EUROPEAN EVALUATION HELPDESK FOR RURAL DEVELOPMENT

European Commission

GUIDELINES

ASSESSMENT OF RDP RESULTS: HOW TO PREPARE FOR REPORTING ON EVALUATION IN 2017

ANNEX 11 - FICHES FOR ANSWERING COMMON EVALUATION QUESTIONS FOR RURAL DEVELOPMENT PROGRAMMES 2014-2020

CEQ 1 - 21

Recommended citation:
EUROPEAN COMMISSION – Directorate-General for Agriculture and Rural Development – Unit E.4 (2016): Guidelines: Assessment of RDP results: how to prepare for reporting on evaluation in 2017. Brussels.

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 E.4 'Evaluation and studies' 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.

Additional information about the activities of European Evaluation Helpdesk for Rural Development is available on the Internet through the Europa server (http://enrd.ec.europa.eu).

GUIDELINES

ASSESSMENT OF RDP RESULTS: HOW TO PREPARE FOR REPORTING ON EVALUATION IN 2017

ANNEX 11 - FICHES FOR ANSWERING COMMON EVALUATION QUESTIONS FOR RURAL DEVELOPMENT PROGRAMMES 2014-2020

CEQ 1 - 21

CONTENTS

1. Introduction 1

2. Evaluation Questions related to Focus Areas 5

2.1 Focus Area P1A, Evaluation question 1: To what extent have RDP interventions supported innovation, cooperation and the development of the knowledge base in rural areas? 5

2.2 Focus Area P1B, Evaluation question 2: 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? 8

2.3 Focus Area P1C, Evaluation question 3: To what extent have RDP interventions supported lifelong learning and vocational training in the agriculture and forestry sectors? 12

2.4 Focus area P2A, evaluation question 4: To what extent have RDP interventions contributed to improving the economic performance, restructuring and modernization of supported farms in particular through increasing their market participation and agricultural diversification? 16

2.5 Focus Area P2B, Evaluation question 5: To what extent have RDP interventions supported the entry of adequately skilled farmers into the agricultural sector and in particular, generational renewal? 28

2.6 Focus Area P3A, Evaluation question 6: 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 organization? 32

2.7 Focus Area P3B, Evaluation question 7: To what extent have RDP interventions supported farm risk prevention and management? 38

2.8 Focus Area P4A, Evaluation question 8: 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? 42

2.9 Focus Area P4B, Evaluation question 9: To what extent have RDP interventions supported the improvement of water management, including fertilizer and pesticide management? 46

2.10 Focus Area P4C, Evaluation question 10: To what extent have RDP interventions supported the prevention of soil erosion and improvement of soil management? 51

2.11 Focus Area P5A, Evaluation question 11: To what extent have RDP interventions contributed to increasing efficiency in water use by agriculture? 57

2.12 Focus Area P5B, Evaluation question 12: To what extent have RDP interventions contributed to increasing efficiency in energy use in agriculture and food processing? 66

2.13 Focus Area P5C, Evaluation question 13: 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? .. 73

2.14 Focus area P5D, evaluation question 14: To what extent have RDP interventions contributed to reducing GHG and ammonia emissions from agriculture? 82

2.15 Focus Area P5E, Evaluation question 15: To what extent have RDP interventions supported carbon conservation and sequestration in agriculture and forestry? 102

2.16 Focus area P6A, evaluation question 16: To what extent have RDP interventions supported the diversification, creation and development of small enterprises and job creation? 106

2.17 Focus Area P6B, Evaluation question 17: To what extent have RDP interventions supported local development in rural areas? 110

2.18 Focus Area P6C, Evaluation question 18: To what extent have RDP interventions enhanced the accessibility, use and quality of information and communication technologies (ICT) in rural areas? 114

3. Evaluation Questions related to other RDP aspects 118

3.1 Operational performance, Evaluation question 19: To what extent have the synergies among priorities and focus areas enhanced the effectiveness of the RDP? 118

3.2 Technical Assistance, Evaluation question 20: To what extent has technical assistance contributed to achieving the objectives laid down in Art. 59(1) of Regulation (EU) No 1303/2013 and Art. 51(2) of Regulation (EU) No 1305/2013? 120

3.3 National Rural Networks (NRN), Evaluation question 21: To what extent has the national rural network contributed to achieving the objectives laid down in Art. 54(2) of Regulation (EU) No 1305/2013? 123

1. INTRODUCTION

In section 7 of the annual implementation report submitted in 2017, the Managing Authorities will have to provide information resulting from evaluation activities regarding the quantification of programme achievements, in particular through the assessment of result indicators and the answers to the relevant evaluation questions.

