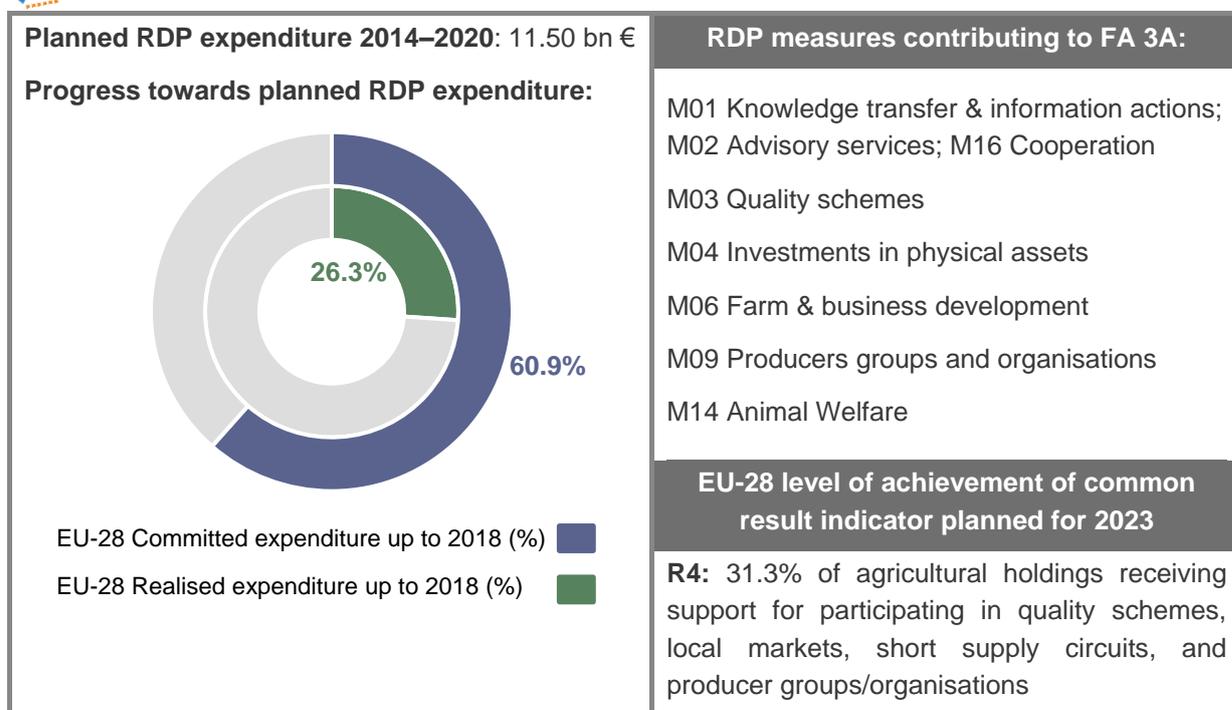
Additionally, MAs reported positive contributions from LEADER, vocational trainings, cooperation projects (including EIP-AGRI operational groups), and farm advisory services on the increase of food quality and the creation of added value, as well as on in developing the knowledge base on risk prevention in the agricultural and forestry sectors.

Apart from a few MAs who applied quantitative methodologies to assess farm competitiveness (e.g. SK, LV), most of the reported achievements were assessed through the combination of monitoring data with qualitative methods, such as focus groups, surveys, interviews, and in-depth case-studies.

⁵ Out of the 112 national and regional RDPs. National Frameworks and National Rural Network Programmes have not been considered because they do not allocate budget on measures

CEQ 6 related to FA 3A: To what extent have RDP interventions contributed to improving the competitiveness of supported primary producers by better integrating them into the agri-food chain through quality schemes, adding value to the agricultural products, promoting local markets and short supply circuits, producer groups and inter-branch organisation?

 **Background Information**



 **Summary of reported achievements**

Under Focus Area 3A, RDPs aim at increasing the share of agricultural holdings receiving support for participating in quality schemes, local markets, short supply circuits, and producer groups/organisations. The common result indicator linked to this focus area is R4. Up to 2018, the EU-28 achieved 31.3% of target value planned for R4 by 2023. In total, 88 MAs reported achievements under this focus area.

Competitiveness of primary producers by better integrating them into food chain through quality schemes and adding value to agriculture products

MAs reported positive contributions to the improvement of competitiveness of primary producers.

This has been achieved through the support to processing and marketing activities (including direct selling) and through adding value to primary production based on local resources (e.g. AT, in several FR regions, CZ, BE Wallonia, FI Aland).

Several AIRs mentioned that the processing and marketing of local products has led to the income diversification and increase in the volume of production (e.g. FR Alsace, FR Lorraine, FR Auvergne, FR PACA, FR Pays de la Loire, BE Wallonia). ES Andalusia reported that the better presentation and promotion of

In SK, the results of a quantitative analysis of farm beneficiaries show that within FA 3A, the primary net result effect of the supported operations on the change in agricultural production in the supported farms was positive. At farm level, the operations supported contributed to a net increase in agricultural production of 82 674 EUR/holding over the reference period of 5 years, while without aid, production would decrease by 65 003 EUR/holding.

agriculture products helped to increase farm competitiveness on the market. On contrary, in several reports it has not been possible to observe achievements in increasing competitiveness though integration in the food chain due to the small number of completed projects (e.g. DE Schleswig Holsten and Thüringen).

Some MAs reported that primary producers improved their market access by signing contracts with small and medium size food processing companies supported by RDPs, e.g. DE Rhineland Pfalz and in numerous ES RDPs mentioned that support to local food processing companies helped to increase the income situation of primary producers. In Latvia almost two thirds (65%) of the food processors receiving RDP support were also engaged in primary agricultural production.

Quality of food product

RDPs introduced quality schemes and encouraged beneficiaries to invest on the quality of agricultural products to increase their competitiveness on the market. High interest was observed in BE Wallonia (potatoes), CY (Halloumi), numerous ES and IT RDPs. In EL, IT Abruzzo and several French RDPs, the certification of high-quality products was often linked to organic farming (e.g. in Auvergne, Midi Pyrenees, Pas de Calais, Rhone Alps, Haute Normandie (especially cheese and cider), Limousine (pork and apple). IT Molise reported that quality schemes improved the food branding and the possibility of increasing the prices on international markets.

Multiple MAs reported positive achievements on the improvement of animal welfare in agriculture and livestock (CY, ES Extremadura, ES Valencia, IT Valle d'Aosta).

In SK, M14 Animal welfare had also secondary effects on the maintenance of 'manual' jobs in supported holdings with higher animal welfare requirements. DE Baden-Wurtemberg reported that, in their current form, several RDP measures can potentially contribute to improve animal welfare and farmer competitiveness. However, their broad impact remains still limited and a significant improvement in the marketing conditions and the added value of products from animal-friendly husbandry was not evident in the surveyed farms.

In DE Lower Saxony, the premium given to farmers through M14.1 was successful in reducing tail-docking in pig farming.' See [Factsheet: How to evaluate RDP contributions to animal welfare: experiences from Germany](#)

MAs reported also that other measures contributed to increasing the quality of food products and add value, namely vocational trainings, LEADER, EIP operational groups.

Promotion of local food markets and short supply circuits

Producer groups and interbranch organisations were supported in numerous RDPs, with positive effects on the vertical integration of primary producers in food value chain and the development of local food markets (e.g. BE Flanders, ES Aragon, ES Castilla Leon, IT Toscana, SI). For instance, IT Emilia Romagna reported that the competitiveness of primary producers was increased by involving 55 producer organisations in 51 different pilot projects. 37% of the primary producers involved in the producer organisations introduced innovations in their farming activities. In IT Veneto, four innovation brokering activities were supported in relation to the integration of primary producers in short and regional food supply chains.



Highlights on the reported methodologies

Most of the MAs applied qualitative methods in combination with monitoring data to assess achievements under this focus area. Qualitative methods included, interviews and surveys, case studies, focus groups. Quantitative assessments were carried out only by a few RDPs. For instance, SK and LV applied PSM and DiD for the assessment of the efficiency of processing of agricultural products, and UK England applied counterfactual analysis using data from the Farm Business Survey (FBS) to estimate the net effect.

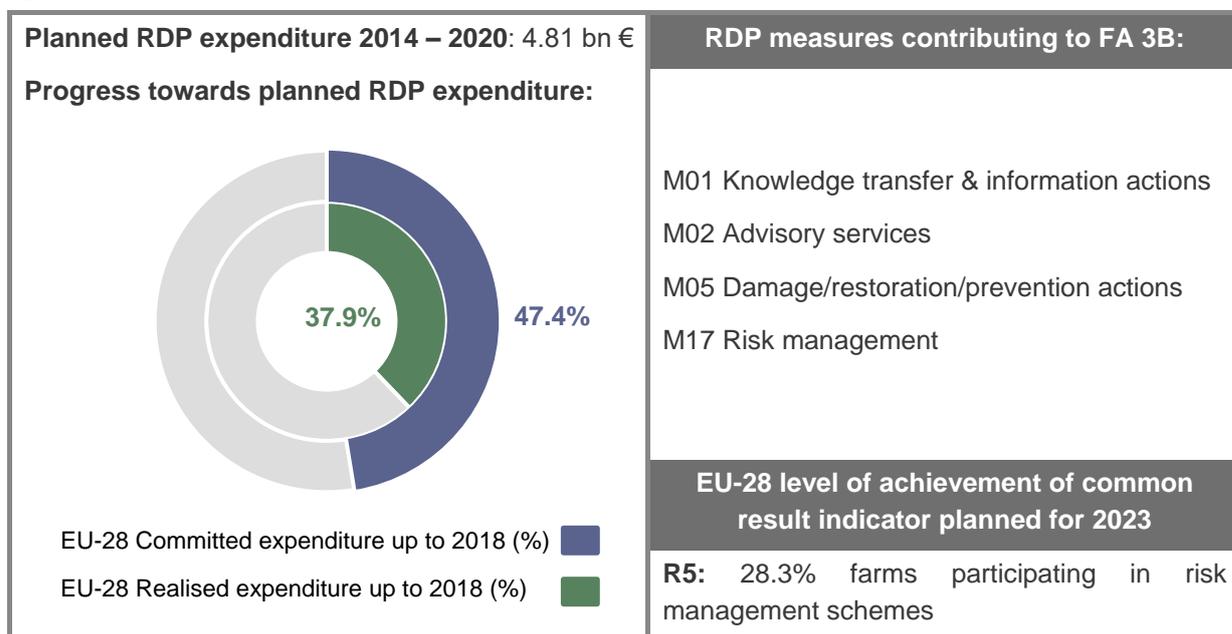
Frequently reported limitations

As main limitations faced in the assessment of achievements, MAs reported the low RDP uptake, and low quality of data provided through monitoring systems. Additionally, a few AIRs mentioned that the indicators for monitoring and evaluating this question did not offer enough information to assess achievements. For small RDPs, the uptake and budget limited the application of more robust methods.

CEQ 7 related to FA 3B: To what extent have RDP interventions supported farm risk prevention and management?



Background Information



Summary of reported achievements

Under Focus Area 3B, RDPs aim at supporting farmers participating in risk management schemes. The common result indicator linked to this focus area is R5, which measure the share of farms participating in risk management schemes. Up to 2018, the EU-28 achieved 28.3% of the target value planned for R5 by 2023. 40 MAs reported achievements under this focus area.

Participation of farms in risk prevention and management schemes

Achievements in relation to the prevention in risk prevention and management were described in a limited number of AIRs. When achievements were reported, these related different measures, including M05 Damage/restoration/prevention actions. For instance:

- In relation to preventing health and safety risks, EE contributed to restore the potential damage from harmful pests and animal diseases such as the African Swine Fever virus. A survey in FR Bourgogne showed that RDP investments enabled the improvement of working (86.3% of the respondents) and safety conditions (81.8% of the respondents). The same survey showed that the RDP support to the ‘acquisition of new materials and equipment, sanitary food coating, construction of interior and exterior buildings’ contributes to reducing the risk of accidents by improving performance and ergonomics, saving time, and reducing working fatigue (i.e. reducing handling tasks, distances).
- Regarding the recovering from natural or climate disasters and extreme weather events, several MAs reported about the provision of support to farms, companies and public infrastructure affected by natural disasters (e.g. ES Andalucia, FR Reunion, HR). After the rainfall scarcity occurred in 2014, ES Murcia supported 749 farms to prevent and manage risks associated with climate, reaching 124.83% of the planned target for 2023. In IT Veneto, 2,490,465euro was the total restored value estimated for the nine farms that received RDP support to restore the production system damaged by natural disasters. ES La Rioja reported positive contributions on the protection of 5,588.65 ha of forests (i.e. 1.9% of the forest area in the region) through

preventive actions (e.g. creation and maintenance of belts and firewall areas, road infrastructure, water points, rapid warning networks and monitoring of the vitality of forest stands).

Some MAs stressed that the proportion of supported farms or area is very small compared to the totals in the region or country, even if the progress made towards the target was relatively high (e.g. LT, LV, PL).

In relation to risk management under M17 Risk Management, some MAs were not able to assess its achievements due to the late activation and low level of implementation (e.g. EE, PT Madeira, RO). Amongst those with a good level of implementation, achievements were reported mainly in terms of improving farmers' access to insurance systems covering climate risks. For instance, FR National Programme reported the contribution to a global risk management strategy improving the access to climate, health and environmental risk management tools. IT National reports that nearly 78.000 farmers were funded under M17.1, which represent about 6.8% of the total number of farms operating in Italy.

Protection from flooding

Protection from flooding was mainly achieved through RDP investments in infrastructure. Some MAs reported examples like the construction, renewal, extension of dykes to protect agricultural areas from flooding (e.g. DE Brandenburg/Berlin, DE Niedersachsen/Bremen, DE Schleswig-Holstein), or improvements in the runoff capacity of water (DE Mecklenburg-Vorpommern). Up to 2018, DE Brandenburg/Berlin achieved 55% of the target objective to protect 17.386 ha of land from flooding. Furthermore, as noted in DE Sachsen-Anhalt, with a relatively small percentage of total public investment in flood protection, these measures cannot provide comprehensive flood protection on their own, but are part of an integral, holistic flood protection concept in the country.

The contribution of vocational trainings and advisory services to risk management

Various MAs reported a specific focus on risk management in the provision of vocational trainings, information actions, or farm advisory services (e.g. ES Andalucia, FR Bourgogne, FI Mainland, ES Extremadura, ES Murcia, ES La Rioja, FR Franche-Comte). In FR Bourgogne, 62% of vocational trainings had a focus on risk management. In IE, the 'Knowledge Transfer Scheme' contributed to increase the knowledge base on risk prevention (i.e. 80% of the surveyed participants agreed that the information action had an impact on their knowledge about risk prevention). In EE, farm advisory services contributed to increase risk prevention and improve the competitiveness of supported farms.



Highlights on the reported methodologies

A few AIRs described the methodology used in the answer to this common evaluation question, except for beneficiary surveys used for collecting further evidence on achievements (e.g. FR Pays De La Loire, FR Bourgogne). In UK England, the Farm Practices Survey allowed to carry out a simple comparison of the changes in the adoption of risk management practices between unsupported and supported farms. LV reported a triangulation of quantitative results with qualitative information obtained from the respective RDP measures managers and telephone interviews with the beneficiaries. ES Castilla y León developed an additional indicator to measure the percentage of agricultural holdings in which risks or catastrophes are prevented through the M05. A target of 900 agricultural holdings was established, corresponding to 0,92% of the total number of farms.



Frequently reported limitations

Most of the MAs did not report any limitations in relation to the assessed achievements. Among those that reported limitations, the low level of RDP uptake was the most frequently mentioned, followed by lack of data and the time needed to capture long-term effects. In addition, the absence of measures with primary contributions or the lack of project applications in this field were also mentioned in a few AIRs as factors limiting the quality of the final assessment.

3.4 Priority 4: Restoring, Preserving and Enhancing Ecosystems

Priority 4 aims at restoring, preserving, and enhancing ecosystems related to agriculture and forestry, with a focus on the following areas:

- restoring, preserving, and enhancing biodiversity, including in Natura 2000 areas, and in areas facing natural or other specific constraints, and high nature value farming, as well as the state of European landscapes (FA 4A)
- improving water management, including fertilisers and pesticide management (FA 4B)
- preventing soil erosion and improving soil management (FA 4C)

For the period 2014 – 2020, EU-28 planned 72.85 bn euro of public expenditure to achieve this priority, which corresponds to 45.8% of the total Rural Development planned public expenditure. Up to 2018, the EU-28 realised 51.9% of Priority 4's planned public expenditure.

Table 4 provides an overview of the level of reporting under Priority 4, considering the share of RDPs that programmed the focus areas (first row), the share of MAs that answered the related CEQs (second row), and the share of MAs that reported achievements in the answer to the CEQs (third row).

Table 4. Overview of RD Priority 4 programming and reporting in the AIRs 2019

	FA 4A	FA 4B	FA 4C
1. Share of RDPs that programmed the focus area ⁶	97%	96%	96%
2. Share of MAs answering the related common evaluation question over those that programmed the FA	100%	100%	97%
3. Share of MAs reporting achievements out of those that answered the related common evaluation question	96%	90%	91%

Source: Screening of AIRs 2019, European Evaluation Helpdesk for Rural Development

More in detail, MAs reported achievements in terms of:

- agricultural and forest land covered with management contracts to enhance biodiversity and landscape;
- restoring, preserving, and enhancing biodiversity (e.g. Farmland Bird Index);
- improvement of water quality and management, especially through a better management of fertilisers and pesticides;
- prevention of soil erosion and improvement of soil management;
- preservation of genetic species in grasslands and livestock.

Numerous AIRs showed achievements only in terms of areas under management contracts or receiving other forms of RDP support (e.g. organic farming). In situations of good data availability, the RDP went beyond and captured the effects on biodiversity, water, and soil were assessed through the application of quantitative methods, such as counterfactual analysis, modelling techniques, and monitoring through GIS data. Additional indicators were often used to assess RDP effects. In many cases, evaluators applied also qualitative methods

⁶ Out of the 112 national and regional RDPs. National Frameworks and National Rural Network Programmes have not been considered because they do not allocate budget on measures

CEQ 8 related to FA 4A: To what extent have RDP interventions supported the restoration, preservation and enhancement of biodiversity including in Natura 2000 areas, areas facing natural or other specific constraints and HNV farming, and the state of European landscape?



Summary of reported achievements

Under the FA 4A, RDPs achieved the following common results:

 EU-28 level of achievement of common result indicators planned for 2023
R6: 20.6% of forest/other wooded area under management contracts to support biodiversity and/or landscape
R7: 94.5% of agricultural land under management contracts to support biodiversity and/or landscape

In total, 106 MAs reported achievements in the answer to the related common evaluation question.

Restoring, preserving and enhancing biodiversity

Most of the MAs reported achievements in terms of agricultural and forest land covered with management contracts to enhance biodiversity and landscape, specifying whether these addressed mountain, High Nature Value, Natura 2000, or areas with natural constraints. RDP management contracts were largely addressed to HNV (e.g. IT Piemonte, IT Puglia) and/or Natura2000 areas (e.g. BL Wallonia, DE Bayern, ES Canarias, FR Languedoc, IT Campania, IT Emilia Romagna, RO). In this sense, several Spanish RDPs (e.g. ES Catalunya, ES Extremadura) complemented the answer using additional judgment criteria related development of Natura2000 areas. Similarly, DE Thüringen mentioned that RDP support to FA 4A was largely addressed towards Natura 2000 sites. In BE Flanders, agroforestry was a key tool for improving biodiversity.

Only in a few cases, MAs assessed the effects on biodiversity in contracted land (e.g. AT, DE Bayern, DE Brandenburg/Berlin, DE Niedersachsen/Bremen, EE, SK). For instance, CY reported that RDP changed positively the trends in the Farmland Bird Index and protected endangered genetic species in the livestock sector. The contribution on the preservation of specific endangered plant and animal genetic species was reported by numerous programmes (e.g. ES National, IT National, LV, UK Northern Ireland). EE stated that although support was provided to the genetic diversity in agriculture, this has not halted the declining trend of total number of Tori horses and other Estonian native cattle.

In DE Bayern, farmers benefitting from agri-environment-climate measures showed a higher Shannon index than non-participants, and a diverse crop rotation played a role in this achievement. In supported areas, both the density of earthworms (216 individuals/m²) and their biomass (56 g/m²) were on average significantly higher than in the part of the field cultivated as arable land.

CZ monitored the effects of agri-environmental schemes on the protection of the lapwing: in total, 81% of the supported land (i.e. in 13 out of 16 cases) were occupied by lapwing and, in most cases, nesting behaviour were present (63% or 10 out of 16 cases). These numbers were slightly higher than the control areas, although this difference was not statistically significant.

The assessment carried out in EE shows that, in terms of bumblebees, the indicators were higher and increased more in the RDP contracted land than in the non-contracted land, while the average number of plant species in supported grassland strips was increased. A survey conducted in ES Cantabria showed that most of the farmers considered that the RDP support contributed to the control of scrub growth in communal pasture areas and therefore to mitigation and adaptation to climate change, the protection of the environment, reducing the consumption of raw materials and inputs. It was also perceived that RDP

contributed to maintaining the farming and forestry activities, and therefore encouraged the prevention of forest fires, the sustainable use of natural resources, through extensive systems and grazing practices in areas of high natural value, to reduce emissions in the livestock activity and the conservation of biodiversity in protected areas

Positive effects on biodiversity were also stimulated by the support to organic farming (e.g. CZ, FR PACA, Martinique, LU, SK) **the maintenance of practices such as pastoralism** (e.g. FR PACA, IT Bolzano) **and/or fire prevention actions** (e.g. ES Murcia, FR Corse) which helped preventing the disappearing of farms and traditional farming systems (e.g. FR Franche Comte) and the abandonment of rural territories (e.g. IT Friuli Venezia Giulia, IT Lombardia, FR Pays de la Loire). ES Castilla-Mancha enhanced biodiversity through the maintenance of agricultural activity in HNV areas, such as 89,615 beehives.

Several MAs highlighted that the achievements reached so far were in practice small in terms of halting the overall decline in biodiversity (e.g. ES Valencia, FR Alsace, DE Baden Württemberg) given the small amount of areas covered (especially in forestry areas), the low level of implementation, and the general negative trends in some parameters (e.g. Farmland Bird Index) registered in some MAs (e.g. LT, NL).



Highlights on the reported methodologies

The use of counterfactual methods, such as Difference in Difference, to assess RDP contributions to biodiversity was reported in a few cases (e.g. CY, SK). In situations of low data availability for the establishment of a control group, evaluators used GIS analysis (e.g. CZ, DE Schleswig Holstein, ES Cantabria, MT) case studies (e.g. FR Languedoc, FR PACA, FR Midi Pyrenees), surveys (ES Castilla Leon, IT Calabria) or expert discussion (e.g. DE Brandenburg) were implemented. MAs made use of additional indicators such as:

- The Shannon Index (e.g. DE Bayern, EE)
- Share of participants in multiple crops who also participate in organic farming (DE Hessen, which used this indicator to assess the synergies through combination of measures);
- Change in the proportion of the average number of bumble bees in the contract land compared to non-contract land (EE);
- Change in the average number of species of vascular plants in the grassland strips of the field edges (8m²) (EE);
- Supported area cultivated with native plant varieties at risk of genetic erosion (IT Emilia Romagna).



Frequently reported limitations

Some AIRs described the limitations of reported achievements. In most of the cases, these were connected to the low or no uptake of the measures especially for forestry related ones, as well as the time needed for the RDP effects to become tangible and measurable.

In addition, specific limitations were reported in relation to the lack of data with reference values, as well as the availability of different data collection systems. EE informed that the calculation of HNV areas was particularly challenging from a methodological and data collection point of view, and an additional methodology based on 20 indicators had to be developed.

Other AIRs mentioned that a more detailed monitoring system would have allowed to better capture achievements under FA4A and other related focus areas. In numerous AIRs, effects on the Farmland Bird Index could not be assessed due to the lack of data. Finally, various MAs stressed the need to use additional indicators to complement the common indicators as the latter ones were often unable to capture different aspects of RDP effects.

CEQ 9 related to FA 4B: To what extent have RDP interventions supported the improvement of water management, including fertilizer and pesticide management?



Summary of reported achievements

Under FA 4B, RDPs achieved the following common results:

 EU-28 level of achievement of common result indicators planned for 2023
R8: 84% of agricultural land under management contracts to improve water management
R9: 13.7% of forestry land under management contracts to improve water management

In total, 97 AIRs reported achievements in the answer to the related common evaluation question.

Improvement of water quality

An improvement in water quality in supported agricultural and forestry land was reported across numerous AIRs (e.g. IT Campania, BE Wallonia, CY, DE Hessen, EE). This was often achieved through a more sustainable use of fertilisers and pesticides (including to vocational trainings, farm advisory services, organic and integrated farming, management contracts to improve water quality), as well as investments in physical assets to better manage the discharge of by-products from the livestock sector.