The European Evaluation Helpdesk for Rural Development has developed the Guidelines "Assessment of RDP results: how to prepare for reporting on evaluation in 2017", which guide stakeholders in Members States in preparing, conducting and reporting on the assessment of RDP results in 2017, and provide the foundation for the RDP evaluation at later stages of the programming period 2014-2020.

Annex 11 of the above Guidelines has been published separately and provides guidance in the form of CEQ fiches on how to answer each of the common evaluation questions (CEQs) to be reported on in the AIR 2017, namely CEQ number:

- 1 – 18, relating to each rural development focus area (FA) and
- 19 – 21 relating to other RDP aspects (programme synergies, technical assistance and national rural networks)[1].

The information in the CEQ fiches:

- complement
  - the Working Document on Common Evaluation Questions for Rural Development Programmes 2014-2020,
  - the Working Document on Complementary Result Indicators Fiches for Pillar II,
  - the Working Document on Target Indicators Fiches for Pillar II, and
  - the Guidelines: Assessment of RDP results: how to prepare for reporting on evaluation in 2017.
- provide additional guidance for answering common evaluation questions mentioned above with the help of common result/target indicators, complementary result indicators (CEQ: 4, 11, 12,13 and 14), output and common context indicators and additional indicators. Additional indicators are developed by Member States in case the:
  - common indicators are not sufficient to answer the CEQ and to assess the secondary contributions of the RDP's operations to the focus area other than how they have been programmed;
  - stakeholders in the Member State employed additional judgment criteria linked to the CEQ.

[1] WD Common Evaluation Questions for Rural Development Programmes 2014-2020, http://enrd.ec.europa.eu/evaluation/publications/e-library_en

The table below shows the structure and content of the CEQ fiches

Evaluation question: *Title of the evaluation question and its related Focus Area*

List of measures contributing to the FA linked to the CEQ (only valid for CEQ 1 – 18 and 21):

- primarily programmed measures/sub-measures and
- examples of measures/sub-measures programmed under the other FA, but showing the secondary contributions to this FA.

Consistency check between CEQ, judgement criteria and indicators

Prior to answering the CEQ, one should make consistency checks between the CEQ, judgment criteria and the indicators. If data gaps arise during this consistency check (which would impend the answering of the CEQ), additional judgment criteria and indicators should be developed by the Member State.

Judgement criteria

The Working Document on Common Evaluation Questions for Rural Development Programmes 2014-2020 proposes a set of judgement criteria for each CEQ. *Stakeholders in the Member States might add/change the judgement criteria according to the intervention logic of the FA (selection and combination of measures/sub-measures).*

Indicators

CEQs should preferably be answered by means of common indicators suggested in the Working Document on Common Evaluation Questions for Rural Development Programmes 2014-2020 or other common indicators presented in the CMES (output and common context indicators). The Working Document further proposes Member States collect **additional information**. Moreover, stakeholders in the Member States might develop **additional indicators.** All common and additional indicators are listed in this part.

Qualitative indicators and assessment

Qualitative indicators can be useful in situations where data is not available; and also in order to provide more explanatory arguments when answering the evaluation questions. The assessment of qualitative indicators covers using of qualitative methods based on collecting qualitative information, theory of change, etc.

Data needs and data sources

	Indicators	**Data needs ***	**Data sources ****
Common Indicators			
Additional indicators			

***Data needs**

The data needs are listed here. This includes:

a) the necessary data for the common indicators (usually monitoring data) as defined in the Working Document on target indicator fiches for Pillar II; and the Working Document on complementary result indicator fiches for Pillar II.

b) additional data and/or information (optional) to provide values for additional indicators and to give explanations/interpretations of the indicator values (common and where they exist, additional indicators).

**** Data sources**

This part indicates possible data sources.

Whenever possible, data on beneficiaries should be collected via the operations database (application forms, payment requests, monitoring tables, etc.). Links to the EU level data sources are provided whenever possible. In specific cases for the complementary result indicators (CRI) the national/regional coefficients or national/regional EU level data sources to calculate indicators are also provided.

Timing

The best moment where data should be collected to answer evaluation questions is provided in this section.

Methodology to calculate common and additional indicators (quantitative, qualitative**,** mixed)
The proposed methodology to collect and analyse data and information is explained here.

Taking into consideration the *secondary contributions* of operations towards other FAs other than those under which they have been programmed. For more detail on methods, references to specific chapters of the relevant Guidelines or to other related documents are provided.

A variety of quantitative and qualitative methods are proposed in order to achieve triangulation of the findings from different sources.

Possible challenges/risks/issues

A list of challenges, risks and/or issues that may hinder or provide difficulties in answering the evaluation question are listed here.

Proposed solutions

Solutions are proposed for each challenge/risk/issue.

Answer to CEQ

Answers are provided based on 1.) the calculated values of the indicators 2.) the collected qualitative information or 3.) the qualitative assessment.

Conclusions	**Recommendations**
The main conclusions are stated here for the FA on the basis of the evaluation's findings.	The main recommendations linked to the conclusions are stated here for the FA.

Using the fiche for programme-specific evaluation questions (PSEQs)

If stakeholders in the Member States define PSEQs for the RDP evaluation 2017, the table above will serve to both help stakeholders define these PSEQs, as well as act as a source of guidance on how to conduct the evaluation and provide reliable answers. The PSEQ can be formulated in cases when:

- the RDP contains a **programme-specific focus area** that cannot be captured with the CEQs. The programme-specific focus area is usually developed for national (territorial) priorities, which are not covered with the EU's rural development focus areas;
- stakeholders are required to evaluate specific **evaluation topics** (e.g. RDP delivery, administration, etc.);
- the programme shows potential **indirect, unexpected** (positive/negative) **effects**, which should be assessed and are not covered by any other evaluation questions.

If the above fiche is used to develop the fiche for PSEQ it should also contain in addition:

- the rationale behind using the PSEQ,
- a list of measures contributing to the programme specific focus area objectives (primarily and secondarily) in the case of a programme-specific focus area related evaluation question.
- programme-specific judgement criteria and indicators – common and programme-specific to be used to answer the PSEQ.

2. EVALUATION QUESTIONS RELATED TO FOCUS AREAS

2.1 Focus Area P1A, Evaluation Question 1

To what extent have RDP interventions supported innovation, cooperation and the development of the knowledge base in rural areas?
List of measures contributing to the FA 1A **Programmed measures/sub-measures** (proposed by EC)[2]: • Measures and sub-measures of Art.[3] 15 "Advisory services, farm management and farm relief services". • Measures and sub-measures of Art. 14 "Knowledge transfer and information actions". • Measures and sub-measures of Art. 35 "Co-operation". Measures programmed under other focus areas than FA 1, and contributing secondarily to the objective of FA 1A should be considered.
Consistency check between CEQ, judgement criteria and indicators: **Judgement criteria** Judgement criteria (JC) proposed in the Working Document on Common Evaluation Questions for Rural Development Programmes 2014- 2020**:** • RDP projects have been innovative and based on developed knowledge • Operational groups have been created • Variety[4] of partners involved in EIP operational groups • Innovative actions have been implemented and disseminated by the EIP operational groups Note: stakeholders in the Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures) **Indicators** The following *common indicators should* be used to answer the CEQ: Common target indicator: • T1 - % of expenditure under Articles 14, 15 and 35 of Regulation (EU) No 1305/2013 in relation to the total expenditure for the RDP The following other *common indicators may* be used to answer the CEQ: Common output indicators[5] (data collected via operation database): • O13 Number of beneficiaries advised • O16 Number of EIP operations • O16 Number and type of partners in EIP groups

[2] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc
[3] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly
[4] Variety is defined by the representation of different socio-economic sectors (private, public, civil, agriculture, food industry, forestry, etc.) and organizations such as academia, banks, NGO, etc.
[5] WD: Data item list for Pillar II operations database and WD RD programming and target setting

Common context indicator (data needs and sources are described in the Working document: Proposed list of common context indicators):

- CCI 24 Agriculture training of farm managers

Additional indicators and information

Common indicators are not sufficient to answer the CEQ. Working Document: Common Evaluation Questions for Rural Development Programmes 2014-2020 recommends the collection of the following additional information:

- % of innovative RDP projects (ratio of innovative projects to total number of projects)
- Composition of EIP operational groups (number and types of partners)[6]
- Number of supported innovative actions implemented and disseminated by EIP operational groups divided by type, sector etc.