Positive effects on water quality were reported across several AIRs, for example, in IT Veneto, where the assessment of the Gross Nutrient Balance on agricultural land showed a decrease in nitrogen (-42.2%) and phosphorous content (-20.7%) in farms receiving support from M10 *Payments for agricultural environmental commitments* and M11 *Organic farming* compared to non-supported farms. Similar positive RDP effects on the reduction of both nitrogen and phosphorous surplus was reported in EE, thanks to the reduction of mineral fertilisers, whereas the RDP implementation did not reach significant effects on the reduction of pesticides. In other cases, RDPs reduced the nitrogen surplus in supported land, while no difference was observed on the phosphorus surplus (e.g. DE Niedersachsen/Bremen, HU, EL). More in detail, HU reported that the phosphorus concentration was stable and without differences between supported and not-supported areas, whereas the volume of nitrate content decreased in (fresh) surface water of supported areas in comparison to the average values of two periods: 2010-2014 and 2016-2018. More precisely, the nitrogen content in these two periods was 20.9 kg N/ha and 10.5 kg N/ha in *supported farms* versus 35.6 kg N/ha and 35.5 kg N/ha in the *national average*. In CZ, nitrate levels were slightly lower in RDP contracted than in non-contracted land, although this difference could not be statistically attributed to the RDP support. Similarly, in SK, the trends in the level of nitrate content decreased across the country, but the changes could not be statistically attributed to the RDP.

Improvement of water management, including fertilizer and pesticide management

Numerous MAs reported a significant support in terms of improving the management and reducing the use of pesticides and fertilisers in agriculture. Consistent reductions of chemical inputs (fertilizers and pesticides) were reported, among others, in EL, HR, DE Brandenburg/Berlin, DE Schleswig Holstein, ES Asturias, IT Sardegna, SI. For instance, HR reduced the nitrogen intake by 4.43% and reduced the nitrogen use from mineral fertilizers by 9.01% in nitrogen vulnerable zones, whereas the phosphorous intake and the use of phosphorous from mineral fertilizers were reduced by 5.10% and 9.29% respectively. FR Aquitaine assessed the behavioural changes among farmers in terms of water consumption and water pollution in their operation, showing that RDP decreased the use of inputs (93%), reduced the nitrogen fluxes released to the environment (70%), and increased the efficiency and sustainability of the use of water resources (60%). DE Sachsen showed large-scale contributions to the material discharge into water, thus improving its quality. In around 118,900 ha of arable land and grassland under RDP management contracts, no pesticides were used except those permitted in organic

farming. Over 29,900 hectares of grassland managed with nitrogen fertilization, RDP supported approximately 23,500 ha subject to significant fertilization restrictions, of which more than 14,000 ha are now fertilizer-free. The improvement of erosion protection over grass strips by promoting cultivation methods of direct sowing and low tillage, as well as the year-round soil cover by arable crops reduced the phosphorus content buffered against substance inputs in arable land and grass strips. Several RDP measures contributed to the improvement of water quality, for instance:

- DE Baden-Wurtemberg highlighted that the planting of catch crops was an effective approach to reduce nutrient leaching, which is supported by three measures (on a total of 9.4% of the arable land). These objectives were achieved thanks to the combination of agri-environmental commitments, trainings, and cooperation.
- Organic farming (i.e. the extension of the surface cultivated using this farming method), especially in nitrogen vulnerable areas (e.g. IT Molise) was commonly considered crucial to achieve improvements in water quality (e.g. CZ, EE, DE Hessen, DE Rhineland, DE Thüringen, ES Navarra, ES Valencia, IT Piemonte). Several AIRs showed achievements in terms of supported areas under organic farming or other sustainable farming practices promoted by agri-environment-climate measures (e.g. FI Mainland, FR RDPs, IT RDPs).
- In NL, river basin management plans, a manure policy and the delta plan for agricultural water management measures led to a reduction in the nutrient load of surface water. The share of water that complies with the Water Framework Directive is steadily increasing from around 45 percent in 2015 to more than 50 percent expected in 2021.
- AT reported that the investments in physical assets, such as manure deposits (including solid storage deposits) increased the storage capacity of almost 1.3 million m³/year and prevented the discharge of manure in adverse conditions. Similar investments were undertaken in FI Mainland.
- The importance of training measures (e.g. ES Galicia, ES Murcia, ES Madrid) in contributing to improvement of water quality was also often described as an essential tool to introduce better water management practices, as well as the implementation of cooperation projects with research and innovation institutes to test methods for the biological control in agriculture (e.g. ES Murcia).

Minor RDP effects were also reported, often due to the low targeting of measures in protected/vulnerable areas or low level of implementation in forestry land. For instance, spatial analysis in LV showed that management contracts to improve water quality are poorly addressing the most sensitive areas (e.g. water bodies at risk and Natura 2000 areas).



Highlights on the reported methodologies

Where existing data allowed the use of more sophisticated method, evaluators applied specific modelling techniques (BE Wallonia), counterfactual approaches (CY, CZ, EE) and GIS analysis (ES Murcia, SK). The lack of data was overcome with qualitative assessments, e.g. analyses of RDP delivery mechanisms, theory of change, surveys, or case studies. MAs made use of additional indicators, such as: a) Change in phosphorous and nitrogen balance in RDP supported farms and control group; b) Concentration of nitrates in drainage water in RDP supported farms and control group; c) Change in the amount of pesticides used in RDP supported farms and control group; d) Trend in the use of plant nutrients NPK.



Frequently reported limitations

The main limitations reported were connected to a low level of uptake of the relevant measures, the lack of data, and finally the time lag occurring between the implementation of the measures and the actual effects generated. In RO, the correlation analysis between the status of water and the extent of RDP support was considered unable to provide statistically significant answers and, to overcome this limit, a specific analysis was performed on pesticide use in Romania (directly influenced by M11).

CEQ 10 related to FA 4C: To what extent have RDP interventions supported the prevention of soil erosion and improvement of soil management?



Summary of reported achievements

Under Focus Area 4C, RDPs achieved the following common results:



EU-28 level of achievement of common result indicator planned for 2023

R10: 85.9% of agricultural land was under management contracts to improve soil management and/or prevent soil erosion in agricultural

R11: 16.9% of forestry land was under management contracts to improve soil management and/or prevent soil erosion in agricultural

In total, 96 AIRs reported achievements in the answer to the related common evaluation question.

Prevention of soil erosion

Positive contributions on the prevention of soil erosion were reported in numerous AIRs (e.g. DE Bayern, DE Baden Württemberg, ES, EL, HR, LU). For instance, AT reported that the humus contents were kept stable at a favourable level with medians of 2.75 to 3.0%, and in two out of three regions, a slight increase of 0.1% of humus content was achieved in supported farms. Moreover, AT reported that soil erosion by water was reduced by an average of 1.6 tonnes/ha per year (i.e. from 7.5 to 5.9 tonnes), particularly in endangered regions due to the higher proportion of field crops with high soil protection in organic farming. In IT Lazio, the calculation of the net contribution of RDP interventions showed a reduction in soil erosion in the average regional value of 0.12 tonnes/ha per year and a reduction of 6,670 ha of agricultural area under a high erosion rate. In CZ, agri-environment-climate schemes reduced the long-term average soil loss on agricultural land by 4.7 tonnes/ha per year, with positive effects on all aspects of soil erosion by water, such as soil degradation, water fouling, and watercourses erosion. IT Marche reported a significant RDP contribution to the reduction of soil erosion in supported land by about 50%, bringing soil erosion from 40.43 tonnes/ha per year to 19.97 tonnes/ha per year.

RDPs prevented soil erosion in agricultural land through the maintenance of woody elements, grass strips, hedgerows, or anti-soil erosion systems (e.g. BE Wallonia, FR Basse Normandie). More in detail, FR Basse Normandie reported that agri-environmental and climatic measures maintained 138 linear Km of hedgerows and 4 Km of riparian forest. These actions were considered to have an important anti-erosive impact, even if their extent remains still limited compared to the total length of hedgerows and riparian forest already existing in the region. Agri-environmental and climatic measures supported also the maintenance of isolated trees, but overall level of support remains low.

Organic farming was commonly reported to bring positive contributions to the prevention of soil erosion (e.g. DE Baden Württemberg, DE Brandenburg, FR PACA, IT Molise), specifically by improving soil fertility, soil structure, humus content and soil properties for erosion control. In ES Murcia, soil erosion was prevented by reducing the risk of fire. Positive effects on soil erosion were attributed also to farm advisory actions (e.g. DE Schleswig Holstein, ES Canarias, ES Castilla Leon).

Some MAs reported limited direct effects on the prevention of soil erosion due to the small coverage of interventions over the total UAA or the low targeting of RDP support to areas with higher erosion risks. Some AIRs highlighted the limited relevance of the prevention of soil erosion in their context (e.g. CY, UK Northern Ireland, UK England). Achievements in forestry land were reported to a lesser extent, and mainly in RDPs with a higher level of uptake (e.g. ES Aragon, ES Cantabria, ES La Rioja).

Improvement of soil management

Estimations based on the implementation of operations and quantification of common target/result indicators were generally reported for assessing achievements in terms of improved soil management. For instance, DE Sachsen reported that the maintenance of agricultural retaining walls in vineyards and other used steep slopes helped preventing or reducing soil erosion. In natural heritage, indirect contributions were made by protecting, developing and restoring semi-natural habitats, including moreland. In FR Reunion, the maintenance of soil management practices contrasted soil erosion and the loss of organic matter, in particular through support for cane-cutting, the maintenance of grasslands, and the development of grassland in arboriculture.

ES Castilla Leon assessed the improvement in soil management through the increase in the average number of crops per farm, as indicator of crop rotations in agricultural land (opposed to one-crop system). In the period between 2015 and 2017, the rotations were higher in RDP supported farms compared to non-RDP beneficiaries. Various measures supported the implementation of effective soil management practices, specifically extensive livestock management (e.g. ES Andalusia, IT Bolzano, PT Acores), recovery of terraces (e.g. ES Baleares), or rotation of crops (ES Castilla Leon).

Only in a few cases, achievements were expressed through the increase of organic matter in the soil (e.g. BE Wallonia, IT Valle d'Aosta). For example, in IT Liguria, RDP support to organic farming, integrated farming, and management of permanent grassland increased the amount of organic matter by 0.651 tonnes/ha per year. A similar increase in the amount of organic matter was reported also in IT Veneto, whereas, in some RDPs, the positive contributions to the increase in soil organic matter were deemed to be minor in relation the total regional amount of soil organic matter (e.g. IT Toscana, Umbria).

Achievements under this focus area were also assessed in terms of increased capacity to manage soil thanks to trainings and farm advisory services (e.g. ES Andalusia), improvement of soil erosion parameters (e.g. DE Sachsen Anhalt), and prevention of soil consumption from investments in physical assets (e.g. IT Piemonte).



Highlights on the reported methodologies

Among the methods described in the answers, some MAs reported the use of quantitative models such as RUSLE or ESDAC (e.g. CY, IT Liguria, IT Campania, EL). More in detail, CY measured soil erosion with the RUSLE 2015 equation and spatial statistics producing a raster map with estimated average of soil erosion in terms of tonnes/ha and year. In SK, a counterfactual analysis was undertaken on soil erosion and organic matter content in supported and non-supported farms over the period 2015-2017 (PSM and DiD). The availability of quantitative data allowed the calculation of additional indicators (e.g. EE, SK). In IT Liguria and IT Puglia, the relevance of RDP support in addressing the areas with the highest risks of soil erosion was assessed by crossing monitoring data on supported land for soil management with GIS and maps on the risk level for erosion based on RUSLE model. Qualitative methods such as surveys (FR Rhone, ES Asturias) and case-studies (e.g. FR Franche Comté, FR PACA, EL) were often used either to overcome the lack of data, or to triangulate the quantitative findings (e.g. IT Veneto).



Frequently reported limitations

Some MAs described the limitation related to the reported achievements. In most of the cases, these were connected to a low level of uptake, the lack of updated data (especially for common context indicators), the lack of resources to implement more advanced evaluation methods, and the time needed for RDP effects to become measurable and tangible. In addition, some MAs reported specific limitations, for instance the challenge to measure results from the vast heterogeneity of supported projects or to collect data from beneficiaries on organic matter content in soil under agri-environment-climate measures to allow a robust analysis of RDPs effects. The lack of up-to-date on soil quality to assess RDP effectiveness on soil quality was overcome with the use of qualitative methods (i.e. survey in RO, case-studies in EL).

3.5 Priority 5: Resource-Efficient, Climate-Resilient Economy

Priority 5 aims at promoting resource efficiency and supporting the shift towards a low carbon and climate resilient economy in agriculture, food, and forestry sector, with a focus on the following areas:

- Increasing efficiency in water use by agriculture (FA 5A)
- Increasing efficiency in energy use in agriculture and food processing (FA 5B)
- Facilitating the supply and use of renewable sources of energy, of by-products, waste and residues and other non-food raw material, for the purposes of the bio-economy (FA 5C)
- Reducing greenhouse gas and ammonia emissions from agriculture (FA 5D)
- Fostering carbon conservation and sequestration in agriculture and forestry (FA 5E)

For the period 2014 – 2020, EU-28 planned 10.9 bn euro of public expenditure to achieve this priority, which corresponds to 7.7% of the total Rural Development planned public expenditure. Up to 2018, the EU-28 realised 27.8% of Priority 5's planned public expenditure.

Table 5 provides an overview of the level of reporting under Priority 5, considering the share of RDPs that programmed the focus areas (first row), the share of MAs that answered the related CEQs (second row), and the share of MAs which reported achievements in the answer to the CEQs (third row). Achievements were reported based on various evidence, including common result indicators, complementary result indicators (i.e. R13, R14, R15, R18, R19), or additional qualitative and quantitative evidence.

Table 5. Overview of RD Priority 5 programming and reporting in the AIRs 2019

	FA 5A	FA 5B	FA 5C	FA 5D	FA 5E
1. Share of RDPs that programmed the focus area ⁷	48%	46%	68%	48%	79%
2. Share of MAs answering the related common evaluation question over those that programmed the FA	111% ⁸	135%	104%	131%	108%
3. Share of MAs reporting achievements out of those that answered the related common evaluation question	73%	81%	66%	86%	81%

Source: Screening of AIRs 2019, European Evaluation Helpdesk for Rural Development

Table show 5 shows that number of MAs providing an answer to the common evaluation questions related to the focus areas under Priority 5 was overall higher than the number of RDPs that programmed these focus areas. This is caused by the fact that many AIRs took into account also (or sometimes only) secondary contributions from other focus areas (e.g. from FA 1A, FA 2A, FA 4B, FA 6B) when assessment of achievements under Priority 5 and answering to the respective CEQs.

The assessment of achievements related to energy was possible in situations with a good monitoring system collecting data before and after the RDP support. Other achievements related to soil, water, emissions were assessed through different methodologies, such as models analysing trends in water consumptions (e.g. [IRRINET](#) in IT Emilia Romagna) and emissions from agriculture (e.g. [LandscapeDNDC](#) in AT), counterfactual assessments (e.g. DE Bayern), and qualitative methods (e.g. surveys, focus groups).

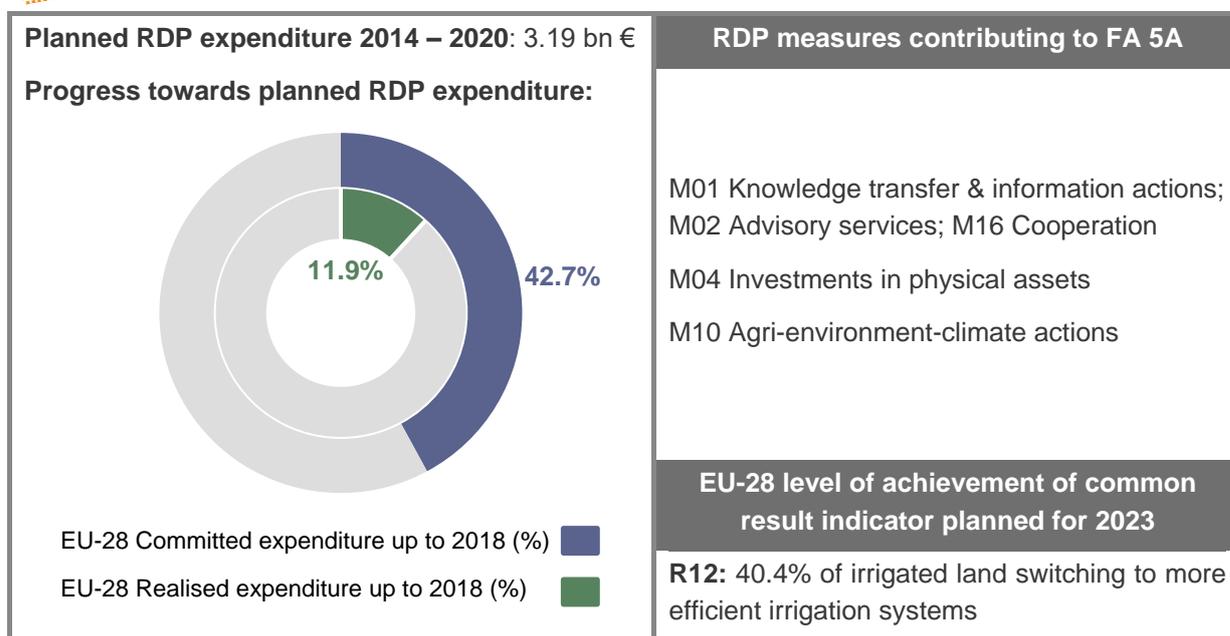
⁷ Out of the 112 national and regional RDPs. National Frameworks and National Rural Network Programmes have not been considered because they do not allocate budget on measures

⁸ The number of MAs answering the CEQs 11-15 was higher than the number of RDPs programming the related FAs because secondary contributions from other FA were taken into account.

CEQ 11 related to FA 5A: To what extent have RDP interventions contributed to increasing efficiency in water use by agriculture?



Background Information



Summary of reported achievements

Under the Focus Area 5A, RDPs aims at increasing efficiency in water use by agriculture. The common result indicator linked to this focus area is R12, which measures the share of irrigated land switching to more efficient irrigation systems. Up to 2018, the EU-28 achieved 40.4% of the target value planned for 2023. 44 MAs reported achievements under this focus area.

Efficiency in water use by agriculture

The increase in efficiency of water use in agriculture in RDP supported projects can be measured through the complementary result indicator R13 (change in m³ water used/standard unit of output). 16 MAs assessed and reported the main value of this indicator, marking a progress compared to the AIRs submitted in 2017 and considering that a low share of RDPs programmed measures under FA 5A (e.g. mainly countries/regions in southern and central Europe) and the overall level of completed operations was low.

Among those that assessed this indicator, positive RDP contributions were reported on the increase of efficiency in water use by agriculture (e.g. ES Castilla Leon, ES La Rioja, HU, RO). For instance, HU reported an increase of 33.4% in water efficiency calculated for the period 2015-2018. In AT, efficiency in water use by agriculture increased. More in detail, water consumption per 1000 Euro of standard output decreased by 16% in 12 supported projects. This increase in efficiency was caused by a reduction of the total amount of water discharged (-6%) and an increase in the standard unit of output (+12%). The reduction in water use was achieved through the adoption of micro-irrigation systems in viticulture and orchards (drip irrigation) or the optimisation of time and amount of supplied water in arable crops. CZ reported a decrease in water efficiency due to the decrease of the standard unit of output in relation to reduction of water used. Despite these examples, the median value of the few reported findings does not provide a significant picture across the RDPs due to a high variability and inconsistency in the data.

Water savings in agriculture

Several MAs reported positive contributions in terms of water savings, especially through agri-environment-climate measures, the adoption of more efficient irrigation systems and technologies, or investments to reduce losses in water infrastructure. ES La Rioja reported that losses in water infrastructure ranged between 5 and 55% of the water supplied to agricultural activities, and after RDP investments, these ranged between 0.05 and 31%. Positive contributions in terms of water savings after the implementation of RDP projects were reported, for instance, in DE Brandenburg-Berlin (25%), ES Catalonia (17.16%), ES Castilla-Mancha (17.86%), ES Castilla Leon (13.34%), IT Umbria (11%), PT Mainland (4% in beneficiaries of M04 *Investments in physical assets* and 9% in beneficiaries of M10 *Agri-environment-climate*), SI (26%).

EL and CY explained that an increase in the efficiency of water use in agriculture was achieved through better field management under agri-environment schemes. Specifically, CY explained that crop rotation caused a reduction of 1.5% of water use (i.e. 2.3 million m³), while EL explained that the cultivation of dry crops in former irrigated plots resulted in a reduction of 2.6% of irrigation needs (4,683 m³).



Highlights on the reported methodologies

Numerous AIRs mentioned the methodologies used to assess achievements under this Focus Area. In some cases, more detailed descriptions were provided, for instance:

- To assess water savings, CZ collected data on water consumption before and after the project implementation from the total population of projects (26).
- IT Veneto applied the forecasting model IRRIFRAME to calculate efficiency in water use by comparing farms with and without management contracts supported by RDP. Moreover, the model considered transition measures from RDP 2007-2013.
- IT Emilia Romagna applied the model IRRINET to calculate efficiency in water use. The model is based on weather, soil and phenological phases of the crops, with consequent optimization of periods and irrigation volumes
- IT Toscana applied a counterfactual analysis for measure 10.1.2 (AECM), considering also rainfall, as well as the evapotranspiration and phenological phase of crops
- PT Mainland assessed deadweight effects through questionnaires
- EL used a hydrological model based on data from IACS/LPIS, and counterfactual using the propensity score matching and average treatment effects (ATE)
- ES Castilla Leon used the Irrigation Monitoring Plan promoted by ITACYL and face-to-face interviews with the technical team of the Duero Hydrographic Confederation in order to triangulate findings. In addition, three case studies were conducted to compare the situation in areas with and without investments (sub-measure 4.3) and show RDP results on selected variables
- Other qualitative methods were applied, such as case studies, focus groups, and surveys.



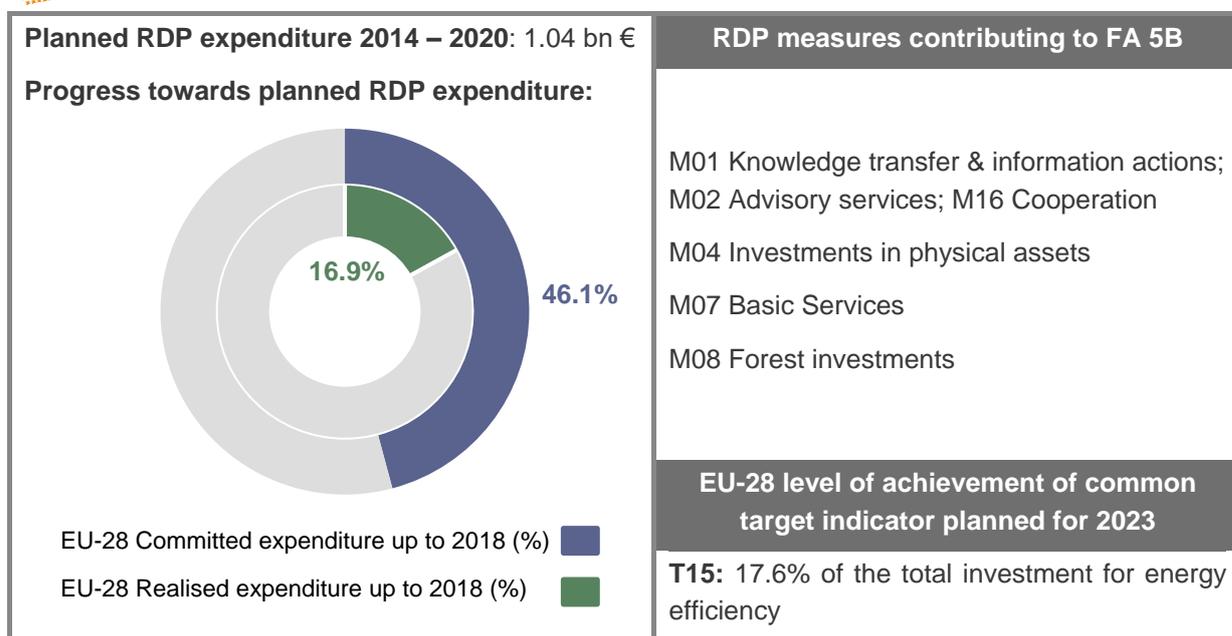
Frequently reported limitations

The zero or low level of uptake was often mentioned as main limitation in the assessment of RDP achievements under this focus area. Some MAs mentioned that the robustness of evaluation findings was limited by the small size of the assessed sample or the lack of a strong monitoring system collecting the amount of water use 'before' and 'after' the project implementation. In CZ and HR, no measures were programmed under FA 5A and achievements were assessed on the basis of secondary contributions from other focus areas.

CEQ 12 related to FA 5B: To what extent have RDP interventions contributed to increasing efficiency in energy use in agriculture and food processing?



Background Information



Summary of reported achievements

Under the Focus Area 5B, RDPs aims at increasing efficiency in energy use in agriculture and food processing. The common target indicator linked to this focus area is T15, which measures the total investment for energy efficiency. Up to 2018, the EU-28 achieved 17.6% of the target value planned for 2023. In total, 52 MAs reported achievements in the answer to this common evaluation question.

Efficiency of energy use by agriculture

The increase of efficiency of energy use in agriculture and food processing in RDP supported projects can be measured through the complementary result indicator R14 (tonnes of oil equivalent/standard unit of output). 12 MAs reported the main value of this indicator, considering the low share of RDPs programmed measures under FA 5B and that overall level of completed operations was low. In several cases, achievements under this focus area were assessed on the basis of secondary contributions (e.g. vocational trainings, cooperation projects, investments in physical assets).

Among those that assessed the achievements, positive contributions were reported on the increase of efficiency in energy use of beneficiaries in agriculture and food processing (e.g. AT, EE, IT Abruzzo, IT Sardegna, SE). For instance, AT reported that investments in the horticultural sector increased the improved the efficiency of energy use by 8% on average, with R14 values ranging from 0.50 to 0.46 TOE over one thousand Euro of standard output. Moreover, AT reported that investments in processing, marketing and development of agricultural products increased the efficiency in energy use by 11% on average among beneficiaries, whereas if considered individually, some beneficiaries reached an increase of 52% in energy efficiency. SE reported that RDP investments increased the efficiency in energy use by 26.3%. Through an online survey in PT Mainland, 60% of the beneficiaries stated that the investment contributed to the increase of energy efficiency, 3% reported its decrease, and 37% stated that the investment was neutral to this variable. Despite these examples, the median value of the few reported findings does not provide a significant picture across the RDPs due to a high variability and inconsistency of the data.

Other MAs reported zero or minor achievements mainly due to the low level of uptake or the lack of measures programmed under this focus area (e.g. CZ, ES La Rioja, ES Pais Vasco). ES Navarra reported that energy efficiency improved by 25% in supported beneficiaries, but the control group experienced a similar evolution. Farm advisory services and trainings played a crucial role in increasing energy efficiency (e.g. DE Baden Wurttemberg, ES Extremadura, ES La Rioja and ES Madrid, ES Navarra). In ES Navarra, LEADER was also mentioned as the tool to disseminate knowledge about energy savings projects via animation actions, local projects and cooperation projects.

Energy savings

Numerous MAs reported achievements in terms of energy savings in supported projects (e.g. FR Nord pas de Calais, EL, UK Wales). More specifically, BE Flanders reported a total amount of savings about 260 MWh per year after RDP projects, but the savings could be even higher if all investments were considered. Cumulatively, ES Andalucia reported that energy savings amounted to 2,218.06 MWh (=190.75 TOE). Case-studies in ES Andalucia demonstrated positive achievements in terms of energy savings through the introduction of more energy efficient machinery, processing and refrigeration techniques, and packaging equipment. Another case study focused on irrigation demonstrated energy savings were obtained also through the purchasing of pumping equipment, remodelling of filters, automation and meters. The results of a survey conducted in ES La Rioja showed that investments under M04 (FA 2A) saved 16.34 MWh/year. A survey conducted in FR Bretagne showed RDP measures reduced 7,300.91 MWh/year of energy in supported beneficiaries. SI reported that energy savings in beneficiaries of M04 amounted to 42%. ES Catalonia estimated an average amount of saving about 33.76% mainly due to the use of renewable energy. In ES Castilla Leon, energy savings were mainly linked to new irrigations systems based alternative energy sources to pump water for irrigation (e.g. natural pressure, photovoltaic, or electric facilities). 90% of supported projects in HU developed and/or implemented technologies using renewable energy. In several French RDPs (e.g. Haute Normandie, Franche-Comté, Bourgogne, Bretagne), energy savings were connected to the reconstruction of buildings and facilities in livestock production.



Highlights on the reported methodologies

A good monitoring system collecting data on energy use 'before' and 'after' the project implementation, as well as access to updated FADN data were reported as crucial elements to assess achievements under this focus area. This was highlighted in several AIRs (e.g. CZ, DE Bayern, BE Flanders). In BE Flanders, a common monitoring database is in place to collect data for several indicators: water storage, water use, energy consumption, ammonia emissions, manure storage, greenhouse gas emissions

In several AIRs, qualitative methods were also used, such as surveys (e.g. UK Wales, numerous FR RDPs, EL, PT Mainland), interviews and questionnaires (ES Castilla la Mancha, ES Navarra), focus groups (FR Bourgogne, FR Franche-Comté), and case studies (ES Andalusia). ES La Rioja combined monitoring data, beneficiary surveys, interviews and a counterfactual analysis with PSM-DiD based on FADN data was used for the calculation of complementary result indicator R14.



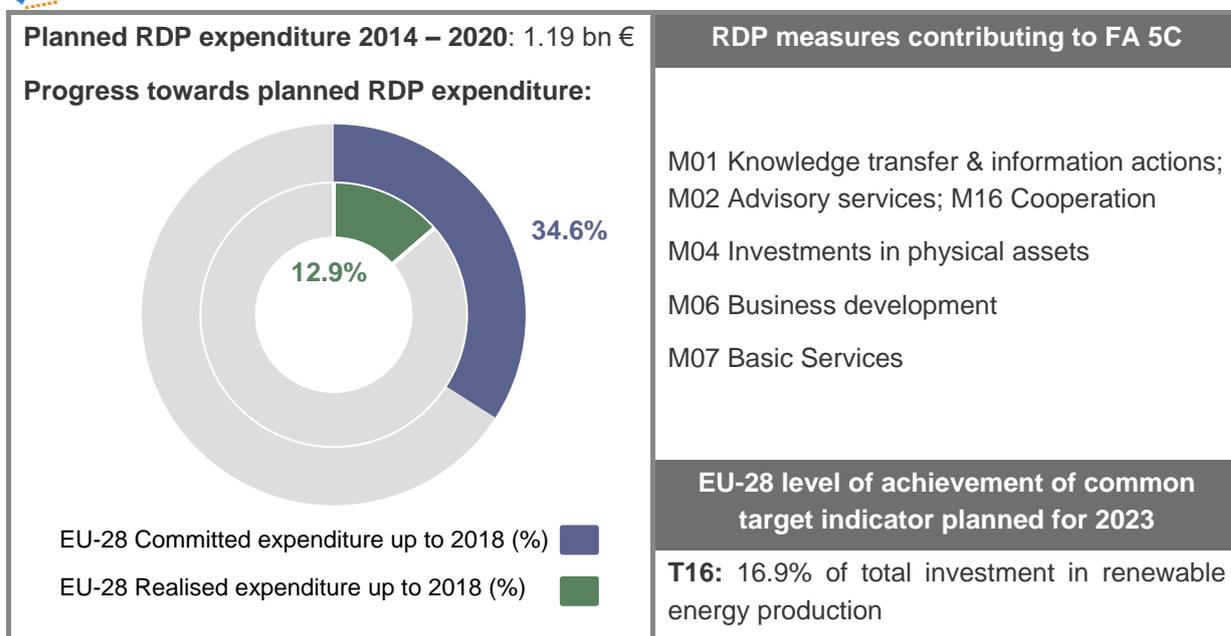
Frequently reported limitations

The lack of measures programmed primarily under this focus area was one of the most frequently mentioned limitation to assess achievements under this focus area. Nevertheless, MAs considered also measures with secondary contributions. In some RDPs, measures supporting energy savings were not active yet or there was the limited interest by potential beneficiaries. In some cases, the information on energy consumption was not collected though monitoring system which created the problem with accessibility of data for the assessment. Some MAs faced some challenges in calculating the relevant complementary result indicators, particularly for the ratio between energy savings and standard output.

CEQ 13 related to FA 5C: To what extent have RDP interventions contributed to the supply and use of renewable sources of energy, of by-products, wastes, residues and other non-food raw material for purposes of the bio-economy?



Background Information



Summary of reported achievements

Under the Focus Area 5C, RDPs aims at increasing the supply and use of renewable sources of energy, of by-products, wastes, residues, and other non-food raw material for the purpose of bio-economy. The common target indicator linked to this focus area is T16, which measures the total investment in renewable energy production. Up to 2018, EU-28 achieved 16.9% of the target value planned for 2023. In total, 56 MAs reported achievements in the answer to the related common evaluation question.

Supply and use of energy from renewable sources

The capacity created and energy generated in RDP projects can be measured through the complementary result indicator R15, expressed in Tonnes of Oil Equivalent (TOE) or Watts for electricity production. In several AIRs, this indicator was calculated based on measures programmed under other focus areas, especially investments in physical assets, business development, and afforestation (e.g. AT, FI Mainland, SK). 22 MAs reported the values of this indicator and the calculation of the median cannot show a significant aggregate picture across RDPs due to the high variability and inconsistency of the data.

Numerous MAs reported positive contributions to the generation of energy from RDP supported projects (e.g. AT, CY, DE Bayern, EE, ES Galicia, HR, HU, FI Mainland, IT Liguria, IT Emilia Romagna, IT Umbria, IT Veneto, SE, SI). The following examples are illustrated more in detail:

- In EE, 5.5 GWh or 471.4 TOE of renewable energy were produced under supported projects, which corresponds to the 2.7% of the total renewable sources produced in 2017. Compared to 2013, the share of renewable energy in final consumption has increased 3.8%;
- In ES Navarra, energy production comes mostly from forest biomass. The main contribution was generated through forestry machinery projects for the extraction or transformation of biomass as a source of energy. These created an additional capacity of 18,681 TOE, which corresponds to 18% of the production of renewable energy in Navarra from the primary sector;

- In IT Campania, RDP supported 13 biogas plants in addition to subsidised photovoltaic (generating 484 MWh year), and thermal energy plants (producing 499 MWh/year). The supported plants will be able to guarantee the production of energy from renewable sources of approximately 983 MW/year, equal to 84.5 TOE/year;
- In SE, the use of heating oil, natural gas and diesel was almost entirely (about 95-100%) replaced by renewable energies in beneficiaries receiving RDP support for investments. In total, the investments in bioenergy projects reduced carbon dioxide emissions from fossil fuels by approximately 3,000 tonnes annually;
- In HU, the amount of renewable energy produced from RDP supported projects was 22 TOE/year in 2017. Due to RDP support, the use of renewable energy in the agriculture increased by 22 %.

Some MAs reported small contributions to the generation of energy, mainly due to the low level of RDP implementation, the limited allocated budget, or lack of measures programmed with primary contributions. For instance, in CZ, renewable energy is generated mainly through biomass production and RDP contributed only to the 0.002% biomass production in the Czech Republic intended for non-household use. However, higher contributions are expected if all committed projects are considered.

RDPs contributed to facilitate the access and use of energy from renewable sources, by creating and adapting forest infrastructure and services (e.g. DE Hessen, ES Balearic Islands, ES Navarra, FR Rhone Alps). For instance, DE Sachsen reported that the infrastructures for (energetic) wood use was strengthened by building or expanding a total of 29.4 km of forest paths, while 15.3 km were maintained. In FR Franche-Comté, RDP financed 38 km of forest road and 64 km of skid trails. The total area served by forest services amounted to 16.342 ha, which represents 2.2% of the regional forest area. This helped logging companies in Franche-Comté to increase the capacity to mobilise more logs within the forest. In addition, the creation of services has the effect of a stronger involvement of associations in the sustainable management of the massif in the medium / long term.

LEADER, vocational trainings, and advisory services contributed to the production of renewable energy. For instance, in DE Brandenburg, Local Action Groups contributed to the increased use of renewable energies with concrete investment projects within the framework of the promotion of local development in rural areas. Similar achievements were reported in ES Castilla la Mancha and ES la Rioja. Trainings and information actions helped to promote the production and use of renewables in several Spanish RDPs (e.g. ES Castilla Leon, Navarra, Extremadura, I Canarias and Murcia). In ES Navarra, 91 farms benefitted from 203 farm advisory services related to the management of livestock by-products for the use/supply of renewable energy and bioeconomy.



Highlights on the reported methodologies

Most of MAs assessed achievements based on the data collected from the application forms and payment requests. In addition, numerous MAs used qualitative methods, such as surveys (e.g. FR Auvergne, FR Basse Normandie, FR Bourgogne, FR Franche Comte, FR Rhone Alps, ES Castilla la Mancha, ES La Rioja, ES Navarra), focus group (FR Franche Comte and FR Bourgogne), and interviews (e.g. ES La Rioja, ES Navarra).



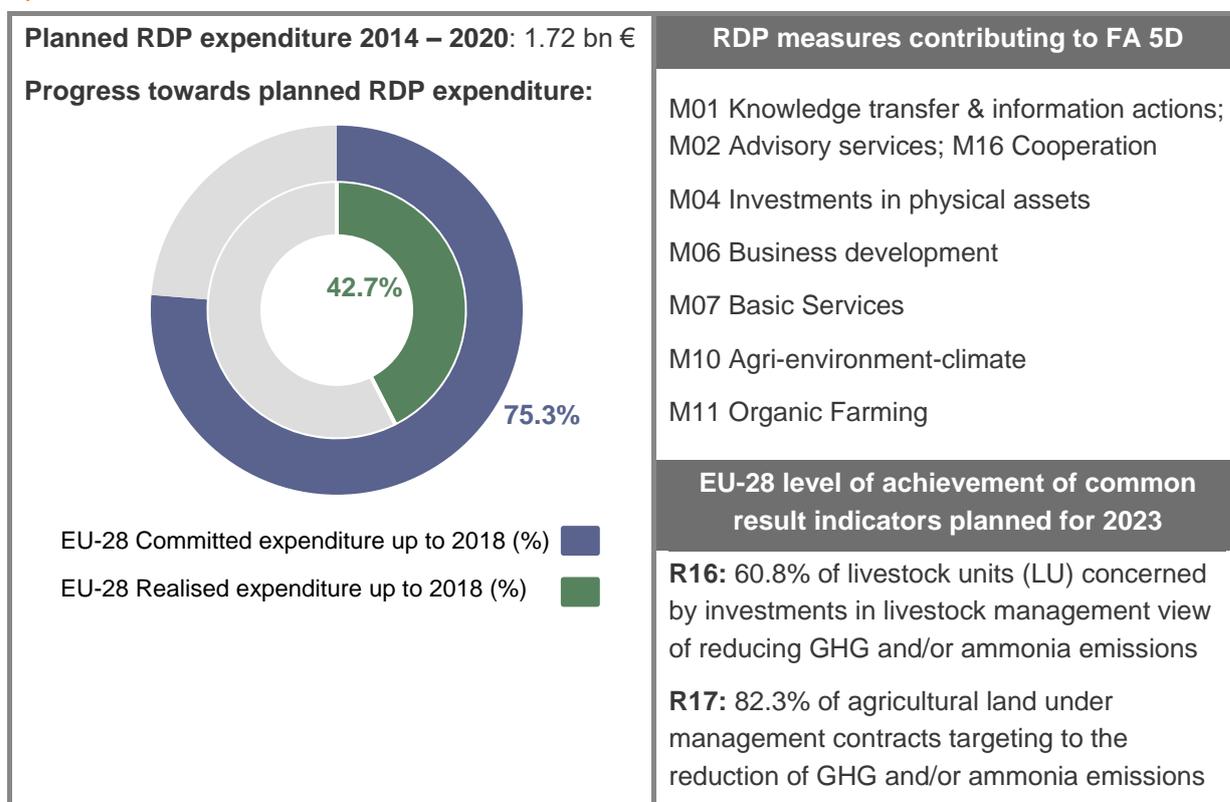
Frequently reported limitations

Among the limitations described in the answer to this common evaluation question, the low RDP uptake of related measures was mentioned several times. Often, FA 5C was not programmed and the assessment had to rely only on the secondary contributions (PT Madeira, DE Saarland, DE Hessen, SI). The lack of data on the actual supply and use of renewable energy was often reported as the biggest challenge for the assessment, particularly for obtaining data after finalising RDP projects.

CEQ 14 related to FA 5D: To what extent have RDP interventions contributed to reducing GHG and ammonia emissions from agriculture?



Background Information



Summary of reported achievements

Under the Focus Area 5D, RDPs aims at reducing greenhouse gas (GHG) and ammonia emissions from agriculture. Two common result indicators are linked to this focus area:

- R16: percentage of livestock units (LU) concerned by investments in livestock management view of reducing GHG and/or ammonia emissions
- R17: percentage of agricultural land under management contracts targeting to the reduction of GHG and/or ammonia emissions

Up to 2018, the EU-28 achieved 60.8% of the target value planned for R16 by 2023. For R17, the level of achievement was higher (i.e. 82.3%). In total, 61 MAs reported achievements in the answer to the related common evaluation question. Considering the lower number of RDPs programming this focus areas, often the assessment considered measures with secondary contributions from other focus areas.

Greenhouse gas emissions from agriculture

RDP contribution towards the reduction of GHG emission from agriculture is also assessed through the complementary result indicator R18, expressed in CO₂ equivalent. 22 MAs reported the values of this indicator and the calculation of the median cannot show a significant aggregate picture across RDPs due to the high variability and inconsistency of the data.

Nevertheless, some AIRs showed positive contributions on the reduction of GHG emissions from agriculture (e.g. BE Flanders, BE Wallonia, BG, DE Mecklenburg-Vorpommern, DE Nordrhein-

Westfalen, EE, ES Galicia, FI, IT Abruzzo, IT Lazio, LV). The extent of these contributions varies across the RDPs, for instance:

- ES Castilla la Mancha, RDP support to M11 *Organic Farming* and M12.1 *Compensation payment for Natura 2000 agricultural areas* reduced nitrous oxide and methane emission by 28.54 kilotons of CO₂ equivalent, which represents a reduction of 10.2% emissions recorded by the regional inventory of greenhouse gases between 2014 and 2016;
- In HR, the reduction of nitrous oxide emission amounted to 29 kilotons of CO₂ equivalent, which corresponds to a decrease of 1% of total GHG emissions from agriculture. A similar share of reduced GHG emissions from agriculture was reported also in HU;
- In DE Niedersachsen/Bremen, the low-emission spreading of liquid manure and fermentation residues achieved a reduction in nitrous oxide emissions of an average 26.55 kilotonnes of CO₂ equivalent over the funding period. In relation to fertiliser-related N₂O emissions, this represents an emission reduction of 0.45%. The share in GHG emissions from agriculture decreased by 0.18 % (excluding LULUCF).

Ammonia emissions from agriculture

The contribution towards the reduction of ammonia emissions can be measured through the complementary result indicator R19, expressed in tonnes of ammonia. 21 MAs reported the values of this indicator and the calculation of the median cannot show a significant aggregate picture across the RDPs due to the high variability and inconsistency of the data.

Nevertheless, positive contributions on the reduction of ammonia emissions from agriculture were reported across numerous AIRs (e.g. AT, BE Flanders, LU, ES Galicia, FI Mainland, IE, RO, UK England). The magnitude of these contributions varies across the RDPs, for instance:

- In AT, the reduction of ammonia emissions amounted to 3,298 tonnes of ammonia, which corresponds to the 5% reduction of the ammonia emission from agriculture;
- In BE Flanders, 500 tonnes of ammonia are annually avoided through RDP support to low ammonia emission stalls. Manure storage also contributed to reduce ammonia emissions;
- Between 2015 and 2017, DE Niedersachsen/Bremen estimated an average reduction in ammonia emissions of 1,120 tonnes of ammonia compared to the reference situation without subsidies. This corresponds to a reduction of the 0.7 % of the total ammonia emissions from agriculture;
- ES Andalucia estimated a reduction of ammonia emissions amounting to 10,385.81 tonnes of ammonia, mainly through the support to organic farming which reduces the use of nitrogen fertilisers;
- IT Piemonte reported a reduction of 721.4 tonnes of ammonia per year. Similar results were reported in IT Veneto (i.e. 740 tonnes of ammonia/year were reduced).

Some MAs were not able to quantify the reduction of GHG and ammonia emissions, but expressed achievements in terms of potential contributions (e.g. BE Wallonia, CY, FR Centre). This was often explained by the low level of RDP uptake or the lack of measures with primary contributions. In some cases, the reported contributions were low at this stage of the RDP implementation. For instance, DE Schleswig Holstein reported a 0.06% reduction of GHG emission and 0.17% reduction of ammonia emissions from agriculture. In CZ, no measures were primarily planned under FA 5D, whereas RDP investments in physical assets increased the livestock capacity and contributed to higher emissions (i.e. GHG emissions increased by 598 tonnes of CO₂ equivalent and 125 tonnes of NH₃ emissions). A similar side effect was reported in DE Hessen.



Highlights on the reported methodologies

Considering that FA 5D was not programmed in more than half of the RDPs, the assessment of achievements relied mainly on secondary contributions. Many MAs described the methodology used. For instance, AT used the Model [LandscapeDNDC](#) to calculate R18. IT Piemonte used a spatial analysis to calculate R19. Counterfactual assessments were conducted through surveys on beneficiaries and non-beneficiaries and analysis of FADN data (ES Castilla Leon, ES La Rioja, ES Andalusia). In ES Murcia, beneficiaries and non-beneficiaries were compared (advanced matching) during the period of 2014-2017 in terms of fertilisers use. In IT Calabria, beneficiaries and non-beneficiaries in conventional and organic farming systems were compared for the calculation of R19. Some MAs used IPCC coefficients for calculation of GHG emissions (e.g. CZ, IT Emilia Romagna and SI).



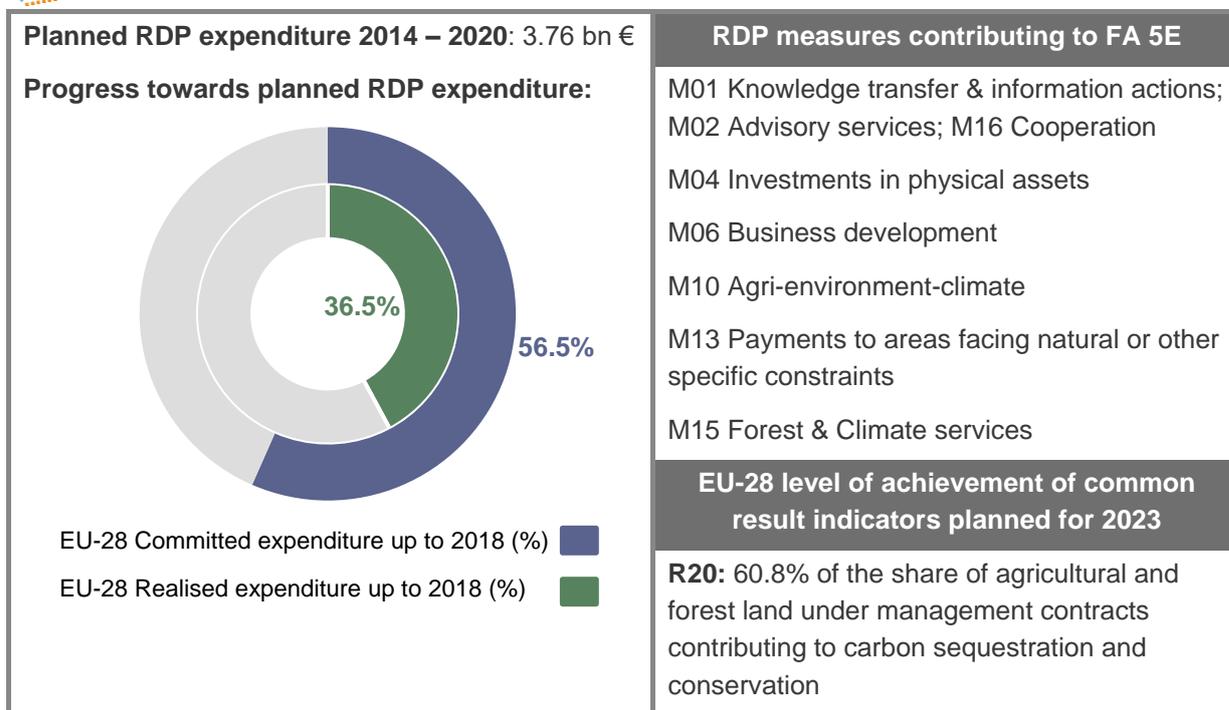
Frequently reported limitations

Some MAs described the limitations of reported achievements, most of them related to the low RDP uptake of measures with primary and secondary contributions or the lack of data to conduct robust counterfactual analysis. The calculation of the complementary result indicators R18 and R19 was considered challenging in terms of data collection and methodology.

CEQ 15 related to FA 5E: To what extent have RDP interventions supported carbon conservation and sequestration in agriculture and forestry?



Background Information



Summary of reported achievements

Under the Focus Area 5E, RDPs aim at supporting carbon conservation and sequestration in agricultural and forestry land. The common result indicator linked to this focus area is R20, which measures the share of agricultural and forest land under management contracts contributing to carbon sequestration and conservation. Up to 2018, the EU-28 achieved 89.5% of the target value planned for R20 by 2023. In total, 77 MAs reported achievements in the answer to the related common evaluation question.

Carbon conservation and sequestration in agriculture

RDP contributions to carbon conservation and sequestration in agriculture were often assessed in terms of agricultural land covered under management contracts (e.g. conversion of arable land into grassland or the maintenance of semi-natural habitats). Some MAs assessed also the effects in terms of carbon storage in agricultural land (e.g. BE Flanders, ES La Rioja, FR Bourgogne, IT Lazio, PL, SI). For instance, ES La Rioja estimated the maintenance of 15,394.73 tonnes of CO₂/year in supported agricultural land, while FI Mainland estimated a storage of 134,700 tonnes of CO₂ in 2018. In cumulative terms, FR Bourgogne and FR Franche Comté together maintained 0.195% of the total CO₂ stored in the regional soil. In IT Emilia Romagna, RDP stored 68,415 tonnes of CO₂/year in agricultural land. In IT Liguria, RDP increased 2,785 tonnes of organic matter in the agricultural land under management contracts, but this achievement was considered relatively low in relation to the total amount of organic matter at regional level.

Carbon conservation was often achieved through agri-environment-climate commitments (M10), such as the adoption of farming practices with lower soil tillage intensity (e.g. AT) or the conversion and maintenance of grazing and pastoral systems, as well as grassland areas (e.g. in numerous RDPs from FR and IT). Other measures contributed significantly to carbon conservation and sequestration, such as M11 Organic farming (e.g. BE Wallonia, ES Castilla la Mancha, DE Brandenburg, EE), M12 Natura 2000

payments (e.g. EE, ES Murcia, IT Friuli Venezia Giulia), M13 Payments to areas facing natural constraints (e.g. ES Balearic Island, ES Murcia, PT Acores), M08.1 Afforestation/creation woodland in agricultural land (e.g. CZ, ES Andalusia, SK).