The following *additional indicator* is proposed to be used in answering the CEQ:

- Number of operational groups created

Note: More additional indicators can be developed if needed, e.g. when judgement criteria are added to specify the evaluation question in the Member State.

Qualitative indicators

For **qualitative assessment** the following qualitative indicators can be used:

- Type and content of innovation, (description of the innovation created and it's use by beneficiaries and/or non-beneficiaries),
- cooperation and knowledge base created in rural areas,
- description of the key factors that have contributed to innovation, cooperation and the development of knowledge base in rural areas

Data needs and data sources

	Indicators	Data needed	Data sources
Common indicators	T1 **-** % of expenditure under Articles 14, 15 and 35 of Regulation (EU) No 1305/2013 in relation to the total expenditure for the RDP	Realised expenditure for completed operations for measures 1, 2 and 16 and also, where possible, having regard to the stage of programme implementation for selected operation[7] (data item O1)	*Beneficiaries:* Application form (project start) Payment request (project end)
	O.13 – number of beneficiaries supported	Number of beneficiaries	*Beneficiaries:* Application form (project start) Payment request (project end)
	O.16 - Number of EIP operations	Number EIP operations	*Beneficiaries:* Application form (project start) Payment request (project end)

[6] Similar to common output indicator O16
[7] Art. 50 of the Regulation (EU) No 1303/2013.

	O.16 - Number and type of partners in EIP groups	Number and type of partners in EIP groups	*Beneficiaries:* Application form (project start) Payment request (project end)
Additional indicators	% of innovative RDP projects (ratio of innovative projects to total number of projects)	Number of innovative projects implemented by the RDP measures 1, 2 and 16 Total number of projects implemented by the RDP measures 1, 2 and 16 Total number of innovative projects implemented by the RDP	*Beneficiaries:* Application form (project start) Payment request (project end)
	Number of operational groups created	Number of operational groups created	*Beneficiaries:* Application form (project start) Payment request (project end)
	Number of supported innovative actions implemented and disseminated by EIP operational groups	Number of innovative actions implemented and disseminated by operational groups	*Beneficiaries:* Application form (project start) Payment request (project end)

Timing of data collection

Proposed data on beneficiaries should be collected starting from the beginning of the RDP's implementation (1st call for proposal, operations database), for % of cooperation projects continuing after the RDP's support at the time of the evaluation (evaluator).

Methodology to calculate common and additional indicators

Common indicator

The common indicator T1 is calculated as a ratio of expenditures to total expenditures, based on the data collected via the operations database.

Additional indicator

The indicator is assessed via a survey to operational groups:

- number and type of operations,
- number and type and role of different partners.

Qualitative assessment

Proposed methods are:

- Interviews with partners in operational groups
- Structured focus groups[8], including the MAPP method[9]

[8] For details on how to use surveys and focus groups, see 'Capturing the success of your RDP: Guidelines for ex post evaluation of 2007-2013 RDPs', Evaluation Helpdesk, June 2014

[9] Study: Investment support under Rural Development policy, DG Agri, 2014: http://ec.europa.eu/agriculture/evaluation/rural-development-reports/2014/investment-support-rdp/fulltext_en.pdf

- Delphi method (a structured process for collecting and synthesising knowledge from a group of experts through a series of questionnaires, accompanied by controlled opinion feedback)[10], e.g. with the focus on innovation.

Triangulation of the findings from different sources (indicator values, findings from interviews, surveys and focus groups)

Challenges/Risks/Issues

- Low quality data that does not provide evidence based answers to the EQ
- Lack of data to answer the EQ (e.g. low RDP uptake/no uptake, small programmes, etc.).