Carbon conservation and sequestration in forestry

Various RDPs contributed to the carbon conservation and sequestration in forestry areas (e.g. CY, CZ, ES Castilla-Leon, ES Balearic Island, FR Bretagne). For instance, ES La Rioja reported a sequestration of 72,520.67 tonnes of CO₂ in forestry land under RDP support. LV estimated that the RDP support to forestry measures will sequester 974 kilotonnes CO₂ equivalent by 2020. FR Franche Comté contributed to increase the annual CO₂ storage potential by 6,003 tonnes of CO₂ equivalent through timber production. RDP support in IT Emilia Romagna reached 17,110 tonnes of CO₂ equivalent/year of carbon conserved in forestry biomass. MAs reported positive secondary contributions from measures supporting the prevention of damage from fires and natural disasters (e.g. FR Midi Pyrenees, FR Aquitaine, ES Andalusia, ES Balearic Island, SK). The provision of vocational trainings and demonstration actions played also an important role in fostering carbon conservation and sequestration in forest land (e.g. ES Galicia, FR Limousine). For instance, in ES Aragon, trainings and information actions were provided to raise awareness, prevent forest fire, and revitalise forests.



Highlights on the reported methodologies

Numerous MAs mentioned the methodology used to assess the achievements under this focus area. Some interesting quantitative approaches can be highlighted:

- Counterfactual assessments (e.g. PSM and DiD) to estimate effects on carbon conservation and sequestration in agriculture and forestry areas (e.g. DE Bayern, UK England).
- LV carried out a quantitative analysis based on the data on completed projects (monitoring) and the amount of carbon captured in forests. The latter was measured in accordance with the methodology developed by the Forest Research Institute “Silava”, which is used in the Latvian National Report on GHG Emissions;
- In IT Emilia Romagna, the variation of carbon stock in agricultural land was based on the guidelines for the national inventory of greenhouse gases in the agricultural, forestry and other land use sectors (AFOLU), from IPCC 2006;
- In IT Lombardia, changes in carbon stock in afforested agricultural areas was based on guidelines for national inventories of greenhouse gases in AFOLU, from IPCC 2006, and according to the most simplified approach (Tier 1).

The use of qualitative methods was also often reported across the AIRs, for instance: surveys, interviews, and case studies. Some MAs used additional indicators, such as:

- Additional amount of carbon absorbed in agriculture following RDP interventions, expressed in tonnes of CO₂ equivalent (IT Emilia Romagna);
- Potential CO₂ retention in the soil of the supported agricultural and forestry areas, expressed in tonnes of tonnes of CO₂ equivalent per year (ES La Rioja);
- Reduction of greenhouse gas emissions from peatland use (DE Niedersachsen/Bremen).



Frequently reported limitations

Some MAs described the limitations of reported achievements. These were related to the lack of data or difficulties encountered in the collection of additional information. Many MAs mentioned the need to use additional indicators (complementing the common result indicator) to capture more meaningful achievements.

3.6 Priority 6: Social Inclusion and Economic Development

Priority 6 aims at promoting social inclusion, poverty reduction and economic development in rural areas, with a focus on the following areas:

- Facilitating diversification, creation, and development of small enterprises, as well as job creation (6A)
- Fostering local development in rural areas (FA 6B)
- Enhancing the accessibility, use and quality of information and communication technologies (ICT) in rural areas (FA 6C).

For the period 2014-2020, the EU-28 planned 23.45 billion euro of public expenditure to reach achievements under Priority 6, which corresponds to 15.1% of the total Rural Development planned public expenditure. Up to 2018, the EU-28 realised 19.1% of Priority 6's planned public expenditure.

Table 6 provides an overview of the level of reporting under Priority 6, considering the share of RDPs that programmed the focus areas (first row), the share of MAs that answered the related CEQs (second row), and the share of MAs that reported achievements in the answer to the CEQs (third row). Achievements were reported based on various evidence, including common result indicators, or additional qualitative and quantitative evidence. When achievements were not reported in the answers, this was often explained by the low level of RDP uptake of the relevant measures.

Table 6. Overview of RD Priority 6 programming and reporting in the AIRs 2019

	FA 6A	FA 6B	FA 6C
1. Share of RDPs that programmed the focus area ⁹	69%	98%	48%
2. Share of MAs answering the related common evaluation question over those that programmed the FA	104% ¹⁰	98%	98%
3. Share of MAs reporting achievements out of those that answered the related common evaluation question	73%	95%	72%

Source: Screening of AIRs 2019, European Evaluation Helpdesk for Rural Development

More in detail, MAs reported achievements in terms of:

- Diversification, creation and development of small enterprises
- Jobs creation and maintenance in rural areas
- Development and access to services and local infrastructure in rural areas
- Participation in local development strategies
- Employment opportunities created via local development strategies
- Broadband expansion and better use of ICT in rural areas

Most of the MAs used qualitative methods to assess achievements under Priority 6, such as interviews, surveys, focus groups, and case-studies. Qualitative descriptions of the types of supported projects or the analysis of the selection criteria were frequently used. Only in a few AIRs, quantitative methods were used, such as counterfactual analysis (e.g. Castilla la Mancha, IT Piemonte, LV).

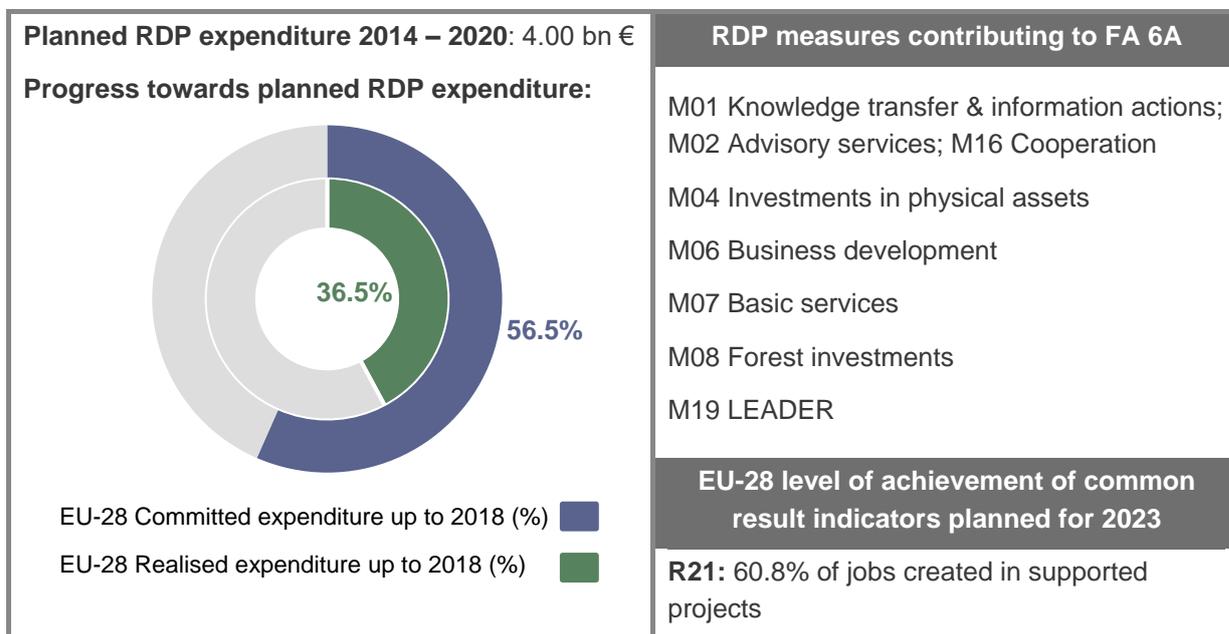
⁹ Out of the 112 national and regional RDPs. National Frameworks and National Rural Network Programmes have not been considered because they do not allocate budget on measures

¹⁰ The number of MAs answering the CEQ 16 was higher than the number of RDPs programming the related FAs because secondary contributions from other FA were taken into account.

CEQ 16 related to FA 6A: To what extent have RDP interventions supported the diversification, creation and development of small enterprises and job creation?



Background Information



Summary of reported achievements

Under Focus Area 6B, RDPs aim at supporting the diversification, creation, and development of small enterprises and job creation. The common result indicator linked to this focus area is R21, which measure the number of jobs created in supported projects. Up to 2018, EU-28 achieved 14% of the target value planned for R21 by 2023. In total, 58 MAs reported achievements in the answer to the related CEQ.

Diversification, creation and development of small enterprises

Achievements in terms of creation of small enterprises were reported in a limited number of RDPs, and mainly by those with a sufficient level of uptake of measures with primary and secondary contributions. For instance, HU reported the creation of 973 small enterprises distributed across different sectors, i.e. 914 in agriculture; 26 in tourism, catering and other service sectors; 12 in the food-processing sector; and 3 in the forestry sector. In ES Murcia, RDP contributed to the entrance of 499 young farmers, with positive effects on the socio-economic situation in the region. Numerous reports highlighted the role of LEADER in initiating new businesses in rural areas (e.g. DE Sachsen, ES Aragon, ES La Rioja, UK England). In ES Aragon, LEADER promoted the creation and consolidation of more than 1,000 small enterprises.

The creation of new enterprises was assessed by considering also the socio-economic context of RDP territory. For instance, EL highlighted that the RDP support to the creation of 241 new enterprises and modernisation of 116 enterprises was a vital success by considering the current economic situation. DE Baden Wurttemberg highlighted the RDP contribution to the establishment of start-ups led by women, which diversified the rural economy through businesses in tourism and local recreation (creation of accommodation facilities or conference facilities), food processing and selling (e.g. farm shop), or health and prevention/therapy.

RDPs supported the diversification of small enterprises in rural areas, especially through farm diversification or the creation of new businesses in non-agricultural sectors (e.g. EE, IT Molise, SK). For instance, AT supported 265 farm diversification projects in the field of catering, farm holidays,

community services, horse riding, green care, and processing/direct marketing. ES Canarias Island contributed to the diversification of the economic activity in 60 small enterprises. FR Reunion reported the creation and development of new small businesses in different economic fields, particularly in the timber production and tourism sector. In ES Balearic Islands, M06.2 *Business development* supported 11 small enterprises working in the field of tourism in rural areas, such as wine tourism, oleotourism, guided eco-tours, etc.

Jobs creation and maintenance in rural areas

Various MAs reported positive achievements in terms of jobs creation in rural areas. For instance, a high number of jobs were created in FI Mainland (1,089 new permanent jobs were created from M06.2 and M06.4), EL (741), CZ (109), EE (258), PL (130), LT (53), ES La Rioja (50 and mainly covered by people under 40 years), and SI (46). In EL, out of the 741 jobs created, 408 are employees of small businesses and 333 are self-employed. In terms of gender, 380 new jobs were occupied by women and 361 by men. In terms of age, 119 out of the 741 created jobs are occupied by young people up to 25 years old (75% of which are women). In some AIRs, the number of jobs created was modest mainly due to the lower level of RDP uptake in the relevant measures (e.g. ES Canary Islands, IT Sicilia, DE Bayern, ES Balearic Islands, SK). Different measures contributed to improve the employment in rural areas, among which:

- *M04 Investments in physical asset.* For instance, ES Castilla la Mancha reported that 110.79 annual work units were created thanks to the investments in the modernisation and restructuring of agricultural holdings, which in turn generate positive effects on job maintenance. In ES Extremadura, the support for young farmers created 550 annual work units. ES Murcia showed that M04 Investments in physical assets maintained 1,526 jobs and created 493 new jobs (76.40% of the total were occupied by women);
- *M19 LEADER.* The role of LEADER to the creation of jobs was highlighted in numerous AIRs (e.g. DE Brandenburg/Berlin, FI Mainland, IT Veneto, LV, UK England). More in detail: ES Castilla la Mancha reported that 1,744.91 full-time equivalent jobs were created by LEADER, of which 29% are in agribusiness sector and 71% in other non-agricultural activities. In ES Aragon, LEADER created 598 non-agricultural jobs. In ES Andalucia, LEADER created 66 jobs, of which 54% by women and 87% were full time. In ES Castilla Leon 288 jobs and in ES Catalonia 468 jobs were created through LEADER.
- *M01 Knowledge transfer and information actions.* For instance, ES Pais Vasco reported that training actions fostered entrepreneurship among rural actors, by combining the theory and practice. In IT Veneto, 156 participants attended information actions for farm diversification.

In addition to the creation of new jobs, several reports mentioned the role of RDP in maintaining jobs in rural areas. For example, DE Mecklenburg reported that 32 jobs were created (16 male and 16 female) and 134 maintained (87 male and 47 female). SK reported that RDP support to farm modernisation and competitiveness maintained 1164 jobs since the beginning of the programming period.



Highlights on the reported methodologies

The methodologies used to assess achievements were reported to a lesser extent across the MAs. In most of the cases, qualitative methods were used in combination with monitoring data, such as: surveys (e.g. DE Baden Wurttemberg, FR Limousine, ES La Rioja), case-studies and interviews with measure managers (ES Castilla la Mancha, ES Navarra, ES Andalusia FR Auvergne, Basse and FR Haute Normandy). EE combined surveys with the analysis of economic data based on enterprise's economic reports published in commercial register. Counterfactual analyses were conducted in ES Valencia and ES Castilla la Mancha.

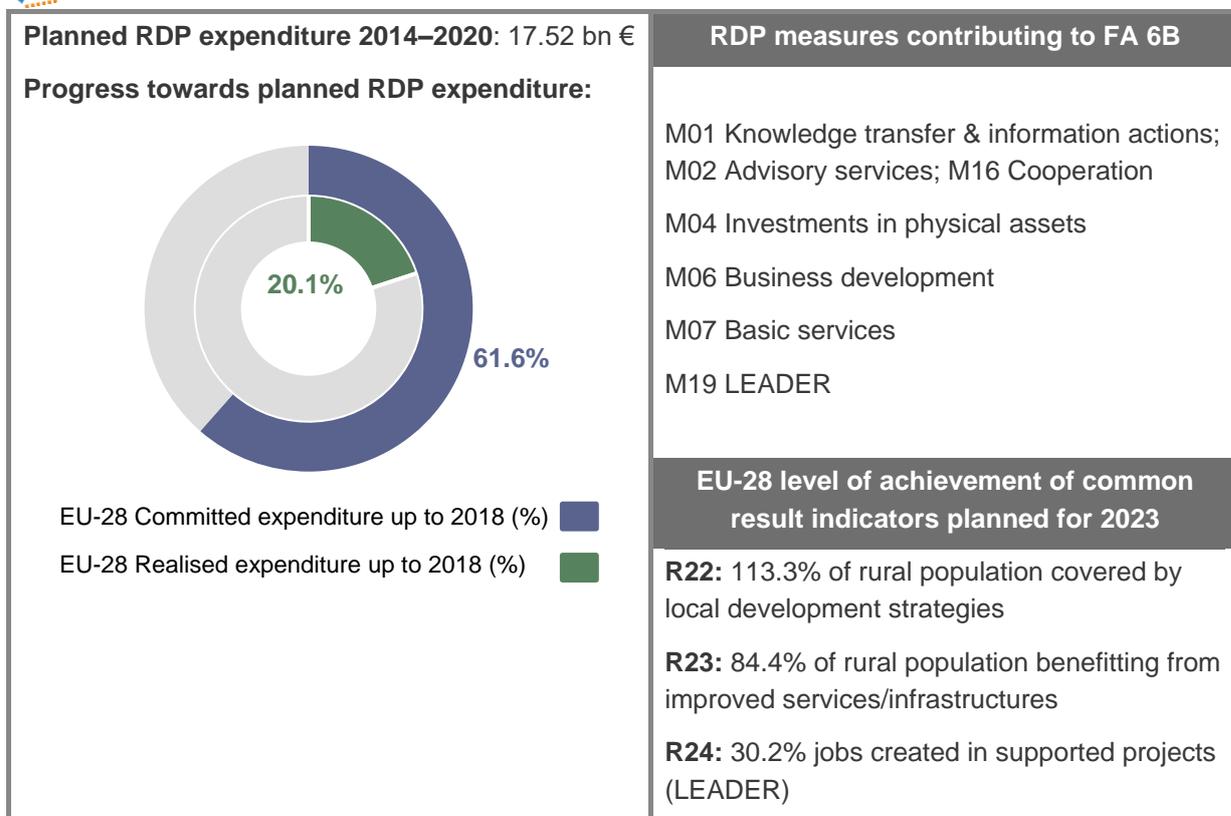
Frequently reported limitations

The low or no uptake of measures was often the main limitation reported in the assessment of achievements under this FA. Other MAs mentioned that RDP effects were difficult to be isolated from other influencing factors and more time was needed to capture the effects.

CEQ 17 related to FA 6B: To what extent have RDP interventions supported local development in rural areas?



Background Information



Summary of reported achievements

Under Focus Area 6B, RDPs aim at supporting local development strategies in rural areas. Three common result indicators are linked to this focus area:

- R22: percentage of rural population covered by local development strategies
- R23: percentage of rural population benefitting from improved services/infrastructures
- R24: jobs created in supported projects (LEADER)

Up to 2018, the EU-28 achieved 113.3% of the target value planned for R22 by 2023, 84.4% for R23, and 30.2% for R24. In total, 103 MAs reported achievements in the answer to this common evaluation question.

Development and access to services and local infrastructure in rural areas

A large number of RDPs contributed to the development of a broad varieties of services and local infrastructures in rural areas, with positive effects on:

- **Accessibility and mobility.** For instance, roads were built to reach out remote and marginalised agricultural and forestry holdings (e.g. AT), to access natural heritage and cultural sites (e.g. ES Aragon), to increase tourism infrastructure like biking paths (e.g. BE Wallonia), or to improve the mobility in and between rural villages (e.g. PL, HU, LV). Better access to services in rural areas were reported both for minority and

In UK Northern Ireland, 28.7 per cent of the 122 projects supported by M19.2 Rural Basic Service Schemes specifically benefitted minority and disadvantaged population groups.

disadvantaged groups (e.g. UK Northern Ireland), as well as for tourists or local citizens who want to access the services offered by local enterprises (e.g. IT Molise).

- **Provision of social and health services**, especially for elders and people with disabilities. For instance, day care centre for elderly and a refugee house were provided in AT for people in need; in ES Asturias, buildings were modernised to remove physical barriers for people with disabilities; facilities for children and adolescents were reconstructed or modernised in several RDPs; health facilities were upgraded (e.g. FR Centre, ES Catalan).

Projects of village renewal played an important role in the development of local infrastructure, with a particular focus on energy efficiency and renewable energy (e.g. AT, ES Aragon, FR Corse). Several projects contributed to building and reconstructing facilities for the *tourism, recreation, culture, sport, and leisure* in rural areas (e.g. CY, DE Thüringen, in numerous ES RDPs, FR Corse, IT Piemonte, HU, SK, UK Northern Ireland). The up-grading of cultural and heritage sites was reported in ES Asturias, ES Castilla la Mancha, ES Canary Islands, ES Murcia). RDPs contributed also to the improvement of *water supply and waste management/cleaning* (e.g. ES Galicia, FR Guyenne, HU, PL, ES Asturias). For instance, 152 completed operations were supported in PL to renovate or build water and sewage infrastructure.

Participation in local development strategies

Participation is one of the key principles of the LEADER method. **Many MAs reported an increase in the participation of the rural population through various activities organised by the LAGs, both in the design and implementation of local development strategies.** The involvement of multiple stakeholders by means of networking activities was highlighted as the added value of the LEADER method, which was expressed in terms of increased social capital among private and public actors (e.g. UK Northern Ireland, CZ, DE Sachsen). Projects such as ‘support for civic engagement’ (i.e. DE Bayern) or thematic working groups (i.e. DE Thüringen) were organised to engage local actors in discussing specific topics and develop bottom-up solutions for the local development. The involvement of actors from the private sector in LAG activities was often considered to be challenging, although FR Alsace reported that 53% of supported projects were led by private actors.

Employment opportunities created via local development strategies

Employment opportunities were created in a large number of local development strategies supported specifically by LEADER. Various MAs reported the number of jobs created, expressed with the common result indicator R24 (number of jobs in full time equivalent created by operations under local development strategies). These achievements were reported by considering also the specific socio-economic contexts across the EU-28. The following examples show some significant achievements: 3,089 jobs created in PL; 650 jobs created in EL; 617 jobs created in FI Mainland, especially under measures M06.2 and M06.4; 592.5 jobs created in EE; 329 jobs were created in ES Asturias, of which 181 covered by female and 148 by male. Some MAs reported a lower number of jobs created due to the low level of RDP uptake, although the reported achievements were considered overall positive at this stage of the programming period.



Highlights on the reported methodologies

Based on the methods described in the answers to the common evaluation questions, achievements under this focus area were assessed mainly through the combination of monitoring data and qualitative methods, such as: surveys, case-studies, focus groups, interviews with RDP managers of M19 LEADER, LAG managers, and LEADER beneficiaries. A multi-criteria analysis was used in ES Castilla la Mancha to assess RDP effects on quality of life, and spider diagrams to depict the results. The findings of LAG self-assessments were used in PT Acores and PT Madeira. In LT, the application of an econometric modelling revealed the indirect contribution of other focus areas to the creation of 1,719 jobs.



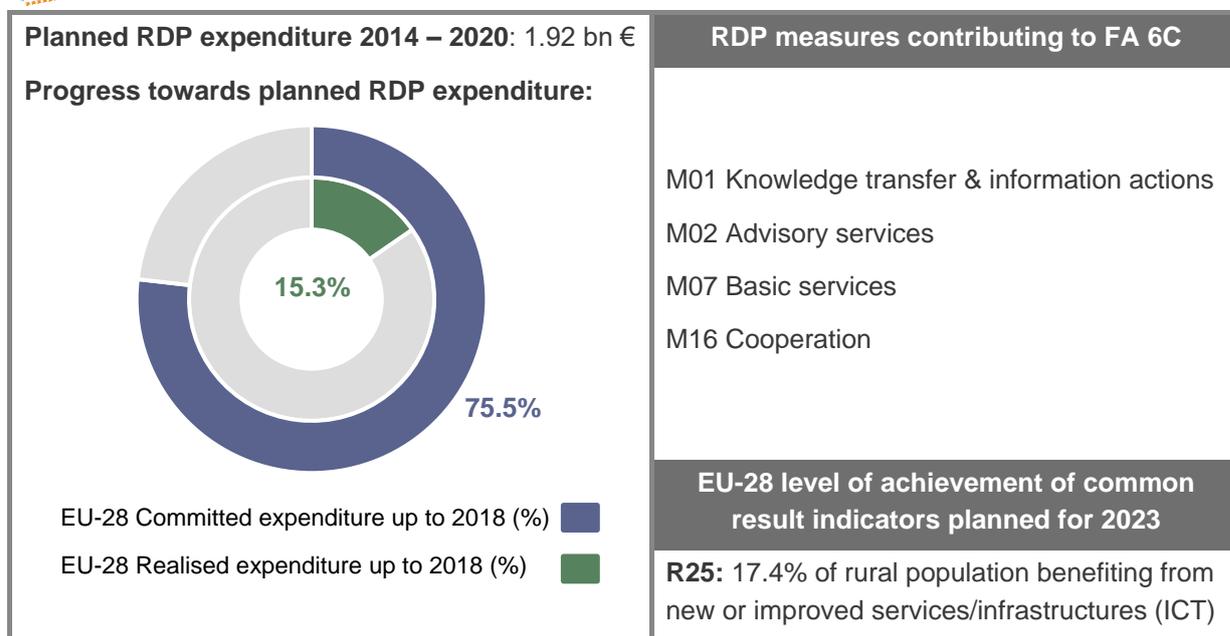
Frequently reported limitations

The low level of RDP implementation was commonly considered as the main limitation in the assessment of achievements under this focus area. Some AIRs pointed out that more data was needed to go beyond the assessment of LEADER implementation and calculate the results and impacts on rural areas.

CEQ 18 related to FA 6C: To what extent have RDP interventions enhanced the accessibility, use and quality of information and communication technologies (ICT) in rural areas?



Background Information



Summary of reported achievements

Under Focus Area 6C, RDPs aim at enhancing the accessibility, use, and quality of information and communication technologies (ICT) in rural areas. The common result indicator linked to this focus area is R25, which express the percentage of rural population benefiting from new or improved services/infrastructures (ICT). Up to 2018, the EU-28 achieved 17.4% of the target value planned for R25 by 2023. Considering the low level of RDP uptake observed across the Member States, only 38 MAs reported achievements in the answer to the related common evaluation question.

Broadband expansion and better use of ICT in rural areas

The reporting of achievements under FA 6C was quite limited, but significant progresses could be observed in a few AIRs with higher level of implementations (e.g. DE Hessen, DE Niedersachsen/Bremen, FI Mainland, FR Martinique, IT Toscana, SE). In DE Rhineland Westfalen, RDP support to the expansion of broadband was targeted mainly in areas where telecommunication companies are not interested to intervene. In order to orient the broadband expansion towards different technically viable solutions, DE Sachsen-Anhalt set up specific selection criteria and gave the highest scores to projects involving fiber optic connections for buildings or households with transmission rates > 200 to 1,000 Mbps. Up to 2018, 5 out of the 23 funded projects funded fulfil this criterion, whereas the remaining ones provide less powerful solutions for a minimum transmission rate of ≥ 50 Mbit/s.