Proposed solutions

In the case of low uptake/small programmes, this EQ can be answered with the data collected for the respective indicators from the total population of beneficiaries. In the case of no uptake the CEQ can be answered with the qualitative assessment/ estimation (via interviews and expert opinions) of the extent to which RDP interventions can support innovation, cooperation and the development of the knowledge base in rural areas. The Delphi method (see above) can serve as a good approach as it is used to generate forecasts and serves to shed light on the evolution of the situation. Using the theory of change is another proposed approach to answer the CEQ in the situation of no uptake.

In the case of low quality data, information can be triangulated through interviews and surveys.

Answer to CEQ

Answer is provided based on the calculated values of indicators, on the collected information from the qualitative indicators and/or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

2.2 Focus Area P1B, Evaluation Question 2

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?

List of measures contributing to FA 1B:

Programmed measures/sub-measures (proposed by EC)[11]:

- Measures and sub-measures of Art.[12] 35 Co-operation

Measures programmed under other focus areas than FA 1, and contributing secondarily to the objective of FA 1B should be considered.

[10] For a detailed description of the Delphi method, see Chapter 5 of 'Evalsed Sourcebook: Methods and Techniques': http://ec.europa.eu/regional_policy/sources/docgener/evaluation/guide/evaluation_sourcebook.pdf
[11] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc
[12] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly

Consistency check between CEQ, judgement criteria and indicators:

Judgement criteria (JC)

Judgment criteria proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Long term collaborations between agriculture, food production and forestry entities and institutions for research and innovation have been established.
- Cooperation operations between agriculture, food production, forestry, research and innovation for the purpose of improved environmental management and performance have been implemented

Note: stakeholders in the Member State might add/change judgment criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

The following *common indicators should* be used primarily to answer the CEQ:

Common target indicator:

- T2 - Total number of co-operation operations supported under the cooperation measure (Art. 35 of Regulation (EU) No 1305/2013) (groups, networks/clusters, pilot projects…)

The following other *common indicators might* be used to answer the CEQ:

Common output indicators[13] (data collected via operation database):

- O4 Number of holdings/beneficiaries supported
- O16 Number of EIP operations
- O16 Number and type of partners in EIP groups
- O17 Number of other cooperation operations (groups/networks/clusters/ pilot projects)

Common context indicators can be also used to answer the CEQ. Their selection depends on the type of cooperation operations.

Additional indicators and information

Common indicators are not sufficient to answer the CEQ. Working Document: Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- % of cooperation operations continuing after the RDP support including for the purpose of improved environmental management and performance (if suitable for 2017 and in each case for the enhanced AIR 2019 and the ex-post evaluation),
- Number and types of partners involved in cooperation projects

The following additional indicator is proposed to be used in answering the CEQ:

- Number of all cooperation projects in the field of environmental management and performance divided by type (including their content and results envisaged and produced)

Note: More additional indicators can be developed when judgement criteria are added to specify the evaluation question in the Member State.

Qualitative indicators

For qualitative assessment the following information can be gathered:

[13] WD: Data item list for Pillar II operations database and WD RD programming and target setting

- Description of the type, content and quality of cooperation projects and the results envisaged and/or produced with respect to research and innovation;
- Description of the key factors that contribute to effective cooperation, especially cooperation for improved environmental management and performance.

Data needs and data sources

	Indicators	Data needed	Data sources
Common indicators	T2 - Total number of co-operation operations supported under the cooperation measure (Art. 35 of Regulation (EU) No 1305/2013) (groups, networks/clusters, pilot projects…)	Number of EIP operations (data item O.17) Number of other cooperation operations (groups, networks/clusters, pilot projects…) to be supported under measure 16 'Cooperation' (data item O.17)	*Beneficiaries:* Application form (project start) Payment request (project end)
Additional indicators	% of cooperation operations continuing after the RDP support including for the purpose of improved environmental management and performance	Number of cooperation operations that continue after the RDP support. Number of cooperation operations for the purpose of improved environmental management and performance that continue after the RDP support	*Beneficiaries:* Monitoring tables Interviews and surveys to cooperation partners
	Number and types of partners involved in cooperation projects	Number and types of partners in cooperation projects	*Beneficiaries:* Application form (project start) Payment request (project end)
	Number of all cooperation projects divided by type of which in the field of environmental management and performance	Number of cooperation operations divided by the type out of those related to improved environmental management and performance	*Beneficiaries:* Application form (project start) Payment request (project end)

Timing of data collection

Proposed data on beneficiaries should be collected starting from the beginning of the RDP's implementation (1st call for proposal, operations database), for % of cooperation projects continuing after the RDP's support at the time of the evaluation (evaluator).