Based on the information collected through GIS, FI Mainland reported that 1,014,440 beneficiaries (households) will benefit from the supported rural broadband projects, which corresponds to the 65.2% of the rural population. ES Andalucia reported RDP positive contributions on the improvement of the eGovernance by purchasing ICT devices (e.g. 238 personal computers, 249 monitors, 30 printing machines). It is worth noticing that in some Member States, RDP support to broadband and ICT complements other national digital agenda and strategies (e.g. broadband strategies in AT, IT, ES), with the possibility to achieve potential synergies.

SE reported that the number of connected households is expected to amount to approximately 104,000 households. The evaluation of the broadband support states that the new fiber connection enables internet access with higher capacity in terms of transmission speed, stability and redundancy. The evaluation of RDP support to broadband showed that rural residents feel that the IT infrastructure reduces the difference between city and country, and that it leads to an experienced stronger self-esteem as the rural areas receive similar conditions as cities.

Some AIRs highlighted the positive role of LEADER in promoting the use of ICT. For instance, DE Thuringen supported projects related to the establishment of wireless LAN networks, the creation or further development of websites, the online marketing of products and services (including accommodation) the online promotion of cultural and tourism-related offerings (museums, cycle paths, events), or the development of specific web applications (apps). Moreover, LEADER contributed to improve the use of ICT through trainings and counselling activities (e.g. ES Navarra, ES La Rioja). ES Castilla Leon reported that 26.50% of the actions promoted by Local Action Groups are related to development of new technology infrastructures, promotion of their use and increasing the quality, including projects that incorporate new technologies into agricultural small-medium enterprises.



Highlights on the reported methodologies

Very little was reported on the methodologies for the assessment of achievements under the FA 6C, except for those RDPs with a good level of RDP uptake. In most of the cases, monitoring data were used, in combination with surveys and interviews (e.g. ES La Rioja and ES Navarra). DE Schleswig-Holstein calculated an additional indicator, which measures specifically the amount of approved investment for ICT in predominantly rural areas, while ES La Rioja measured the percentage of rural population that benefits from new or improved services/infrastructure (information and communication technologies - ICT) supported under LEADER.



Frequently reported limitations

The limited level of RDP uptake was the most reported limitation in the assessment of RDP achievements under FA 6C, followed by the lack of data, evaluation resources, and the time needed to capture the effects from investments improving or creating ICT infrastructures and services.

3.7 Other RDP aspects: Synergies, Technical Assistance, and National Rural Networks

CEQ 19: To what extent have the synergies among priorities and focus areas enhanced the effectiveness of the RDP?



Background Information

Programme synergies are linked to the entire RDP intervention logic¹¹, specifically to the primary and secondary contributions of RDP measures to focus areas and priorities.

Synergies are the result of positive interactions between various focus areas/priorities (i.e. achievements under one focus area are enhanced through interventions supported under other focus areas). Apart from positive synergies, focus areas and priorities can also affect each other in a negative way and cause adverse transverse effects, weakening the effectiveness of the RDPs. Positive or negative transverse effects can be assessed in quantitative or qualitative way. The analysis of the specific combination of measures/sub-measures under each focus area is one of the starting points before comparing the focus areas among them and assessing their interactions. These comparisons will allow one to conclude on the extent to which the interactions between the focus areas increase the effectiveness and efficiency of the RDPs¹². 91 MAs provided an answer to this common evaluation question.



Summary of reported achievements

As illustrated in the examples below, MAs assessed synergies and interactions at different levels:

Between measures

- Positive interactions were observed between M01 *Knowledge transfer and information actions*, M02 *Farm advisory services* and M16 *Cooperation* (e.g. AT, BE Flanders, FI Mainland, IT Friuli Venezia Giulia, ES Murcia);
- A strong complementarity was reported between M04 *Investments in physical assets*, M01 *Knowledge transfer and information actions*, and M06 *Farm and business development* supporting the entrance of new farmers in the agricultural sector;
- Synergies were identified between M10 *Agri-environment-climate*, M11 *Organic farming* and M12 *Natura 2000* (e.g. DE Brandenburg);
- M19 *LEADER* provided positive contributions to many focus areas, for instance: fostering farm restructuring and modernisation (FA 2A), supporting the integration of primary producers in the food supply chain (FA 3A), increasing the supply and use of renewable energy (FA 5C), fostering innovation, cooperation and knowledge development (P1), or creating local infrastructures, services, and jobs in rural areas (FA 6A). In the area of animal welfare, DE Niedersachsen highlighted the potential of linking M19 *LEADER* with M02 farm advisory services and M04 investment in physical assets;
- Negative interactions were observed between M04 *Investments in physical assets*, especially for those enlarging the livestock capacity, and the reduction of GHG emissions from agriculture (e.g. DE Sachsen, CZ, LU).

Between focus areas

- LV reported synergies in promoting farm economic development and job creation (FA 2A and 6A);

¹¹ Article 3 of Regulation (EU) No 1305/2013

¹² Guidelines: Assessment of RDP results in 2017, Annex 11

- IT Sicilia reported synergies in FA 2A and 2B for supporting the entrance of young farmers in agriculture;
- IT Piemonte reported synergies between the focus areas restoring biodiversity (4A) and improvement of water management, including pesticides and fertilisers and (4B), as well as between the focus areas promoting the supply and use of energy from renewable sources (5C) and supporting carbon conservation and sequestration (5E);
- EL reported synergies between the focus areas supporting the food supply chain and local development (3A and 6B).
- In SK, support under different focus areas provided a combined positive effect on farm competitiveness, environmentally friendly production and jobs maintenance (FA 2A, 3A, Priority 4 and 6A);
- SI reported synergies combining support to the farm modernisation, risk management and prevention, enhancement of ecosystems and promotion of resource-efficient economy (FA2A, 3B, P4 and P5);
- IT Veneto reported synergic interactions between focus areas aiming at fostering farm competitiveness, increasing water quality, and efficiency in water use (2A, 4B, 5A).

In addition to these highlighted examples, many answers provided by the MAs showed a detailed matrix, table, and analysis of how each sub-measure, measure, focus area, and priority interact with each other to reach RDP achievements.



Highlights on the reported methodologies

Most of MAs assessed synergies with qualitative methods, for example: using theory of change, expert opinions, pairwise comparison matrixes, case-studies to test the relationship between measures, focus areas, and priorities (e.g. CZ, IT Calabria, IT Sardegna, EE, FR Limousine, UK Northern Ireland, UK Wales). In SK, programme synergies were assessed quantitatively, mainly through the calculation of secondary contributions by means of common and additional indicators.



Frequently reported limitations

In some cases, MAs mentioned that the assessment of synergies was limited by the low level of RDP uptake or the lack of quantitative evidence to assess the extent to which the interactions between the focus areas increased the effectiveness and efficiency of the RDPs (e.g. by calculating the achievements obtained from secondary contributions). SE explained that the existence of synergies among all RDP Priorities can be assumed on a theoretical basis, but the assessment of real effects can require high evaluation efforts.

CEQ 20: To what extent has technical assistance contributed to achieving the objectives laid down in Article 59 of Regulation (EU) No 1303/2013 and Article 51(2) of Regulation (EU) No 1305/2013?



Background Information

Technical assistance is financed with up to 4% of the total amount of the rural development programme, and is a horizontal measure supporting:

- preparation, management, monitoring, evaluation, information and communication, networking, complaint resolution, and control and audit,
- reduction of the administrative burden on beneficiaries, including electronic data exchange systems, and
- reinforcement of the capacity of Member State authorities and beneficiaries to administer and use the EAFRD

Although technical assistance is not necessarily a 'visible' part of the RDP intervention logic, it still supports the implementation of the RDP and contributes to the achievement of RDP objectives. 102 MAs provided an answer to this common evaluation question.



Summary of reported achievements

Institutional and administrative capacities for the effective management of the RDP

Most of the MAs reported various activities undertaken to strengthen administrative capacities for an effective management of the RDPs. The budget for technical assistance was commonly used for trainings, hiring additional staff, strengthening IT systems, attending meetings, conferences and workshops, participation of partners in the Monitoring Committee's meetings, or for the preparation of support documents for the RDP management (e.g. procedure manuals). In addition to the above most commonly reported activities, MAs reported that technical assistance supported:

- The creation of working groups improving the management of non-area measures (BE Flanders);
- The effective management of EIP-AGRI operational groups. For instance, an innovation service provider to facilitate the setting up and running of EIP AGRI operational groups was established DE Lower Saxony and DE Schleswig-Holstein;
- The effective management of LEADER. For instance, the capacities of LEADER coordinators were enhanced with a view to promote these actors who play an important networking and coordination role in the local development (DE Bayern). Thematic working groups for LEADER/CLLD and EIP-AGRI were established to engage partners in decision-making in 2018, with the status of this Working Party coming into force in 2018 (SK).

In some RDPs, technical assistance was used to a limited extent. For instance, in IT Trento, the existing human resources were considered sufficient for the RDP management. Other AIRs highlighted the need for further improvements in terms of human and ICT/material capacity (e.g. ES Aragon, PT Madeira, PT Acores).

Administrative burden on beneficiaries

The administrative burden on beneficiaries was reduced, mostly through the implementation of electronic application systems (e.g. BE Flanders, BG, DE Mecklenburg-Vorpommern, DE Thuringen, ES Canarias, IT Veneto, LV, RO). Other examples of actions that contributed to reduce administrative burden include:

- A frequently asked questions (FAQs) activated to provide rapid and unambiguous answers to the RDP applicants and beneficiaries (IT Abruzzo, IT Liguria, IT Molise, IT Umbria)

- Reduction of the amount of data collected from beneficiaries to feed the monitoring system (HU)
- Unification of terminology, conditions and obligations for beneficiaries, which consequently reduces the risk of errors and relieves the beneficiaries of obtaining various documents (SI)
- Flat rates introduced for M03.1, M08.4, M16 and M19, which led to a greater transparency in the system of calculation of support and reduced the administrative burden for both applicants and administration (SI)

Some MAs considered that the administrative burden for beneficiaries was not reduced and that expenditure for RDP management increased compared to the previous programming period (e.g. DE Baden-Wurtemberg, PT Acores, FR Centre).

RDP communication and information dissemination

Technical assistance was often reported to be a vital measure to increase the awareness and publicity of the RDPs. **Communication to the public and dissemination of information were supported in a great number of RDPs through various channels, including meetings, conferences, press releases, newsletters, websites, media (radio, TV, newspapers), videos, brochures, etc.** Many MAs reported that these actions took place in the context of a specific communication and/or information strategy (CZ, ES Baleares, ES Castilla y Leon, FR Bretagne, IT Piemonte, PT Acores, SK). In DE National Network, 60.60% of the social and economic partners surveyed agreed that the network provided a high level of information and visibility of RDP to the general public and potential beneficiaries.

Innovative approaches to communication and dissemination were reported across the AIRs. For instance, DE Brandenburg/Berlin organised a regular reporting on good examples (so-called 'EAFRD projects of the month'), as well as travelling exhibitions and annual conferences. In IT Puglia, a photo competition entitled 'Frames of rural Puglia' aimed at promoting the Apulian rural world through the eyes of those who caught emotions, sensations, perfumes, flavours captured and told it in a photographic image. In IT Veneto, a database with 'best practices' was established and published on the RDP website.

RDP monitoring

Technical assistance improved the RDP monitoring system through various means, including the increase of human resources (e.g. hiring or training staff), its adaptation to reporting needs or the revision and improvement of IT systems. In EL, 66.7% of the budget for technical assistance was allocated to the improvement of the monitoring system. Some MAs reported more innovative actions, such as: the establishment of a control system to optimise programme implementation (DE Saarland), the elaboration of methodological fiches and screening of information needs to assess indicators (ES National), or the piloting of a tool based on satellites images for monitoring crop developments (ES Castilla y Leon).



Highlights on the reported methodologies

Most of MAs used qualitative methods to answer this common evaluation questions, mainly interviews and beneficiary surveys. In some AIRs, additional indicators were used, notably number and types of training sessions; number of communication and dissemination actions; average time length from the beneficiaries' application to the selection and payment.



Frequently reported limitations

Most of the MAs reported no limitations in the answer to this common evaluation question. Among those reported, the lack of evaluation resources/time to assess technical assistance and the low level of realised expenditure were the most frequently reported. Other limitations included the lack of sufficient evidence (e.g. baseline data) and methodologies to measure the results of technical assistance on the RDP effectiveness.

CEQ 21: To what extent has the NRN contributed to achieving the objectives laid down in Article 54(2) of Regulation (EU) No 1305/2013?



Background Information

National rural networks (NRNs) provide a crucial support to the achievement of RDPs objectives in Europe through, for examples, sharing of knowledge and exchange of ideas and. NRNs aim to:

- increase the involvement of stakeholders in the implementation of rural development;
- improve the quality of implementation of Rural Development Programmes;
- play a role in informing the broader public on Rural Development policy.

In some multi-regional Member States, NRN objectives and activities can be implemented through the support of antennas/branches distributed across the national territory, which act closer to the needs and situations of stakeholders at regional level. 81 MAs provided an answer to this common evaluation question.



Summary of reported achievements

Stakeholder involvement in RDP implementation

NRN activities increased the number of stakeholders involved in RDPs, mainly through:

- *various communication activities to stimulate participation* (e.g. AT, CZ, HU, IT Piemonte, RO), such as videos on successful projects, radio, TV, online instruments (website, newsletter, magazine);
- *thematic working groups* (e.g. EE, UK Northern Ireland) or *thematic exchanges* (ES National);
- *ongoing meetings and contacts*, e.g. *ad hoc* consultations with partners (HU), permanent contacts with farmers and potential beneficiaries (RO), or annual workshops (AT);
- a long-term programme implemented by regional branches (e.g. 26 antennas in LV).

In regional rural networks from FR, animation activities related to EIP operational groups and LAGs succeeded in increasing the participation of rural and non-rural stakeholders (e.g. urban development actors, researchers and academics). The NRN from UK Scotland reported to be more proactive in its approach to LAGs to help their monitoring and evaluation activities.

In a few AIRs, the mobilisation of stakeholders was reported as restricted, either because this was not one of the main focus of the NRN activities (e.g. CY), or the low level of awareness among actors on the NRN activities (e.g. PT Madeira). FR Picardie reported that the involvement of stakeholder was particularly difficult considering that their expectations were very heterogeneous and required a better use of participatory methods.

Improving the quality of RDP implementation

Various MAs reported positive contributions of NRN on the quality of RDP (AT, CZ, EE, ES National, NL). Specific NRN contributions were highlighted in relation to the quality of implementation of local development strategies (e.g. EL, IE, RO, UK England, LU, and in several FR RDPs), the collection and dissemination of good practices (e.g. HU, LT), the flow of information between relevant actors (e.g. LV, PL), capacity building and awareness raising of beneficiaries (e.g. PT Mainland, SI). Several regional MAs from IT reported that RDP implementation improved thanks to the guidelines, studies, toolbox, workshops, seminars, and meetings organised by the NRN.

Informing the broader public on rural development policy

NRNs have positively contributed to informing the broader public on the rural development policy. Various public communication tools were developed, in many cases, in the context of a national or

regional communication or dissemination strategy. These tools typically include publications (brochures, newsletters, press releases, good news stories, cases studies, etc.), websites, social media, videos, organisations of events and participation in events (seminars, workshops, conferences, etc.), trainings, participations in fairs and exhibitions, etc. Apart from the above activities, other, more singular solutions were reported, for instance:

- excursions, study days, exchange platforms, LEADER learning networks (BE-Flanders);
- networking projects such as 'Rural4School' and 'Rural4University', targeted to students from high school and university to become more aware of the RDP opportunities (e.g. IT Puglia);
- promotion of LEADER via good news stories, case studies and cooperation opportunities via social media, newsletters and events including specific social media campaigns (e.g. hashtag #SupportLocal in UK Scotland).

Although communication and dissemination activities are planned in order to raise awareness and are expected to do so, there was little evidence on how these contributed to actually increase awareness, except in the following cases where some evidence was reported:

- In ES National, 9% of surveyed citizens are aware of the NRN, and this share was higher (20.75%) among the population living in rural areas;
- In FR NRN, the analysis of the website's visits showed that NRN actions seem to have a positive impact on the reputation of the network, as evidenced by the attendance of the website: an increase of 33% attendance between the first quarter of 2018 and the last quarter of 2018. A similar assessment was conducted in FR Alsace, FR Champagne-Ardenne and FR Lorraine.
- In PT Madeira, the information obtained via survey shows that 79.8% of beneficiaries do not know the NRN and 82.7% indicate that they have never participated in activities organised by the NRN.
- In SI, the results of a survey to NRN members showed that 88% know the RDP very well or well, while the NRN is known very well or well by 75% of respondents and 22% already heard about it.

Innovation in agriculture, food production, forestry and rural areas

There are many initiatives and activities undertaken by the NRNs that contribute to fostering innovation, especially in the context of the EIP-AGRI, for instance:

- *Publication and provision of information on operational group activities in the NRN webpage.* AT, CY, EE, LT and NL dedicated a specific section of their website to innovation. ES National created a tool on its website for putting interested people in contact. Similarly, EL created an online 'collaboration & innovation platform' on its website.
- *Thematic workshops/meetings/seminars, and analytical exchanges focusing on innovation.*

Various specific actions were implemented by NRN across the EU in relation fostering innovation in rural areas, such as roundtables, masterclasses, territorial laboratories, innovation brokering activities, or rural innovation support services, which were intended to promote the meeting between actors to identify problems and tackle them through innovative initiatives.



Highlights on the reported methodologies

Surveys, focus groups, case-studies, qualitative analyses of supported actions, and interviews were the most common methods reported for the assessment of NRN contribution to the achievement of RDPs objectives. For instance, FR Nord-Pas-De-Calais used a combination of methods, including semi-structured interviews with stakeholders of the NRN, an online survey on the level of awareness and satisfaction of network actions, focus groups, analysis of data and indicators.



Frequently reported limitations

The majority of MAs did not report any limitations in the answer to this CEQ.

4 RDP CONTRIBUTIONS TO UNION LEVEL OBJECTIVES AND TARGETS

4.1 RDP contribution to EU 2020 Headline targets

CEQ 22: To what extent has the RDP contributed to achieving the EU 2020 headline target of raising the employment rate of the population aged 20-64 to at least 75%?



Background Information

EU Strategy 2020 for smart, sustainable and inclusive growth sets up the headline targets of raising the employment rate of the population aged 20-64 to at least 75% by the 2020. This headline target is linked to the inclusive growth and the need to foster high employment economy. In rural areas, RDPs can also provide a relevant contribution to the employment of people below 20. In some Member States, the trends observed in the [common context indicator 05](#) shows that rural areas have higher employment rates than cities or towns and suburbs (e.g. AT, FR, DE, EL, SE). The RDP can contribute to this target through Priorities 2 and 6, although Priority 1 and 3 have also an indirect contribution to the employment creation and maintenance.

103 MAs answered this common evaluation question. Among these, 90 AIRs showed evidence on the contributions to the achievement of EU2020 headline target by various means, such as the common impact indicator (I.14 Rural Employment Rate), common target/result indicators, as well as additional qualitative and quantitative information.



Summary of reported contributions

Rural employment rate of population aged 20-64

The RDP contribution to raising the employment rate of the population in rural areas can be assessed through the common impact indicator I.14 Rural Employment Rate, expressed as the share of employed persons aged 15-64 years and 20-64 years over the total population of the same age group in thinly populated areas.

Only a few MAs assessed and reported the 'net' contributions to this indicator, mainly with the use quantitative methods such as counterfactual analyses (e.g. PSM-DiD), Dynamic Retro Regional Computational Generic Balance models, or Input-Output models. The netting out of the RDP effects demonstrated positive contributions to the increase of employment rate in rural areas (e.g. CZ, ES Castilla la Mancha, ES La Rioja, PL).

In other cases, AIRs stated that the estimation of net contributions were minor or negligible despite the number or job created and maintained in rural areas (e.g. CY, EL, DE Hessen, DE Niedersachsen/Bremen, DE Schleswig-Holstein, ES Navarra, IT Piemonte). In some countries/regions, the EU2020 headline target in rural areas was already reached (e.g. AT, BE Flanders, DE Sachsen-Anhalt).

When net contributions were not calculated at all, AIRs reported 'gross' contributions to the headline targets or reported the number of jobs created/maintained with RDP support (e.g. IE, ES Aragon, ES Asturias, FR France Comté, FR Ile-De-France).

Jobs maintenance and creation

Numerous MAs reported positive contributions to the creation and maintenance of jobs in rural areas. For instance, IE reported that RDP contribution to employment is likely to result in approximately 4,881 jobs created, of which 4,178 were estimated to be in the rural economy. In numerous cases, the

assessments concluded that the RDP contribution to the raising of employment in rural areas was positive, but not yet fully sufficient to compensate the loss of jobs in the agricultural sector and rural areas (e.g. FR Ile de France, LU, LV). The combination of different RDPs measures contributed to raising employment in rural areas, particularly:

- **M19 LEADER.** The role of LEADER on the employment in rural area was positively assessed in most of the AIRs (e.g. FR Guyenne, DE Schleswig-Holstein, UK Northern Ireland, UK Scotland). More detailed, in ES Castilla Leon, 288.34 jobs were created and a total of 1,230 additional jobs were maintained, all within the framework of the Local Action Groups. Of the total number of jobs created, 40.45% were covered by women and 42.30% were under 35 years. Of the total number of jobs maintained, 33.32% were covered by women and 24.36% were under 35 years of age. ES Balearic Island reported that LEADER projects had a decisive impact on different employment-related aspects, not so much in numerical terms, but in terms of inclusion or long-term maintenance of the jobs.
- **M06 Farm and business development.** The reported findings show that in numerous RDPs, the installation of new farmers and the diversification of the rural economy contributed to the generational renewal in agriculture and raising employment in rural areas (e.g. BE Wallonia, DE Mecklenburg-Vorpommern, ES Valencia, ES Castilla-Leon, IT Emilia Romagna, RO).

Other measures were also judged for their positive effects on the employment opportunities in rural areas, such as investments in physical assets (e.g. ES Asturias, FR Martinique, FR Nord-Pas-De-Calais, FR Poitou-Charentes, SK), vocational trainings (e.g. ES Valencia, FI Mainland, UK Northern Ireland), or support to the broadband expansion (e.g. UK England). Some AIRs from France showed that compensation payments for areas facing significant natural constraints reduced the income gaps between beneficiary farms and non-beneficiaries, therefore maintained the grazing farms and associated jobs (e.g. FR-Limousine, FR Poitou-Charentes, FR Rhone-Alpes). Similar effects were reported also for the RDP support to organic farming and agri-environment-climate actions (e.g. FR Nord-Pas-De-Calais, FR Pays De La Loire).



Highlights on the reported methodologies

Numerous MAs used quantitative methods to assess the RDP contribution to the EU 2020 headline target of raising the employment rate of the population aged 20-64 to at least 75%. For instance, PSM and/or DiD (e.g. ES Castilla la Mancha, ES Andalucia), Input-Output model (e.g. CY, CZ, ES Galicia, ES La Rioja), and econometric analysis and models (AT, EL, LT). Qualitative methods were also used to complement quantitative findings (e.g. ES Andalucia) or to fill data gaps for the quantification of net contributions (e.g. DE Niedersachsen/Bremen, ES Aragon, FR Centre).



Frequently reported limitations

Most limitations reported were related to the low level of RDP uptake, the time needed for showing the effects of the delivered measures, and the lack of data. Numerous MAs were not able to calculate the net contributions to I.14 for reasons such as:

- the generation of employment was not planned as primary objective of the RDP
- lack of data available at LAU2 level or differences in the definitions between EUROSTAT and national statistics
- it was assumed that the RDP net contribution to the increase of employment rate is negligible compared to other sectors and policies influencing employment rates
- a sufficient implementation period and higher level of implementation was needed to obtain data and carry out more robust analyses with quantitative methods.

CEQ 23: To what extent has the RDP contributed to achieving the EU 2020 headline target of investing 3% of the EU's GDP in research, development and innovation?



Background Information

The EU Strategy 2020 for smart, sustainable and inclusive growth sets up the headline targets of investing 3% of the EU's GDP in research, development and innovation (R&D&I). This headline target is strongly linked with the RDP cross-cutting objective of 'fostering innovation in rural areas', as well as the CAP general objective of increasing the competitiveness in agriculture and forestry. The trends observed at EU-28 level between 2002 and 2016 show that, after a period of slow but rising growth, the gross domestic expenditure on R&D as a percentage of GDP ('R&D intensity') stagnated at around 2.03 % between 2014 and 2016. As a result, the Europe 2020 target is still some distance away.

RDPs can contribute to this headline target mainly with support under Priority 1, but also through other RD priorities and focus areas supporting investments into R&D and innovation. To answer CEQ 23, the guidelines suggest using the [% of the EU's GDP to be invested in R&D/innovation](#), common target indicators (e.g. T01, T02), as well as other additional indicators (examples):

- RDP expenditure in R&D as a % of the GDP;
- Gross domestic expenditure on R&D (GERD) relative to gross domestic product (GDP);
- RDP expenditures in R&D and innovation as a % of the total RDP expenditures;
- RDP expenditures in R&D and innovation as a % of the gross domestic R&D & innovation expenditures.

103 MAs provided an answer to this common evaluation question. Among these, 76 reported evidence on the contribution toward the headline target by means of various indicators.



Summary of reported contributions

RDP expenditure in research, development, and innovation as a % of the GDP

Almost all MAs answering this CEQ have reported that the achievements in terms of RDP expenditure in R&D as % of the GDP were so far very small or hardly quantifiable. This was explained with the limited implementation of relevant measures, the small size of RDP budget specifically dedicated to R&D&I, or some methodological difficulties in the assessment of this indicator. Numerous regional programmes in Spain, France, Italy, Germany and Portugal reported very low contributions to this target, ranging from 0.1% to 0.0001% (e.g. ES Andalusia, FR Languedoc-Roussillon, DE Niedersachsen/Bremen, IT Lazio). Similarly, AT estimated that the RDP contribution to increasing R&D expenditure as % of the GDP amounted to 0.16%. In some cases, it was reported that the 3% Europe 2020 target was not yet reached, but good progresses has been made in achieving national or regional targets (e.g. CZ, IT Abruzzo, ES Catalonia, SK).

A few programmes reported higher progresses of RDP contributions to increasing R&D&I expenditure, either in absolute or relative terms (e.g. share over the national or regional GDP expenditure for R&D or over the total RDP expenditures). For instance, EE reported a substantial increase in the RDP budget for R&D between the previous and the current programming period (from 1.69% to 4.41%). The share of the expenditure for M01, M02 and M16 corresponds to 2.48% of Estonian R&D expenditure, and this share amounts to 9.9% if other innovation supporting measures are included (e.g. M19 LEADER and M09 Producer groups). LV reported that the 2014-2020 planned expenditure for the measures under Priority 1 amounted to 0.15% of GDP in 2018. The level reached up to 2018 (completed operations) was 0.01%, and the potential (committed operations) level was 0.08% of the GDP 2018.

RDP contributions to research, development and innovation

Although the achievements of the EU2020 headline target were generally reported as limited across the Member States, **numerous MAs reported positive RDP contributions to this objective, especially in terms of improving the conditions and creating an environment favourable to generate innovation and disseminate knowledge.** This was achieved via various measures, e.g. trainings, farm advisory services, individual company funding, broadband expansion, LEADER, cooperation (e.g. DE Niedersachsen/Bremen, FR Centre).

Another way to strengthen the link between research, development, and innovation can be observed in the design of the RDP intervention logic, particularly in the selection criteria. In ES La Rioja, R&D&I is fostered by establishing selection criteria to enhance and boost innovation in investment operations (M4.1.1, M4.1.2, M4.2, M4.3.1, M 6.1, and LEADER operations). In ES Madrid, the selection of EIP-AGRI operational groups prioritises those projects which build upon or further develop knowledge generated by research activities. A specific focus on innovation in the selection criteria can be observed also in other RDPs (e.g. ES Cataluña, ES Extremadura, ES Galicia, ES La Rioja, IT Toscana, IT Umbria).

RDPs contributions to fostering research, development, and innovation in rural areas were also reported in the answers to the CEQs 01, 02, and 30.



Highlights on reported methodologies

For answering the common evaluation question, most MAs mentioned quantitative methods to calculate the contribution to the headline targets. In some cases, MAs quantified additional indicators. For instance, ES Navarra assessed:

- Share of RDP expenditure in R&D&I in relation to the total RDP expenditure
- Share of RDP expenditure in R&D in relation to GVA generated by the RDP
- Share of RDP expenditure in R&D&I in relation to the regional gross expenditure in R&D&I

LV assessed the share of supported projects with an innovative character over the total number of RDP supported projects (1.27%). Other programme used qualitative methods, such as surveys (e.g. ES Murcia, ES Asturias, ES La Rioja, ES Asturias, CZ), focus groups (e.g. FR Bourgogne, FR Franche-Comte, FR Haute-Normandie), and case-studies (e.g. UK Northern Ireland).



Frequently reported limitations

The low level of RDP uptake, the small RDP size and the lack of data were the most common limitations reported by the MAs in the answers to this evaluation question. Given the low level of RDP uptake, some programmes highlighted that the need to include also committed projects in the calculation of RDP expenditure in R&D&I. In some cases, the RDP support to R&D&I was assumed to foster innovation in rural areas, but with low impact on the achievement of the EU2020 deadline target.

CEQ 24: To what extent has the RDP contributed to climate change mitigation and adaptation and to achieving the EU 2020 headline target of reducing Greenhouse Gas emissions by at least 20% compared to 1990 levels, or by 30% if the conditions are right, to increasing the share of renewable energy in final energy consumption to 20%, and achieving 20% increase in energy efficiency?



Background Information

The EU Strategy 2020 for smart, sustainable and inclusive growth sets up the headline target for climate change mitigation and adaptation to be achieved by 2020. EU rural development policy as part of the EU 2020 Strategy contributes to these targets mainly through interventions of RDPs.

For quantifying the RDP contributions to this headline target, the CAP common impact indicator I.07 GHG emissions from agriculture as well as several common result and context, and additional indicators are used.

106 MAs provided an answer to this common evaluation question and 82 reported the contribution to the headline target. MAs often referred also to the answers of CEQ 14, 26, 28 when reporting on this headline targets.



Summary of reported contributions

Reduction of GHG and ammonia emissions

Various MAs answered this common evaluation by means of the common CAP impact indicator I.07 Emission from Agriculture; and the complementary result indicators R18 and R19. A more detailed analysis of the RDP contributions to the reduction of emissions from agriculture is available in the summaries of CEQ 14 and 28.

Several MAs were able to demonstrate a reduction of GHG and ammonia emissions due to RDP measures 11 and 10. A slight reduction of GHG was for example observed in IT Lazio (0.09%), DE Nordrhein-Westfalen, Sachsen, Schleswig-Holstein and ES la Rioja (0.3% due to the measures M1, M4, M10 and M11), Poland (0.16%), UK England (estimation between 0.26 – 8%), IT Toscana (0.54%), Croatia (1%) IT Lombardia (1.1%), Calabria (1.2%), Veneto (2.2%), Estonia (1.65%), Castilla la Mancha (1.4%).

By contrast, few reports mentioned an increase in GHG emissions: In CZ higher GHG emissions were caused by an increase in investments in agriculture, which however was balanced to a certain degree by measures supporting afforestation (M8) and turning arable into the grassland land (M10). Similarly, an increase in GHG emission in agriculture was also reported from Austria, Estonia and FR Champagne.

Some reports stated that there have been no RDP effects on the emission from agriculture (DE Baden Wurttemberg, ES Aragon, Asturias, Cantabria, Cataluña, Extremadura, Valencia).

Energy efficiency and the use of renewable energy

Only a few MAs reported on the contribution to energy efficiency and the use of renewable energy, which can be explained by the lower number of RDPs having the related FA 5C programmed. Among those MAs that provided information the assessed contribution to the national energy production was overall very small. For instance, in IT Marche the contribution was 0.01%, in Toscana 0.04%, Umbria 0.086%, Liguria 0.08%, ES Castilla la Mancha 0.06%. Similarly, in UK England, IT Veneto, FR Pays de la Loire, ES Catalan, Andalusia and DE Mecklenburg-Vorpommern the contribution was around 0.3%. In Emilia Romagna the RDP contribution to the energy consumption in agriculture was 0.65%. Slovakia reported 18.6% of RDP contributions to the production of national renewables

In some cases, MAs reported on energy savings also in a quantitative way. For instance, BE Flanders was able to demonstrate that between 2016 - 2018, a total of almost 260 MWh per year were saved

thanks to investment subsidies, such as facade screen, blackout screen, energy screen, heat buffer tank and climate computer. In DE Mecklenburg-Vorpommern, 16 projects (3.2% of the projects) made direct contributions to improving energy efficiency and resulted in electricity savings of 24 to 48 kWh. ES Andalusia reported that the energy savings associated with 10 projects under M 4.2.1 and M 4.2.2 saved 2,218.06 MWh (=190.75 TOE). In FR Bretagne, a survey conducted among beneficiaries of RDP investments in energy-efficient equipment, facilities and buildings estimated 7,300.9 MWh of energy savings, which however is a negligible volume in comparison with the energy consumption of the agricultural sector in Brittany (i.e. 5,319,329.4 GWh). Similar contributions were reported in FR, where the installation of photovoltaic panels saved 1.2 TOE, which corresponds to 0.023% of the energy consumed in the agricultural sector.

Highlights on reported methodologies

The data used in this assessment area included, for instance, a newly established sustainability database which helped to calculate the effect of RDP supported investments on water storage, water use, energy use, ammonia emissions, manure storage, greenhouse gas emissions, odour emissions and fine dust emissions (AT); Eurobarometer data (IE) and a combination of monitoring data with survey and interviews (ES Navarra).

Quantitative methods concerned various modelling techniques, such as the CGE (AT, IE and FI Aland). ES Andalusia calculated CO₂ based on a model established by the National Institute for Research and Agrarian and Food Technology (INIA) and applied by National Forest Inventory (IFN). Furthermore, also counterfactual assessment based on FADN data combined with interviews and surveys have been used (SK and ES la Rioja)

Qualitative methods included for example MAPP for a subjective assessment of the impact of selected RDP measures on the increase of energy efficiency and renewables (Poland); surveys (FR PACA, FR Limousine, FR Aquitaine, FR Poitou Charentes, FR Pays de la Loire, IE); focus Groups (FR Rhone Alps), thematic case studies (LT).

Frequently reported limitations

AIRs mentioned the following limitations:

- quantification of the GHG emissions was difficult with the available data, therefore the programme effects could hardly be quantified;
- delay in data provision or availability of data only for only one year;
- data were not available at regional level;
- Low RDP uptake and small RDP size.

CEQ 25: To what extent has the RDP contributed to achieving the EU 2020 headline target of reducing the number of Europeans living below the national poverty line?



Background Information

The CAP contributes to the headline target of '20 million less people at risk of poverty' through the CAP overall objective 'Achieving the balanced territorial development of rural economies and communities including the creation and maintenance of employment.

The effects are measured through the CAP common impact indicator Degree of rural poverty (I.15) as well as through additional indicators related to the EU 2020 headline target (e.g. number of people at risk of poverty or social exclusion).

The relevant RD priorities and focus areas are RD priority 1, 2, 3 and 6, as well as FA 1C, 2A, 2B, 3A, 6A, 6B and 6C. 105 MAs provided an answer to this common evaluation question, and 75 reported evidence on the contributions to achieving the EU 2020 headline target by means of various evidence. MAs often referred also to the answers of CEQ 16, 17, 29 when reporting on this headline target.



Summary of reported contributions

The number of people living below the national poverty rate has decreased

There has overall been a rather low level of RDP uptake under the relevant priorities contributing to this headline target. Moreover, various AIRs stated that their RDP does not pursue a specific social policy agenda to reduce poverty in rural areas (e.g. AT, DE Baden-Württemberg etc.). **Still, some MAs were able to demonstrate a link between the RDP interventions and the reduction of the risk of poverty,** notably:

- In CZ, the net household income increased by 0.39% compared to the 2015 baseline. The impact of the RDP in absolute terms is positive for EUR 25 per household. If this value was transferred to the first decile of households below the income poverty threshold, an increase in their income of EUR 25 would represent a change of 0.91%.
- In DE Brandenburg/Berlin, about half of the RDP funding was effectively geared towards poverty reduction mainly due to LEADER. An extrapolation of the expected impact shows an RDP contribution of 7.5 % to the hypothetical target for the ESI funds of reducing the number of people at risk of poverty in rural Brandenburg by about 20,000.
- In ES Navarra, the programme supported more than a third of farms with total incomes below the poverty line. In more than 25% of these cases (351 people), the support provided has contributed to increase the incomes above the poverty line.
- In EL, the programme contributed to poverty reduction, since the poverty indicator decreased by 0.27% on an annual basis for the years 2015-2017 (based on a CGE model).
- In IE, 36% survey respondents view the impact of the RDP on poverty reduction as moderate, while 22% believe the RDP had a significant impact. At the same time, 16% of supported households under the natural constraints measure are located in regions with the highest risk of poverty.
- In LT, the RDP reduced the risk of poverty or social exclusion in rural areas by 0.74 % (net effect based on econometric modelling).
- PL analysed what would have happened without the RDP support and found that the poverty indicator would have been higher by 28% in 2017 and extreme poverty in the countryside would have been 20% higher.

Several MAs reported also indirect achievements, mainly through employment and income, e.g.:

- the potential of LEADER to reduce poverty was highlighted in several German programmes (DE - Baden-Wurttemberg, Bayern, Hessen, Niedersachsen/Bremen, Schleswig-Holstein) due to diversification, basic services and village renewal contributing to create jobs. Also, EE and RO report that the impact of LEADER on the involvement of the local population and job creation is significant, helping to avoid social exclusion.
- In ES Asturias, beneficiaries surveyed perceive that the aid has contributed to reducing the number of people living below the poverty line, creating wealth and direct and indirect employment. The increase of the rural employment rate is also estimated to have an indirect contribution if low income people are amongst the beneficiaries (ES Galicia, ES La Rioja, FR Poitou-Charentes). In SK, Priority 2 has contributed to agricultural productivity and employment maintenance. In UK England, the programme has been effective in creating jobs, which may contribute to reduce rural poverty, but no evidence of the link has been found.
- The impact on farm income (measured in some cases in terms of regional GVA or regional GDP) from various measures (young farmers, investment, compensatory allowance for natural handicaps, agri-environment and climate measures and LEADER) is estimated to contribute indirectly to reducing the risk of poverty and social exclusion and although the quantification of this impact was often challenging (especially in regionalised programmes).



Highlights on reported methodologies

Some MAs used robust methods such as econometric modelling (FI Åland Islands, EL, LT, PL), Input-Output analysis (CY, CZ ES La Rioja) and counterfactual analysis (BG, Castilla La Mancha, FR Nord-Pas-De-Calais, FR Picardie, UK England), even if they have not shown a positive or a strong link between the RDP and the contribution to decrease the number of people living below the poverty line. In the absence of data, some MAs have used alternative qualitative methods, e.g. MAPP, expert or beneficiary surveys, working groups, case studies and theory-based evaluations.

In EL, a Dynamic Computational General Equilibrium Model (CGE) model was created for the impact measurement. The advantages of using the model to assess the contribution of the programme to the change in the poverty rate consist in the creation of a set of simultaneous (nonlinear) equations that capture the production and consumption activities and the interactions between economic factors. It was used to calculate different types of effects and impacts taking into account different forms of interactions such as "displacement", i.e. if the benefits in the intervention area, e.g. in terms of business creation, lead to the closure of operations in other areas, the deadweight (i.e. whether the increase in investment and the enhancement of entrepreneurship would have happened otherwise without the intervention), primary and secondary effects, intended and unintended results, optimal allocative efficiency.



Frequently reported limitations

Lack of data and low level of RDP uptake were the main limitations mentioned. Some programmes also reported about the time lag between the delivery of RDP measures and the real effects. Many MAs reported on a presumed limited effectiveness of the RDP in having an impact on poverty reduction.

CEQ 26: To what extent has the RDP contributed to improving the environment and to achieving the EU Biodiversity strategy target of halting the loss of biodiversity and the degradation of ecosystem services, and to restore them?



Background Information

Under the framework of the CAP objective on 'Ensuring the sustainable management of natural resources and climate action, RDPs contribute to the achievement of the EU Biodiversity strategy target. In this context Priority 4 and FA 4A, 4B, 4C are most relevant. Several common indicators can be used in the assessment: Farmland Bird Index (I.08); High Nature Value (HNV) farming (I.09); Ammonia emissions from agriculture (I.07); Water abstraction (I.10); Water Quality – Gross Nutrient Balance (I.11); Water Quality – Nitrates Pollution (I.11); Soil organic matter in arable land (I.12); Soil erosion by water (I.13), and several EU Biodiversity, common result and additional indicators.

109 MAs provided an answer to this common evaluation question, and 90 reported evidence on the contribution to the EU Biodiversity strategy by means of various indicators. MAs, moreover, often referred to the evidence included in the answers of CEQ 8, 9, 10, 11, 14, 15, and 29 when reporting on this headline target.



Summary of reported contributions

Contribution to biodiversity and ecosystem services

The farmland bird index (FBI) is intended as a barometer of change for the biodiversity of agricultural landscapes in Europe. The indicator is a composite index that measures the rate of change in the relative abundance of common bird species at selected sites: trends of the index of population of farmland birds (base year 2000 = 100). **11 MAs reported values showing the contributions towards improving the population trends of farmland birds. Among these, some estimated an increase of the farmland bird index, while others state that the RDP contributed mainly to maintain the trends of this indicator** (e.g. IT Valle d'Aosta). The following examples provide some insights into the reported trends:

- In ES Castilla la Mancha, the RDP contributed to increase the FBI from 75.4 in 2013 to 81.6 in 2018, mainly due to the support to forestry measures and management schemes in Natura 2000. Despite these positive trends, ES Castilla la Mancha states that the RDP alone cannot compensate for the negative effects of intensive farming in the region;
- ES Andalucia reported a positive RDP contribution to the FBI trends in forestry areas, whereas the loss of farmland birds in agricultural areas was not halted;
- ES Aragon reported negative trends of the FBI between 2002-2018, but the RDP still had positive effects in supported arable lands;
- CY reported a positive contribution to the increase in trends of *Columba palumbus*, *Hirundo rustica* and *Falco tinnunculus* between 2013 and 2017;
- ES Castilla Leon reported an average decline of the farmland bird index over the period 2013-2018. However, out of the 16 species with a negative trend, eight were reported to be positively affected by the RDP and are following a favourable evolution.

In SK, the trends of FBI reached the 0.95 in 2018 and in areas receiving support from M10 and M11. The decline in the abundance of all common bird species was not fully halted, even in areas supported by M10 and M11, mainly because of the deterioration of winter bird migrants' habitats and the lack of ambitious agri-environment measures in favour of birds. Due to the lack of updated data, ES Navarra applied qualitative methods (i.e. MAPP method based on surveys and group discussions with the RDP managers of relevant measures and other selected stakeholders). By using a Linkert-scale from -1

(Negative contribution), 0 (No influence), 1 (Light contribution), 2 (Medium contribution), 3 (Strong contribution), the qualitative findings showed an average RDP contribution of 1.7 among the respondents.

Positive RDP effects on biodiversity were observed in AT, where the impact indicators show that the conservation of extensively used agricultural land can slow down and cushion the decline of species. In BE Flanders and Cyprus, there is clear evidence that the RDP is supporting an increase in biodiversity. In DE Baden-Wurtemberg the RDP had a significant impact on biodiversity on grassland and orchard areas mainly due to AECM schemes and organic farming. A similar trend has been reported in DE Mecklenburg-Vorpommern and ES Galicia, Navarra and Asturias, IT Marche, Sicily. In Estonia the values of the bumblebee indicators increased, whereas those of the farmland bird indicators show a decrease both on contracted and non-contracted parcels. In ES national the anti-fire and after-fire measures are restoring the biodiversity. The conservation of genetic resources has been positively influenced in Slovenia, ES Castilla la Mancha, Navarra, IT Marche etc.

An overall decline in biodiversity in spite of RDP measures has been reported by many MAs. The measured contribution was either not significant or none (Czech Republic, DE Sachsen, Bayern, Hessen, Niedersachsen/Bremen, Northern Westfalen, IT Emilia Romagna, Campania, Abruzzo, FR Alsace, Auvergne, Bourgogne, Franche Comte, Ile de France, PACA, Rhone Alps, FI Mainland, Poland etc.).

Contribution to high nature value (HNV) farming

This indicator is defined as the percentage of Utilised Agricultural Area farmed to generate HNV farming. HNV farming results from a combination of land use and farming systems which are related to high levels of biodiversity or the presence of certain species and habitats. 26 MAs reported values of the net contribution to the HNV farming. **Among these findings, the median shows that RDP positively increased the share of HNV farming areas by 17.22%, with a standard deviation of 14.08.**

RDPs have been rather successful in the enhancement of HNV farming through measures like M10, M11 and M12, e.g. Slovenia, ES Aragon, IT Valle D'Aosta, ES Extremadura (with AECM and Natura 2000), ES La Rioja, Valencia, Extremadura, FR Auvergne, Bourgogne, Rhone Alps, IT Abruzzo, Campania, Marche, Emilia Romagna, Sicily, BE Wallonia. PL reported only a local impact of RDP measures on HNV farming, while PT Madeira describes a minimal contribution.

In EL, the application of the shift-share method showed that RDP contributed to increase 7.97% the share HNV farming area. The ratio was calculated for 2018 and 2014, where the value was 69.04. Two types of HNV areas were calculated. Type 1, which is agricultural land with high rates of semi-natural vegetation hosting rare species and Type 2, which is an extensive agricultural land or land covered by mosaic of semi-natural vegetation, cultivated and uncultivated clusters.

Protection of water and soil

Many MAs reported about the contribution of RDP measures to water and soil quality and protection. For example, BE Wallonia, Estonia, FR PACA, Mayotte, Bourgogne, IT Lazio, Marche, Valle D'Aosta, Slovenia, Slovakia were able to demonstrate improved levels of water quality and SOC in soils.

Improvement of water quality has also been mentioned in the AIRs of ES La Rioja, FR Aquitaine, Limousine, Franche Comte, IT Umbria. Enhancement of SOC in soils has furthermore been mentioned in the AIRs of IT Abruzzo, Calabria, Toscana, Sardegna, Campania. A decrease in soil erosion has been observed in IT Toscana, Marche, Campania, Calabria, Abruzzo and ES Andalusia, Asturias and Castilla Leon.



Highlights on reported methodologies

The AIRs 2019 provided information on methods such as:

- Counterfactual assessment based on PSM and DiD (e.g. ES Castilla Leon, Castilla la Mancha, CY)
- GIS was used in CZ for the net assessment of several impacts' indicators – water quality (I.11), SOC in arable land (I.12), Soil erosion by water (I.13); SI used an overlay of geo-reference data of RDP supported Natura 2000 areas with all Natura 2000 areas and triangulated the findings with a focus group. IT Lombardy used GIS to overlay data-sets of RDP supported areas, with HNV agricultural areas provided by the Regional Environmental Authority.
- A modelling approach for I.13 has been used in IT Lombardy and a RUSLE model was applied in ES Andalusia and Calabria for the assessment of soil erosion.
- Qualitative methods, such as surveys, thematic studies, theory of change

Frequently reported limitations

Among the limitations described in the AIRs, MAs reported issues with data availability and quality, e.g. insufficient transects in the set of measurement points, outdated data, missing data at micro-level, only monitoring-data. Furthermore, MAs reported challenges in relation to the low or no RDP uptake and heterogeneity of the measures.

4.2 RDP contribution to CAP Economic objective

CEQ 27: To what extent has the RDP contributed to the CAP objective of fostering the competitiveness of agriculture?



Background Information

Within the overall framework of the Common Agricultural Policy, support for rural development, including for activities in the food and non-food sector and in forestry, shall contribute to achieving the objective of fostering competitiveness of agriculture. RDPs may affect the competitiveness of the agricultural sector through the direct support provided under priorities with primary and secondary contributions. Primary contributions can stem from Priority 1 Knowledge transfer and innovation, Priority 2 Farm Viability and competitiveness, and Priority 3 Promoting food chain organisation. Secondary contributions can arise from all the remaining priorities, namely Priority 4 and 5 (related to the sustainable management of natural resources), and Priority 6 (related to the balance territorial development). The overall competitiveness of the agriculture in EU can also be positively or negatively affected by the RDP indirect effects on non-supported farms.

The answer the CEQ 27 should be based on the calculation of the common CAP impact indicators namely: Agriculture entrepreneurial income (I.01); Agriculture factor income (I.02); Total factor productivity in agriculture (I.03). Whenever possible, MAs shall assess the net contributions to the trends observed with the common impact indicators in order to exclude the influence of various factors affecting a change in the gross values of these indicators. The guidelines '[Assessing RDP achievements and impacts in 2019](#)' suggest also to answer this question by the means of complementary result indicators (e.g. R2), common target/result, and additional indicators. 109 MAs provided an answer to the common evaluation question and 81 reported on the contribution to this objective by means of different evidence.



Summary of reported contributions

Agriculture entrepreneurial income I.01

Agricultural entrepreneurial income measures the income derived from agricultural activities that can be used for the remuneration of own factors (e.g. self-employed/family labour, land belonging to the agricultural holding, and own capital). This indicator is expressed as index of agricultural entrepreneurial income per unpaid annual work unit (€/AWU). **Only a few MAs assessed and reported the net contributions based on the application of quantitative methods to assess this indicator, specifically: econometric models, PSM, DiD or a combination thereof. Among these, the majority reported a positive net contribution at macro-level** (e.g. AT, ES Castilla Leon, DE Baden-Wurttemberg, HU, UK England). The following examples are displayed more in detail:

- In ES Murcia, the latest data on the gross value of the agricultural entrepreneurial income correspond to 2015 (=75,579.97 €/AWU). To calculate the RDP net contribution, a counterfactual analysis between RDP beneficiaries and non-beneficiaries was conducted on the bases of data collected for the period 2014-2017. The estimated RDP net contribution amounted to 23,764.08 €/AWU.
- AT reported that the agricultural entrepreneurial income increased between 2016-2018, and RDP net contribution amounted to 2,329 €/AWU in 2018;
- ES Castilla Leon reported that the agricultural entrepreneurial income increased by 8,328 €/AWU between 2014-2017, and RDP net contribution amounted to 421 €/AWU;
- IT Veneto reported that the agricultural entrepreneurial income increased by 3,389 €/AWU between 2013-2016, and RDP net contribution this increase amounted to 251 €/AWU. This contribution was mainly due to the support under Priority 2, which generated a higher increase of agricultural income (+29%) compared to the increase of unpaid labour (+4.5%).