Methodology to calculate common and additional indicators

Common indicators

The common indicator T2 is collected via the operations database and summed up to the total number of cooperation operations under the cooperation measures.

Additional indicators

The indicator is calculated as the ratio of total cooperation operations, which continue after the RDP's support ends based on the ad hoc survey among beneficiaries, with the representative sample of those which conducted cooperation operations for improved environmental management and performance.

Qualitative assessment

The proposed methods are:

- Survey to cooperation projects and to final beneficiaries
- Structured focus groups[14]
- Delphi method (a structured process for collecting and synthesising knowledge from a group of experts through a series of questionnaires, accompanied by controlled opinion feedback)[15]

Triangulation of the findings from different sources (indicator values, findings from interviews, surveys, focus groups)

Challenges/Risks/Issues

- Low quality data that does not provide a robust answer to the EQ
- Lack of data to answer the EQ (e.g. low RDP uptake/no uptake, small programmes etc.)
- Number of cooperation operations that continue after the RDP's support ends will not be known until later on in the programming period (if relevant for 2017, in each case for the AIR submitted in 2019 and ex post evaluation).

Proposed solutions

In the case of low quality data, information can be sought through interviews and surveys.

In the case of a lack of data (low RDP uptake and small programmes) this EQ will be answered with data collected from the entire population of beneficiaries. In the case of no uptake the answer can be based on an expert´s estimation of expected cooperation projects and expected results of these cooperations, for instance in relation to the improvement of environmental management.

To assess long-term cooperation (duration after RDP support), the types of cooperation structures created (e.g. legal structure, composition, statement of commitment, etc.), that may point towards potential sustainable cooperation, can be analysed as part of the qualitative assessment.

[14] For details on how to use surveys and focus groups, see 'Capturing the success of your RDP: Guidelines for ex post evaluation of 2007-2013 RDPs', Evaluation Helpdesk, June 2014

[15] For a detailed description of the Delphi method, see Chapter 5 of 'Evalsed Sourcebook: Methods and Techniques': http://ec.europa.eu/regional_policy/sources/docgener/evaluation/guide/evaluation_sourcebook.pdf

Answer to CEQ	
Answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment	
Conclusions	**Recommendations**
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

2.3 Focus Area P1C, Evaluation Question 3

To what extent have RDP interventions supported lifelong learning and vocational training in the agriculture and forestry sectors?

List of measures contributing to the FA 1C:

Programmed measures/sub-measures (proposed by EC)[16]:

- Measures and sub-measures of Art.[17] 14 Knowledge transfer and information actions

Measures programmed under other focus areas than FA 1, and contributing secondarily to the objective of FA 1C should be considered.

Consistency check between CEQ, judgement criteria and indicators:

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- The number of rural people who have finalised lifelong learning and vocational training in the agriculture and forestry sectors has increased

Note: stakeholders in MS might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

The following *common indicators should* be used to answer the CEQ:

Common target indicator:

- T3 - Total number of participants trained under Art. 14 of Regulation (EU) No 1305/2013

The following other *common indicators might* be used to answer the CEQ:

Common output indicators (data collected via operation database)[18]:

- O11 Number of training days given
- O12 Number of participants in training
- O14 Number of advisors trained

[16] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc
[17] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly
[18] WD: Data item list for Pillar II operations database and WD RD programming and target setting

Common context indicator (data need and data sources are described in the WD: Proposed list of common context indicators):

- CCI 24 Agriculture training of farm managers

Additional indicators and information

Common indicators are not sufficient to answer the CEQ. WD Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- % of trainees receiving certificates from recognized educational and training institutions via activities supported by RDP out of the total number of participants

The following additional indicators are proposed to be used in answering the CEQ:

- Number and % of knowledge transfer and information actions divided by type/content that have been supported by the RDP in lifelong learning and vocational training in agriculture and forestry of total number of trainings in agriculture and forestry
- Number/percentage of RDP training activities divided by type/content linked to the agriculture and forestry sectors main needs

Note: stakeholders in Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Qualitative indicators

Qualitative indicators might be also used, e.g. to assess the quality and type of training and aims of the training that have been supported.