In DE Bayern and LV, net contributions were positive but considered to be still minor. Similarly, PL explained that, although net contributions were minor, the trends in agricultural entrepreneurial income would have been even lower or negative without RDP support. **Some MAs reported negative net contributions, although the results were considered to be statistically insignificant due to the small sample size or the lack of data** (e.g. CZ, ES Castilla La Mancha). In the case of SK, agricultural entrepreneurial income was reported per holding (due to the lack of information on the AWU for the entire sample): negative RDP effects were observed at level of supported farm (–15,079 Euro/holding), but positive values were reported at macro-level if both primary and secondary contributions from other priorities were considered (+40.63 Million Euro).

Agricultural factor income I.02

The agricultural factor income measures the remuneration of all factors of production (land, capital, labour) regardless of whether they are owned or borrowed/rented and represents all the value generated by a unit engaged in an agricultural production activity. This indicator can be expressed in real terms (€/AWU) or index (2005=100). **Only a few MAs assessed and reported the net values of this indicator. Among these, the majority reported positive RDP net contributions** (e.g. ES La Rioja, ES Castilla Leon, ES Andalusia, LV, SK). The following examples are displayed more in detail:

- ES Murcia, the latest data on the gross value of the agricultural factor income correspond to 2015 (=32,164.9 €/AWU). To calculate the RDP net contribution, a counterfactual analysis between RDP beneficiaries and non-beneficiaries was conducted on the bases of data collected for the period 2014-2017. The RDP net contribution amounted to 2,872.35 €/AWU.
- IT Veneto reported that the agricultural factor income increased by 4,120 €/AWU between 2013-2016, and the RDP net contribution amounted to 707 €/AWU;
- ES La Rioja reported that the agriculture factor income increased by 3,096.85 €/AWU between 2013-2015, and the RDP net contribution amounted to 440.60 €/AWU
- ES Castilla Leon reported that the agriculture factor income increased by 5,527 €/AWU between 2014-2017, and the RDP net contribution amounted to 407 €/AWU

In some AIRs, the net contributions were positive but considered to be still minor (e.g. LV, PL, ES Navarra). **Negative values were reported in some AIRs** (e.g. DE Baden-Wurttemberg, PT Madeira) indicating that supported farms developed positively, but worse than non-supported farms. In some cases, negative values were reported but considered to be not statistically significant (e.g. CZ, ES Castilla la Mancha, SI).

Total factor productivity in agriculture I.03

The total factor productivity (TFP) compares total outputs relative to the total inputs used in production of the outputs over a considered period (i.e. 3 years average). Output and inputs are expressed in terms of volume indices, which means that the output/input quantities are weighted with the output/input values. As result, an increase in TFP reveals a gain in output stemming from the joint effects of many factors including technologies, efficiency gains, economies of scales, managerial skills, and changes in the organisation of production. The changes of this indicator are expressed as index over a baseline year (2005=100). **Only a few MAs assessed and reported the net contribution to this indicator (i.e. 13). Among these, the majority reported positive net contributions** (e.g. PL, LV, IT Emilia Romagna, ES Castilla-Mancha, LT, SK, ES Asturias). The following examples are displayed more in detail:

- In LT, the TFP increased up to 133 in 2017, and the RDP net contribution to this increase amounted to 5.6%;
- In ES Castilla-la-Mancha, the TFP increased from the reference period, and the RDP net contribution to this increase amounted to 2.6%;

- In LV, the TFP increased by 10% from the reference period, and the RDP net contribution to this increase amounted to 0.6%.

Additional indicators

Despite the low level of reporting of the RDP net contributions to CAP common impact indicators, a large number of MAs showed positive impacts on the competitiveness of agriculture by the use of various indicators, such as agricultural production, family farm income (€/AWU), change in agricultural output on supported farms/AWU (complementary result indicator R.2), gross value added per annual working unit, production costs, sales revenues, share of farms adopting food quality schemes (e.g. PDO, organic farming), cost savings from reduced amount of pesticides and fertilisers, entrance of farmers with acquired knowledge and skills, or better infrastructures in the forestry and agricultural sector.



Highlights on the reported methodologies

Among the MAs assessing the net contributions to the CAP common impact indicators, the following quantitative methods can be highlighted:

- Quasi-experimental counterfactual analysis based on PSM and DiD (e.g. CZ, DE Bayern, ES Castilla León, ES Castilla la Mancha, ES La Rioja, ES Navarra, IT Veneto, HU, LT, LV, SK, PL).
- Econometric regression analysis (e.g. BG, IT)
- Modelling techniques, such as the partial agricultural and forestry sector model (PASMA) in AT
- Naïve counterfactual based on average comparisons or coefficients obtained from the ex post evaluation of RDPs 2007-2013 (e.g. in several IT regions)

Some MAs assessed RDP net effects at both micro- and macro-level (e.g. ES Castilla la Mancha, LV). Qualitative methods, such as interviews or surveys, were often used in combination with quantitative methods (e.g. ES Castilla la Mancha, ES Castilla Leon) or to fill data gaps.



Frequently reported limitations

The assessment of RDP net contributions was considered problematic in numerous AIRs. The main limitations related to this assessment included the low level of RDP uptake, the time needed for observing real effects after a good level of implementation, and most of all, the lack of data. Data was an issue for the construction of a robust and representative counterfactual assessment (both in supported and non-supported farms). Especially in regionalised RDPs, updated values of the common context indicators were often unavailable. For the construction of the control group, the use of data from FADN was limited due to the two years delays or the large coverage of RDP support in the territory.

4.3 RDP contribution to CAP Environmental objective

CEQ 28: To what extent has the RDP contributed to the CAP objective of ensuring sustainable management of natural resources and climate action?



Background Information

The Common Agricultural Policy contributes to its overall objective on ensuring the sustainable management of natural resources and climate action through various interventions of the EAGF and EAFRD. Within the rural development programmes financed by the EAFRD, the contributions are mainly generated through Priority 4 and its Focus Area 4A.

Several common indicators can be used in this assessment area, such as the CAP common impact indicators GHG emissions from agriculture (I.07), Farmland Bird Index (I.08); High Nature Value (HNV) farming (I.09); Ammonia emissions from agriculture (I.07); Water abstraction (I.10); Water Quality – Gross Nutrient Balance (I.11); Water Quality – Nitrates Pollution (I.11); Soil organic matter in arable land (I.12); Soil erosion by water (I.13) as well as several common result and additional indicators.

106 MAs provided an answer to this common evaluation question and 83 reported the contribution to CAP objective. When reporting about the net contributions to the above CAP impact indicators, numerous MAs referred also to the answers of CEQ 14, 24 and 26.



Summary of reported contributions

Emissions from agriculture

The common CAP impact indicator capturing the level of emissions from agriculture is composed of two sub-indicators, one assessing greenhouse gas (GHG) emissions and one ammonia emissions. GHG emissions are reported as:

- I.07.01: Aggregated annual emissions of methane (CH₄) and nitrous oxide (N₂O) from agriculture (expressed in tonnes of CO₂ equivalents);
- I.07.02: Aggregated annual emissions and removals of carbon dioxide (CO₂), and (where these are not reported under the agriculture inventory) emissions of methane (CH₄) and nitrous oxide (N₂O) from agricultural land uses (expressed as percentage of the net emissions in the reference year 1990).

RDP net contribution to the reduction of GHG emissions from agriculture, expressed with I.07.01, was reported by 30 MAs. Among these, most of the MAs reported positive (net) contributions on the reduction of GHG emissions (e.g. DE Nordrhein-Westfalen, ES La Rioja, ES Andalucia, IT Marche). CZ reported negative contributions, mainly due to the increase of livestock capacity supported by RDP investments in physical assets. The following examples are displayed more in detail:

- DE Niedersachsen/Bremen reported that various RDP measures (agri-environment-climate commitments, organic farming) increased their effectiveness compared to the previous programming period and contributed to an aggregated annual reduction of GHG emissions of 207,000 tonnes of CO₂ equivalent (cumulative value across the programming period). In relation to the total GHG emissions in the country, this corresponds to an emission reduction of 0.33% (excluding LULUCF).
- ES Castilla la Mancha reported that RDP investments in physical assets, agri-environment-climate commitments, organic farming, and afforestation provided an annual reduction of the GHG emissions of approximately 648.49 tonnes of CO₂ equivalent between the period 2016 to 2018;

- IT Lombardia reported that various RDP measures (e.g. organic farming, management contracts reducing fertilisers use) provided an annual reduction of GHG emissions of approximately 165 tonnes of CO₂ equivalent between the period 2016 to 2018. Other IT regions reported a reduction of 142.96 (IT Campania), 109.59 (IT Toscana), 72 (IT Veneto) tonnes of CO₂ equivalent. Based on the FAO's simulation model [EX-ACT](#), IT Lazio estimated that the RDP net contribution to the aggregated annual reduction of GHG emissions amounted to 103.13 *kilotonnes* of CO₂ equivalent (cumulative value over the period 2016-2018);
- BE Flanders reported that RDP investments in physical assets provided an annual reduction of GHG emissions of approximately 1,500 tonnes of CO₂ equivalent between the period 2016 to 2018.

RDP net contribution to the reduction of GHG emissions from agriculture, expressed with I.07.02, were reported by 22 MAs. In all those cases (except for CZ), there was evidence for positive effects on the reduction of ammonia emissions, in line with the trends observed in I.07.01. For instance, ES Castilla la Mancha reported that the RDP contributed to reducing agricultural emissions by 23%, which corresponds to a reduction of 3.9% of the rate measured with I.07.02. Similarly, in other AIRs, the I.07.02 reduced by 1.9% (IT Sardegna), 0.7% (IT Toscana), 0.3% (IT Emilia Romagna and DE Schleswig-Holstein), 0.19% (IT Veneto), 0.16% (ES La Rioja), 0.08% (IT Valle d'Aosta). Depending on the data availability of the common context indicators, different baselines were used to assess this reduction: e.g. 2011 in ES La Rioja, 2015 in IT Emilia Romagna, 2016 in DE Schleswig-Holstein).

RDP net contributions to the reduction of ammonia emissions from agriculture are expressed in kilotonnes of NH₃. 20 MAs reported the net contributions to this impact indicator. Positive effects on the reduction of ammonia emissions were achieved thanks to investments improving the slurry management from the livestock sector and the reduction of fertilisers thanks to the support to organic farming and agri-environment and climate schemes. For example, ammonia emissions from agriculture (kilotonnes of NH₃) were reduced by 0.740 (IT Veneto), 0.614 (ES Castilla la Mancha), 0.46 (IT Sardegna), 0.43 (ES Castilla Leon), 0.39 (HR), 0.14 (IT Calabria). 0.09 (ES La Rioja).

In numerous AIRs, investments in livestock production were reported to lead to a slight increase of GHG and ammonia emissions (e.g. AT, CZ and BE Wallonia). In some cases, this trend was balanced with investments into manure management (e.g. BE Flanders, DE Mecklenburg-Vorpommern) or the use of measures M10 and 11 to mitigate the negative effects of the increase of livestock (Austria, BE Wallonia, DE Niedersachsen). The application of organic farming (with significant reduction of fertilisers) and extensive grasslands helped reducing emissions from agriculture (DE Nordrhein-Westfalen, ES Andalusia, IT Puglia, Slovenia and Hungary). Also, Natura 2000 (M12) areas were reported to contribute to the reduction of GHG and ammonia emissions (Estonia). Furthermore, the production of renewables supported the reduction of emission from agriculture as reported in IT Valle D'Aosta and Liguria.

Enhancing biodiversity and HNV farming

Information concerning RDP impacts on biodiversity and HNV farming were mainly reported in CEQ 26 and therefore quite limited in CEQ 28. **There was little evidence on the RDPs contribution to reverse the decline in biodiversity.** A further decrease in biodiversity despite RDP interventions has however been reported in the AIRs in Estonia, FI mainland, Greece, Lithuania, Latvia. Zero effects have been reported in IT Liguria, Valle D'Aosta, Friuli Venezia Giulia, Czech Republic, Sweden. A slight increase of biodiversity has been reported in IT Campania, Lazio (0.24%) and Slovakia.

RDP effects on HNV farming have been more frequently reported compared to the effects on biodiversity. Positive trends in the area HNV farming have been described in the AIRs of UK England, Slovakia, Latvia, Lithuania, IT Umbria, Marche, Molise, FI mainland, Languedoc-Roussillon, Midi-Pyrenees.

Improving water quality and use

With respect to water abstraction in agriculture, positive RDP impacts have been reported, for example due to using management practices supported by measures M10 (CY, DE Rheinland-Pfalz, and IT Sardegna). Investment measures have been effective to gain water savings through modernisation of irrigation systems (e.g. ES Aragon, Extremadura, La Rioja - 22,5%, IT national, PT Madeira). The efficient water use through RDP investments has been reported also in DE Brandenburg Berlin, EL, IT Campania, Emilia Romagna, Marche, Umbria, Veneto. Low or zero RDP impact were reported in IT Lombardia and PL.

*HU reported that the phosphorus concentration was stable and without differences between supported and not-supported areas, whereas the volume of nitrate content **decreased** in (fresh) surface water of supported areas in comparison to the average values of two periods: 2010-2014 and 2016-2018'.*

The RDP effects on water quality were overall been difficult to assess due to the delay in the reaction of the soil and water environment on RDP interventions (e.g. in Poland, FR Franche Comte and Bourgogne). Slight positive impacts were reported, for instance in BE Wallonia, DE Baden Wurttemberg, SE, RO, PT Acores, PT Madeira, IT Veneto, Valle D'Aosta, Puglia, Marche, Lombardia, and FI Mainland. Several RDP measures have been effective in improving water quality, e.g. via AECM and organic farming able to decrease the use of fertilizers (e.g. IT Emilia Romagna, Campania FR Midi Pyrenees, Languedoc-Roussillon, DE Sachsen, Brandenburg/Berlin, ES Canary Islands, EL and CZ).

Improving soil quality and soil erosion by water

Since changes in SOC can be observed only on the long run, a few AIRs were able to show the RDP impacts already in 2019. Mostly they provided assumptions on the effects based on the contracted UAA under the commitment, e.g. Austria, BE Flanders, Romania, IT Campania DE Mecklenburg-Vorpommern and Lithuania. Some MAs quantified these estimations, e.g. IT Campania as based on measures applied and JRC's organic carbon content map of SOC estimated 0.32% increase in SOC, IT Umbria 0.7% increase, in Valle D'Aosta 0.002%.

In AT, soil erosion by water was reduced by an average of 1.6 tonnes/ha per year (i.e. from 7.5 to 5.9 tonnes), particularly in endangered regions due to the higher proportion of field crops with high soil protection in organic farming.

The RDP impacts on soil erosion are also long-term impacts, which can be achieved with several RDP measures, among them the afforestation or other forest measures (M8), organic farming (M11) and AECM (M10 - permanent grassland mainly). Many reports have used the % of contracted land under management of above measures to estimate the reduction of soil erosion by water (Slovenia, PT Acores, Madeira, Slovakia, IT Umbria, Marche, DE Brandenburg/Berlin, Thüringen, ES I Canarias, Aragon, La Rioja (reported almost 30% lowered erosion when M8.1 is implemented). Rather modest RDP impacts on soil erosion are described in the AIRs in Greece, Lithuania, IT Liguria and FR Martinique.



Highlights on reported methodologies

Quantitative methods, such as counterfactual assessment included PSM/DiD in DE Bayern IT PACA, EL and HU (water abstraction and irrigation needs) and SK (for biodiversity). Surveys and case studies have been mentioned in FR Limousine, Romania, Poitou Charentes and in Sweden. MAPP was applied in the assessment of RDP measures impacts on water quality in DE Rhineland Pfalz. In IT Umbria, Veneto and Valle D'Aosta, the JRC's organic carbon content map has been used in the assessment.



Frequently reported limitations

The reported limitations included low RDP up take, lack of measurements points to measure the FBI, lack of measurement points – transects biodiversity, difficulties to assess impacts which appear only on the long run such as SOM, water quality, biodiversity, as well as the costs for obtaining data.

4.4 RDP contribution to CAP Socio-economic objective

CEQ 29: To what extent has the RDP contributed to the CAP objective of achieving a balanced territorial development of rural economies and communities including the creation and maintenance of employment



Background Information

Within the overall framework of the Common Agricultural Policy, support for rural development, including for activities in the food and non-food sector and in forestry, shall contribute to achieving the objective of balance territorial development of rural economies and communities. RDPs net contributions to this objective stem primarily from Priority 6 ‘promoting social inclusion, poverty reduction and economic development in rural areas’. RDP support under other priorities can also provide secondary contributions to this objective, particularly from Priority 2 fostering farm viability and competitiveness and Priority 3 promoting food chain organisation.

The answer to the CEQ 29 should be based on the calculation of the related common CAP impact indicators, namely Rural employment rate (I.14), Degree of rural poverty (I.15), Rural GDP per capita (I.16). Whenever possible, MAs shall assess the net contributions to the trends observed with the common impact indicators in order to exclude the influence of various external factors. The guidelines ‘[Assessing RDP achievements and impacts in 2019](#)’ suggest to answer this CEQ by means of additional qualitative and quantitative indicators. Almost all MAs provided an answer to CEQ 29, and 75 reported evidence on the contribution to this objective. A summary of the RDP contribution to the rural employment rate I.14 is provided in CEQ 22.



Summary of reported contributions

Degree of rural poverty I.15

The degree of rural poverty measures the share of population at risk of poverty or social exclusion in thinly populated areas. The at-risk-of-poverty is the share of people with an equivalised disposable income (after social transfer) below the ‘at-the-risk-of-poverty’ threshold, which is set at 60% of the national median equivalised disposal income. This population at risk of poverty is expressed in both absolute numbers, as well as ratio (%) over the total population in thinly populated areas. In both ways, **less than 10 MAs assessed and reported the net contributions with this indicator. Among those that reported a positive net contribution, the following examples can be illustrated with more details:**

- PL estimated that RDP net contribution to the decrease of the degree of poverty rate in rural areas amounted to 23% in 2016 and 28% in 2017;
- CZ reported that the degree of rural poverty is overall decreasing in rural areas, and specifically, 383 RDP beneficiaries increased their income and passed over the threshold at risk of poverty. The estimated RDP net contribution to the decrease in the degree of rural poverty amounted to 3.8%;
- EE estimated that the RDP net contribution decreased the degree of poverty rate by 1-2% depending on the rural area in the country;
- EL estimated that RDP net contribution decreased the degree of poverty rate by 0.27% on an annual basis for the years 2015-2017 compared to the value of 2014.

Other MAs estimated mainly gross contributions, for instance ES Navarra reported that 351 RDP beneficiaries increased their income and passed over the threshold at risk of poverty.

Rural GDP per capita I.16

Under the objective of balanced territorial development, RDPs aim to reduce the gap in the standard of living between rural and other areas in the EU. GDP per capita, corrected for purchasing power standards (PPS), can be used to compare the aggregate standard of living between different geographical entities.

11 MAs assessed and reported the net contribution to this indicator. Among these, most of MAs reported positive contributions (e.g. ES Castilla la Mancha, ES Navarra, PL). The following examples are illustrated more in detail:

- In EL, the analysis based on modelling techniques showed that RDP net contribution to the increase of rural GDP per capita amounted to 0.081% on an annual basis for the years 2015-2017 compared to 2014. A similar estimation was reported in CY (0.07%);
- CZ highlighted that the rural GDP per capita increased by 21.9% between 2015 and 2018 and the RDP net effect to this growth reached a positive value of 0.4%. In absolute terms, the RDP net effect was an increase of around 64 EUR per capita in rural areas;
- In ES Andalucia, the analysis based on an input-output model showed that from 2013, RDP increased the regional GDP by 0,602%, with different effects on the sectors depending on the investment or support provided. Specifically, in rural areas, RDP contributed to an increase of 22.85 EUR per capita (regional database DEGURBA 3), which corresponds to 20,83 PPS per capita.

Additional Indicators

Despite the low level of reporting on the RDP net contributions to the rural GDP per capita, a large number of MAs assessed the contribution to this CAP objective in terms of closing the productivity gap and improving the links between rural and urban areas (e.g. AT, FR Rhone-Alpes), ensuring an equal distribution of RDP support across the territory, especially in targeted rural areas (e.g. ES Balearic Islands, ES Castilla-Leon, ES Murcia, FR Centre, IT Veneto), fostering the economic diversification and creation of new enterprises in rural areas (e.g. ES La Rioja), improving the supply of services and the attractiveness of rural areas (e.g. FR Aquitaine, FR Limousine), and other socio-economic indicators (added value, net import, gross fixed investments, and employment).



Highlights on the reported methodologies

Quantitative methods were often used to assess the RDP net contributions to this CAP objective. The following examples are highlighted:

- Socio-economic models (e.g. AT, CY, CZ, PL, EL, ES Andalucia, ES Castilla La Mancha);
- GPSM (Generalised Propensity Score Matching) method in combination with DiD (e.g. SI);

Other alternative methods were used, such as analysis of the territorial distribution of the RDP expenditure and supported projects (e.g. ES Castilla-Leon), surveys (FR Limousine), focus groups (FR Basse Normandie, FR Limousine), delphi-method (HU).



Frequently reported limitations

The low level of RDP uptake and the lack of data were the most frequently reported limitations for assessing impacts with robust methods, such as counterfactual analysis. In addition, some MAs stressed that the size of the programme and budget was small in relation to the total GDP at national or regional level, or that this CAP objective was not primarily addressed in the programme (e.g. DE Baden-Wurttemberg, DE Bayern, DE Nordrhein-Westfalen, IT Emilia Romagna, LU). Some AIRs stated that different definitions existed between EUROSTAT and regional/national statistical data, thus making the calculation more challenging (DE Niedersachsen/Bremen, DE Schleswig-Holstein, LT).

4.5 RDP contribution to Fostering Innovation

CEQ 30: To what extent has the RDP contributed to fostering innovation in rural areas?



Background Information

Innovation is a cross cutting priority of the EU rural development policy for the period 2014-2020. RDPs foster innovation through various measures and sub-measures and innovation plays a substantial role in achieving rural policy objectives. The guidelines '[Evaluation of Innovation in Rural Development Programmes 2014-2020](#)' published in 2017 outlines three pathways through which RDPs can foster innovation: a) creating an enabling environment b) boosting the capacity to innovate, c) nurturing innovative potential. These pathways can mutually interact and guide evaluators in understanding, framing, and assessing (qualitatively or quantitatively) RDP contributions to fostering innovation in rural areas. No common CAP impact indicators are linked to CEQ 30. However, the common result indicator linked to the Focus Area 1A (i.e. *T1 expenditures related to Article 14, 15 and 35*), as well as additional quantitative and qualitative indicators can be used to answer this question. 106 MAs provided an answer to the CEQ 30, and 71 reported evidence on the RDP contribution to fostering innovation by means of various qualitative and quantitative information.



Summary of reported contributions

Fostering innovation in rural areas

The positive contributions to fostering innovation in rural areas was reported in a high number of AIRs. Despite the low level of implementation of measures under Priority 1 *Knowledge transfer and innovation*, AIRs showed that numerous other measures are contributing to the achievement of this objective. The three innovation pathways outlined in the above-mentioned guidelines were often used to frame and capture the contributions of these measures, at least from a qualitative point of view. The role of LEADER in contributing to all three pathways was highlighted in numerous AIRs (Table 7).

Table 7. Examples of RDP measures reported as contributing to foster innovation through different pathways

Examples of RDPs measures reported as contributing to innovation	Innovation pathways
M04 <i>Investments in physical assets</i> , M19 <i>LEADER</i> , M06 <i>Farm & business development</i> , M07 <i>Village renewal and basic services</i> were often linked to the RDP contribution in nurturing the innovation potential in rural areas, e.g. by supporting the adoption of more energy-efficient technologies, upgrading production systems, developing new products and services, investing in the diversification of farm activities and creation of new marketing channels.	Nurturing innovative ideas
M01 <i>Knowledge transfer and information actions</i> , M02 <i>Farm advisory services</i> , M16 <i>Cooperation</i> , M19 <i>LEADER</i> were often linked to the RDP contribution in building capacity to innovate in rural areas, by supporting information actions, trainings, brokering activities, or farm advise in different fields (e.g. precision farming, ICT, animal welfare, agro-forestry, sustainable use of farming inputs).	Boosting the capacity to innovate
M09 <i>Producers groups and organisations</i> , M16 <i>Cooperation</i> , M19 <i>LEADER</i> as well as <i>National Rural Networks</i> and <i>Technical Assistance</i> were considered crucial instruments for building an enabling environment for innovation, e.g. by designing selection criteria that stimulate innovative actions, creating platforms and events for exchanging good practices to address common problems, or disseminating innovative actions.	Creating an enabling environment for innovation

While most of the MAs reported on the potential contributions to fostering innovation in rural areas, the assessment of their actual outcomes was exceptional, rather than a common practice. Only some MAs went beyond the analysis of the potential contribution and tried to capture outcomes (see Table 8), mainly through qualitative methods (e.g. surveys, desk analysis, expert-based assessments, interviews).

Table 8. Example of RDP outcomes in relation to fostering innovation

RDP measures	Innovation pathways	Examples of reported RDP outcomes in relation to fostering innovation
M01 M02 M04 M06	Nurturing innovative ideas	<ul style="list-style-type: none"> Based on an expert’s assessment, HU reported that M04, M06, M05 and M09 introduced around 5,050 technological innovations in the livestock, horticulture and food-processing sector. IT Veneto reported that 30% of the interviewed beneficiaries agreed that M04 supported the introduction of innovative process and techniques in the agri-food sector In BE Wallonia, a survey (sample size=356) revealed that 19% of RDP beneficiaries developed new markets through product innovation and/or channel innovation
M07 M09 M16 NRN	Boosting the capacity to innovate	<ul style="list-style-type: none"> FR Mayotte reported the reforestation of ‘Padzas’ with indigenous species thanks to the conduction of field experiments, while in ES Andalucia, new forest fire prevention techniques were piloted and introduced
TA	Creating an enabling environment for innovation	<ul style="list-style-type: none"> In FR Lorraine, RDP fosters social innovations through the support to cooperatives providing collective services (e.g. on-demand transport service, extended to people with reduced mobility) as well as the adoption of innovative governance mechanisms Several surveys showed the RDP’s role in improving the interactions and cooperation among actors in different fields (agriculture, food processing sectors)

Highlights on the reported methodologies

Most of MAs based the assessment on the analysis of monitoring data (e.g. T1) or qualitative description of supported projects. Some MAs carried out a more in-depth analysis of the outcomes, mainly through qualitative methods (e.g. interview, surveys, focus groups, expert-based assessments).

Frequently reported limitations

Numerous MAs conveyed that the quantification of innovation outcomes was methodologically difficult, data-demanding, and requires a longer time frame and higher level of RDP implementation. Furthermore, some AIRs mentioned that this assessment requires an operationalisation of the ‘innovation’ concept, a baseline situation, and collection of primary data considering that secondary data (e.g. official statistics) are not always updated.

5 OVERALL SUMMARY OF RDP ACHIEVEMENTS AND IMPACTS REPORTED IN 2019

Based on the analysis of the enhanced Annual Implementation Reports submitted by the Managing Authorities in June 2019, this summary provides an overview of the main achievements reported under the different priorities and focus areas. This includes the RDPs' contributions towards the [EU Biodiversity Strategy](#) and Europe [2020 Strategy](#) for smart, sustainable and inclusive growth, and the CAP general objectives, namely fostering competitiveness in agriculture, ensuring the sustainable management of natural resources and achieving balanced territorial development.

The analysis of RDP achievements and impacts should be seen in the context of the considerable progress in RDP implementation that has taken place by the end of 2018. This is reflected in the realised expenditures and the achievement of targets set up for the focus area objectives. Nevertheless, strong differences in the level of uptake between RDPs and among the FAs within individual RDPs does exist.

An aggregation at EU-28 level shows that the most progress in terms of realised expenditures (i.e. above 20% of the planned budget for 2014-2020) and achievement of targets (i.e. above 50% of the planned values for 2023) were reached in the focus areas under Priority 2 '*Farm viability and competitiveness*', Priority 4 '*Restoring, preserving and enhancing ecosystems*' and Priority 5 '*Resource-efficient, climate-resilient economy*'. This is especially true in agricultural areas and lesser so in forestry areas. Under Priority 3 '*Food Chain Organisation and Risk Management*', progress made in terms of expenditure and achievements of targets reached a medium level. Lastly, the level of implementation under Priority 1 '*Knowledge transfer and innovation*' and Priority 6 '*Social inclusion and economic development*' were generally low across all RDPs, although, some high levels of achievements were observed in the targets set up for the Focus Area 6B '*Fostering local development in rural areas*'.

Compared to the enhanced Annual Implementation Report in 2017, Managing Authorities and evaluators have considerably increased their efforts in applying evaluation methods that can capture RDP's results and impacts obtained up to December 2018. This can be seen through the number of Managing Authorities providing an answer to the focus areas related CEQs, which is much more complete compared to the situation in 2017. Moreover, the analysis revealed that a high share of Managing Authorities systematically assessed and reported achievements and backed up their evaluation findings with various types of evidence, mostly with quantified common result indicators in combination with additional qualitative and quantitative information. Table 9 shows the situation concerning the quantification of the more demanding complementary result indicators, which has improved compared to 2017.

Table 9. Number of MAs reporting on the complementary result indicators in the AIRs 2019

Complementary Result Indicators	Number of MAs reporting main values	Number of MAs reporting values from secondary contributions	Number of MAs reporting values from LEADER
R2: Change in Agricultural output on supported farms/AWU - Gross Values	61	9	2
R2: Change in Agricultural output on supported farms/AWU - Net Values	60	6	2
R13: Increase in efficiency of water use in agriculture in RDP supported projects	16	7	0
R14: Increase in efficiency of energy use in agriculture and food-processing in RDP supported projects	12	5	1
R15: Renewable energy produced from supported projects	22	6	1
R18: Reduced emissions of methane and NO ₂	22	14	1
R19: Reduced ammonia emissions	21	11	0

Source: Screening of AIRs 2019, European Evaluation Helpdesk for Rural Development

When achievements were neither assessed nor reported, this was often explained with the low level of RDP uptake, the absence of measures programmed under the respective focus areas, or a lack of data to carry out more sensitive and robust evaluations.

In 2019, MAs assessed for the first time the RDP's contributions to the CAP objectives and relevant EU headline targets and therefore still encountered numerous challenges related to data, methodologies, and indicators. As shown in Table 10, the highest number of MAs reporting the **gross values** was for the indicators related to GHG emissions from agriculture (I.07), as well as for the sector-related impact indicators (I.01 Agricultural entrepreneurial income, I.02 Agricultural factor income, and less for I.03 Total factor productivity). The lowest number of MAs reporting the updated (gross) values was for water quality indicators (particularly I.11 Nitrates in freshwater).

The number of MAs able to report already in 2019 on the RDP's **net contributions** to the CAP objectives expressed by means of common CAP impact indicators was still modest, but it is expected to increase for the ex post evaluation. Relatively few Managing Authorities were able to quantify the net contribution in relation to water quality (nitrates in freshwater) and for I.16 Rural GDP in PPS, as well as for I.15 poverty rate in rural areas. While the majority of Managing Authorities were able to quantify the net contribution in relation to I.07 GHG emissions and I.02 Agricultural income, as well as for I.09 HNV farmland.

Table 10. Number of MAs reporting update values and net contribution to CAP impact indicators in AIRs 2019

CAP impact indicator	Sub-indicator	Unit of measure	Number of MAs reporting update values	Number of MAs reporting net contribution
I.01 Agricultural Entrepreneurial Income		EUR (in real terms) / AWU (non-salaried)	88	29
I.02 Agricultural factor income		EUR (in real terms) / AWU	87	28
I.03 Total factor productivity in agriculture		Index	77	13
I.07 Emissions from agriculture	Greenhouse gas emissions from agriculture	1 000 t of CO2 equivalent	95	30
		% of total GHG emissions	89	22
	Ammonia emissions from agriculture	1 000 t of NH3	70	20
I.08 Farmland bird index		Index 2000 = 100	83	11
I.09 High Nature Value farming		% HNV of total UAA	78	26
I.10 Water abstraction in agriculture		1 000 m3	82	15
I.11 Water quality	Gross Nutrient Balance – potential surplus of nitrogen	Kg N / ha / year	87	22
	Gross Nutrient Balance –potential surplus of phosphorus	Kg P / ha / year	75	17
	Nitrates in freshwater – surface water	% of monitoring sites - high quality	73	7
	Nitrates in freshwater – surface water	% of monitoring sites - moderate quality	68	5

CAP impact indicator	Sub-indicator	Unit of measure	Number of MAs reporting update values	Number of MAs reporting net contribution
	Nitrates in freshwater – surface water	% of monitoring sites - poor quality	59	4
	Nitrates in freshwater - groundwater	% of monitoring sites - high quality	77	6
	Nitrates in freshwater - groundwater	% of monitoring sites - moderate quality	71	5
	Nitrates in freshwater - groundwater	% of monitoring sites - poor quality	68	6
I.12 Soil organic matter in arable land	Total estimates of organic carbon content	Mega tones	73	18
	Mean SOC concentration	g/kg	75	18
I.13 Soil erosion by water	Estimated rate of soil loss by water erosion	t / ha / year	82	16
	Estimated agricultural area affected by a certain rate of soil erosion by water	1000 ha	78	21
		% of the total agricultural area	77	20
I.14 Rural employment rate	15-64 years	%	86	18
	20-64 years	%	76	12
I.15 Degree of rural poverty	Total poverty rate	% of total population	86	18
	Poverty rate in rural areas	% of total population	76	12
I.16 Rural GDP		PPS	80	11

Source: Screening of AIRs 2019, European Evaluation Helpdesk for Rural Development

The robustness and sensitiveness of the evaluation approaches varied across the EU-28. Managing Authorities reported on multiple factors that increased or limited the quality of their evaluation findings (e.g. size of RDP budget, level of RDP uptake, evaluation capacity and resources, data availability). Nevertheless, numerous good practices in terms of methodologies could be identified. The application of a counterfactual assessments (e.g. PSM, DiD, models) was frequently reported in the answers, especially for the assessment of socio-economic and sector-related impacts. Bio-physical maps with environmental parameters (e.g. risk level of soil erosion, level of water pollution) were overlapped with the information of RDP beneficiaries to assess the relevance and equity of the RDP's support to tackle and target the areas with the highest levels of environmental problems. GIS and bio-physical modelling techniques (e.g. ITACYL in ES Castilla Leon or IRRINET in IT Emilia Romagna) were used to assess the effects on water consumptions and efficiency in agriculture. Managing Authorities made a consistent use of qualitative methods to triangulate quantitative findings or to fill data gaps (e.g. case study, questionnaire, surveys, focus groups). Additional indicators were used to complement common ones, which shows the capacity to capture different aspects of RDP effects.

Against this background, the evaluation findings reported in the AIRs 2019 showed the following RDP contributions to:

Fostering the competitiveness of agriculture

At macro-level, positive RDP net contributions were reported on the economic performance of the agricultural sector. These were expressed in terms of increased agricultural entrepreneurial income (e.g. AT, IT Veneto, ES Castilla Leon, HU), higher agricultural factor income (e.g. ES La Rioja, ES Murcia,

LV), and more efficient agricultural productivity (e.g. ES Castilla la Mancha, PL, LT). Furthermore, a large number of MAs was able to demonstrate positive effects on the competitiveness of agriculture by means of various indicators, such as family farm income (€/AWU), change in agricultural output on supported farms/AWU (complementary result indicator R.2), gross value added per annual working unit, production costs, sales revenues, share of farms adopting food quality schemes (e.g. PDO, organic farming), cost savings from reduced amount of pesticides and fertilisers, entrance of farmers with acquired knowledge and skills, or better infrastructures in the agricultural sector.

An higher number of MAs reported on the modernisation of agricultural sector, especially in the field of livestock (e.g. CZ, AT, BE Flanders, CY, ES Catalonia, FR Bourgogne, SI) and to a lesser extent in crop production (e.g. FR Ile de France). RDP support to modernisation contributed to the update of electricity networks, facilities, technologies, roads (e.g. IT Lombardia). A few MAs reported achievements in terms of farm restructuring (e.g. EL, ES Castilla Leon, PL). For instance, in SK, farm restructuring was assessed through the change of '*gross fixed assets over the crop and livestock revenue*' between 2014-2018, and the results showed that the level of restructuring in supported holdings was higher in RDP beneficiaries than in the control group of unsupported holdings.

RDP supported the entrance of adequately skilled farmers in the agricultural sector, generating various positive effects, e.g. on farm productivity (e.g. ES Asturias, IT Valle d'Aosta, IT Veneto), employment (e.g. ES Valencia, FR Languedoc-Roussillon, FR PACA), farm structure and technologies (e.g. AT, ES Cantabria, ES la Rioja). Young farmers were often reported as those leading the modernisation of the agricultural sector (e.g. ES Extremadura, ES Navarra, FR Picardie). The positive contribution to the generational renewal in agriculture was reported in numerous AIRs. However, as different factors influence the declining trends in generational renewal observed across EU-28, some MAs stated that the achievements could only partially mitigate the aging trends in the agricultural sector.

The competitiveness of primary producers was improved, especially through the RDP support to processing and marketing activities (including direct selling), which in turn generated added value, income diversification, and higher volumes of production. RDPs introduced quality schemes and encouraged beneficiaries to invest on the quality of agricultural products, including higher animal welfare standards and organic production, which increase their competitiveness on local and international markets. Producer groups and interbranch organisations were supported in numerous RDPs, with positive effects on the negotiation position and vertical integration of primary producers along the food supply chain (e.g. BE Flanders, ES Castilla Leon, IT Liguria, IT Toscana, IT Lombardia, SI).

Ensuring the sustainable management of natural resources and climate action

Emissions from agriculture were reduced in numerous RDPs, both in terms of greenhouse gas and ammonia emissions (e.g. AT, ES Castilla la Mancha, IT Lombardia, IT Veneto, DE Niedersachsen/Bremen). In some cases, investments in livestock production were reported to lead to a slight increase of GHG and ammonia emissions (e.g. AT, CZ and BE Wallonia). However, this trend was balanced with investments into manure management (e.g. BE Flanders, DE Mecklenburg-Vorpommern) or the use of measures like M10 agri-environment-climate commitments and M11 organic farming to mitigate the negative effects of the increase of livestock capacity (AT, BE Wallonia, DE Niedersachsen). Furthermore, the production of renewables supported the reduction of emission from agriculture as reported in numerous programmes (e.g. EE, IT Liguria, SE).

A few MAs reported evidence on the contribution to the enhancement of biodiversity and ecosystems. Nevertheless, some MAs estimated positive net effects on the increase of the farmland bird index (e.g. ES Castilla la Mancha), whereas other AIRs showed that RDPs contributed mainly to maintain stable the population trends in some species (e.g. CY). Despite the positive contributions, many AIRs stated that the overall decline of farmland bird index in agriculture was not halted (e.g. CZ, FI Mainland, IT Emilia Romagna). RDPs were successful in maintaining and enhancing high nature value (HNV)

farming areas through measures like M10, M11 and M12 (e.g. ES La Rioja, ES Andalucia, ES Navarra, IT Lazio, IT Marche, IT Puglia, IT Valle D'Aosta, LV, SK, SI). Genetic resources in plants and animals were preserved through RDP support (e.g. in ES Castilla la Mancha, ES Navarra, IT Marche, SI).

An improvement in water quality in supported agricultural and forestry land was reported across numerous AIRs (e.g. IT Campania, BE Wallonia, BG, CY, DE Hessen, EE). This was often achieved through a more sustainable use of fertilisers and pesticides (e.g. via vocational trainings, farm advisory services, organic and integrated farming, management contracts to improve water quality), as well as investments in physical assets to better manage the discharge of by-products from the livestock sector. Only a few MAs assessed the contribution on the increase of efficiency in water use in agriculture. Among these, efficiency was increased in ES Castilla Leon, ES La Rioja, HU, RO, etc. Numerous RDPs helped saving water in agriculture through agri-environment-climate measures, the adoption of more efficient irrigation systems, or investments to reduce losses in water infrastructure.

RDPs contributed to the prevention of soil erosion and improvement of soil management mainly in agricultural land (e.g. CZ, DE Baden Württemberg, IT Toscana, HR, LU). For instance, AT reported that soil erosion by water was reduced by an annual average of 1.6 tonnes per hectare (i.e. from 7.5 to 5.9 tonnes), particularly in endangered regions due to the higher proportion of field crops with high soil protection and organic farming. RDPs prevented soil erosion in agricultural land mainly through organic farming, as well as the maintenance of woody elements, grass strips, hedgerows, or anti-soil erosion systems. Achievements were also assessed in terms of increased capacity of farmers to manage soil thanks to trainings and farm advisory services (e.g. ES Andalucia), qualitative improvement of soil erosion parameters (e.g. DE Sachsen Anhalt), and prevention of soil consumption from investments in physical assets (e.g. IT Piemonte).

A few MAs reported evidence on the increase of efficiency in energy use in agriculture and food processing. Nevertheless, some AIRs showed positive contributions on the increase of efficiency in energy use of beneficiaries in agriculture and food processing (e.g. AT, EE, IT Abruzzo, IT Sardegna, SE). On the other hand, a larger number of MAs reported achievements in terms of energy savings (e.g. BE Flanders, EL, ES Andalucia, UK Wales). Energy savings were obtained through various investments in physical assets, such as those introducing more energy efficient machineries, processing and refrigeration techniques, irrigations systems based on alternative energy sources, reconstruction of buildings and facilities in livestock production, etc. Energy from renewable sources was generated through the RDP support to the installation of photovoltaic panels, afforestation, investments in machinery for the extraction or transformation of biomass, business development, the creation or upgrade of forestry infrastructure and services.

RDP contributions to carbon conservation and sequestration in agriculture were often assessed in terms of agricultural land covered under management contracts (e.g. conversion of arable land into grassland or maintenance of semi-natural habitats). MAs assessed also the effects in terms of CO₂ stored in agricultural land (e.g. BE Flanders, ES La Rioja, FR Bourgogne, IT Lazio, PL, SI). For instance, ES La Rioja estimated the maintenance of 15,394.73 tonnes of CO₂/year in supported agricultural land, while FI Mainland estimated a storage of 134,700 tonnes of CO₂ in 2018. In addition, management contracts covering forestry areas contributed positively to the carbon conservation and sequestration (e.g. CY, CZ, ES Castilla-Leon, ES Balearic Islands, FR Bretagne). For instance, ES La Rioja reported a sequestration of 72,520.67 tonnes of CO₂ in forest land under RDP support.

Achieving a balanced territorial development

At macro-level, socio-economic indicators measuring the net contributions to the rural employment rate, degree of rural poverty, and rural GDP per capita were assessed only by a few RDPs. Most of the MAs encountered data challenges for the assessment of these indicators (e.g. lack of data at LAU2 level or the low level of implementation of measures under Priority 6). Nevertheless, some

MAs applied quantitative methods to estimate the effects, namely counterfactual analyses (e.g. PSM-DiD), Dynamic Retro Regional Computational Generic Balance models, or Input-Output models. Among those that netted out the effects, significant net contributions to the rural employment rate I.14 were reported in CZ, ES Castilla la Mancha, ES La Rioja, PL. In relation to the degree of rural poverty I.15, positive net contributions were estimated in EL, EE, CZ, PL. As regards the increase of rural GDP per capita, positive net contributions were reported for instance in ES Castilla la Mancha, ES Navarra, PL. In EL, the analysis based on modelling techniques showed that RDP net contribution to the increase of rural GDP per capita I.16 amounted to 0.081% on an annual basis for the years 2015-2017 compared to 2014. A similar estimation was reported in CY (0.07%). Slightly higher positive contributions were observed in CZ and ES Andalucía.

Despite the limited reporting in terms of ‘net’ contributions at macro-level, most of the AIRs demonstrated achievements in relation to jobs creation and maintenance in rural areas. Different measures improved the employment opportunities in rural areas, among which M04 *Investments in physical asset*, M06 *Farm and business development*, M19 LEADER, M01 *Knowledge transfer and information actions*. The role of LEADER in the creation of jobs was highlighted in numerous AIRs (e.g. DE Brandenburg/Berlin, FI Mainland, IT Veneto, LV, UK England). In addition to the creation of new jobs, several programmes mentioned the role of RDP in maintaining jobs in rural areas. For example, DE Mecklenburg reported that 32 jobs were created (16 male and 16 female) and 134 maintained (87 male and 47 female). In ES Murcia, M04 *Investments in physical assets* maintained 1,526 jobs. SK reported that RDP support to farm modernisation and competitiveness maintained 1164 jobs.

A large number of RDPs contributed to the development of a broad varieties of services and local infrastructures, with several positive effects, like increasing the accessibility and mobility in rural areas (e.g. road, tourism infrastructure, biking paths) or providing social and health services to rural communities. The level of expenditure for the expansion of broadband and better use of ICT in rural areas was overall low across the Member States. However, more significant progresses could be observed in a few AIRs (e.g. DE Hessen, DE Niedersachsen/Bremen, FI Mainland, FR Martinique, IT Toscana, SE). LEADER played a positive role in the promotion of ICT in rural areas by providing related trainings or supporting projects such as the development of websites for the promotion of cultural and tourism-related offerings (museums, cycle paths, events).

Achievements in terms of creation of small enterprises were reported in a limited number of AIRs, and mainly by those with a sufficient level of uptake of measures with primary and secondary contributions to the Focus Area 6A. For instance, HU reported the creation of 973 small enterprises distributed across different sectors, i.e. 914 in agriculture; 26 in tourism, catering and other service sectors; 12 in the food-processing sector; and 3 in the forestry sector. Numerous reports highlighted the role of LEADER in initiating new businesses in rural areas (e.g. DE Sachsen, ES Aragon, ES La Rioja). In ES Aragon, LEADER promoted the creation and consolidation of more than 1,000 small enterprises. RDPs supported the diversification of small enterprises in rural areas, especially through farm diversification or the creation of new businesses in non-agricultural sectors (e.g. EE, IT Molise, SK). For instance, AT supported 265 farm diversification projects in the field of catering, farm holidays, community services, horse riding, green care, and processing/direct marketing.

Cross-cutting objective of fostering innovation in rural area

RDPs made good progress in contributing to fostering innovation in rural areas, however, more assessments are needed to capture the ultimate outcomes. The share of realised RDP expenditure in research, development, and innovation (R&D&I) over the total GDP's R&D&I in a country or region was estimated as generally low or negligible. Nevertheless, AIRs 2019 showed that RDPs contributed to:

- creating an enabling environment for innovation M09 Producers groups and organisations, M16 Cooperation, M19 LEADER as well as National Rural Networks and Technical Assistance;

- boosting the capacity of the innovation actors, through M01 Knowledge transfer and information actions, M02 Farm advisory services, M16 Cooperation, M19 LEADER;
- and nurturing the innovation potential via M04 Investments in physical assets, M19 LEADER, M06 Farm & business development, M07 Village renewal and basic services.

Vocational trainings, farm advisory services, information and demonstration actions contributed to acquire, apply, and disseminate knowledge and skills among actors in the agricultural and forestry sector. Numerous MAs reported a great interest of rural actors to engage in EIP-AGRI operational groups' projects tackling practical issues in agriculture and forestry, such as bio-based production, agro-ecology, or precision farming.

Synergies, Technical Assistance, and National Rural Networks

Various MAs assessed the complementarity among different priorities and focus areas, showing positive synergies through their interaction. This was particularly evident for Priority 1 Knowledge transfer and innovation, which contributed horizontally to the other RDP priorities. Positive interactions were observed also between focus areas within the same RDP priority (e.g. FA2A and FA2B), as well as between focus areas from different RDP priorities (e.g. FA 3A supporting the integration of primary producers in the food supply chain and FA 6B fostering local development in rural areas). Negative interactions were also highlighted between RDP measures, for instance between investments increasing the livestock capacity and the measures reducing emissions from agriculture. The contribution of NRNs and TA in achieving RDP objectives was positively assessed in numerous reports. Among various contributions in terms of reducing the administrative burden and fostering innovation, they provide a vital support in the RDP communication to the general public and targeted stakeholders, as well as in the management and dissemination of information on the implementation, monitoring, and evaluation of the programmes.

6 RECOMMENDATIONS FOR BETTER REPORTING

Based on the analysis of the enhanced AIRs submitted in 2019, the following main recommendations are suggested to managing authorities and evaluators for increasing the quality of the reporting in future evaluation milestones, such as the ex post evaluation of RDPs 2014 – 2020:

Reporting values in the SFC tables

- **Keep consistency with the relevant RDP indicator fiches¹³, especially in terms of units of measurement.** This will allow better comparability and aggregation of data across RDPs;
- **Explain in case of ‘zero’ values if these are the quantitative outcome of an assessment or have another meaning (e.g. not applicable, not assessed etc.).** For example, when netting out indicators, a zero value could indicate that RDPs still had positive effects compared to a possible scenario with negative trends observed without RDP support;
- **Avoid inconsistencies between the indicator values stated in the answers to the CEQs and the values reported in the SFC tables or explain the difference.** Avoid also typos, such as minus vs plus, percentages vs absolute differences, commas vs points for separating decimal numbers, etc.

Replying to the common evaluation questions

- **Use a clear structure when replying to the CEQs, possibly organising findings around judgment criteria.** This will facilitate the reading and analysis of the answers, which can optionally cover different level of details (e.g. information on the level of uptake, description of methods and data used, findings and evidence, limitations, conclusion and recommendations);
- **Increase the transparency of conclusions, by showing the link with the collected evidence and analysis;**
- **Focus on evaluation findings showing RDP achievements and impacts rather than programme implementation.** Information on the level of uptake, delivery mechanisms, intervention logic, etc. shall not prevail over the information on the actual results and impacts of the programmes.

Increasing the robustness of future evaluations

- **Keep methodological consistency and accuracy to make results robust and comparable at EU level;**
- **Improve collection of data in the RDP monitoring and information system (availability, type and quality of data, timely collection);**
- **Improve assessment of results and impacts, including secondary contributions, LEADER contributions, complementary result and impact indicators;**
- **Assess effects on both beneficiaries and non-beneficiaries, even when applying qualitative methods (e.g. surveys, interviews, focus groups);**
- **Apply sensitivity checks to test the validity of models or coefficients used to estimate effects;**
- **Focus more on RDP effects, less on output,** especially when assessing the impacts on biodiversity, environment, innovation, LEADER.

¹³ CAP indicators: https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/cap-glance/cmef_en

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