Data needs and data sources

	Indicators	Data needed	Data sources
Common indicators	T3 - Total number of participants trained under Art. 14 of Regulation (EU) No 1305/2013	Number of participants trained under measure 1 'Knowledge transfer and information actions' (1.1. vocational training) (data item O.12)	*Beneficiaries:* Application form (project start) Payment request (project end)
Additional indicators	% of trainees receiving certificates from recognized educational and training institutions via activities supported by the RDP	Number of trainees supported by the RDP receiving certificates from recognized educational and training institutions Total number of trainees receiving certificates from recognized educational and training institutions out of it those with vocational training/lifelong learning in agriculture and forestry	*Beneficiaries:* Application form (project start) Payment request (project end) Survey to the participants of knowledge transfer and information actions *Non-beneficiaries*: National statistics Interviews to educational and training institutions
	Number of knowledge transfer and information actions divided by type / content that have supported lifelong	Number of Knowledge transfer and information actions divided by the type/content that supported lifelong	Interviews with managers of RDP interventions in the field of lifelong learning and vocational training

	learning and vocational training in agriculture and forestry	learning and vocational training activities	
Additional indicators	Number / percentage of RDP training activities divided by type/content linked to the agriculture and forestry sectors main needs	Number or % of lifelong learning and vocational training activities that include an assessment of labour market needs	*Beneficiaries:* Application form (project start) Payment request (project end) *Non-beneficiaries*: Survey/focus group to providers of training activities Diagnosis of the training needs

Timing of data collection

Proposed data on beneficiaries should be collected starting from the beginning of the RDP's implementation (1st call for proposal, operations database) for non-beneficiaries at the time of evaluation (evaluator).

Methodology to calculate common and additional indicators

Common indicators

The common indicator T3 is collected via the operations database and summed up to total number of participants trained.

Additional indicators

All 3 additional indicators are calculated as the ratio of RDP support of the total amount.

Qualitative assessment

For qualitative assessment, the proposed methods will enable: a) interpret the quantitative values of the indicators; b) assess the net effect of the RDP on lifelong learning e.g. if the participants can apply the knowledge in their economic activities and what the perception of the results of the training as well as the effectiveness of lifelong learning (i.e. does it bring participants closer to the needs of their economic activities).

Proposed methods are:

- Interviews to educational and training institutions
- Surveys to the participants of knowledge transfer and information actions
- Structured focus groups[19], including MAPP focus groups[20]
- Interviews with managers of RDP interventions in the field of lifelong learning and vocational training

Triangulation of the findings from different sources (indicator values, findings from interviews, surveys, focus groups, diagnosis of the training needs).

[19] For details on how to use surveys and focus groups, see 'Capturing the success of your RDP: Guidelines for ex post evaluation of 2007-2013 RDPs', Evaluation Helpdesk, June 2014

[20] Investment support under Rural Development policy, DG Agri, 2014: http://ec.europa.eu/agriculture/evaluation/rural-development-reports/2014/investment-support-rdp/fulltext_en.pdf

Challenges/Risks/Issues

- Low quality data that does not provide a robust answer to the EQ
- Lack of data to answer the EQ (e.g. low RDP uptake/no uptake, small programmes, etc.)

Proposed solutions

In the case of a lack of data (low uptake/small programmes), the CEQ will be answered with data for indicators collected from the whole population of beneficiaries contracted. In the case of no uptake the answer can be developed based on an estimation (via interviews and expert opinions) of envisaged training activities, their content, estimated number of participants, target groups and expected results. The Delphi method[21] may be a good approach as it is used to generate forecasts and serves to shed light on the evolution of the situation.

In the case of a lack of data, information can be sought through interviews, surveys, focus groups.

Answer to CEQ

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

[21] For a detailed description of the Delphi method, see Chapter 5 of 'Evalsed Sourcebook: Methods and Techniques': http://ec.europa.eu/regional_policy/sources/docgener/evaluation/guide/evaluation_sourcebook.pdf

2.4 Focus area P2A, evaluation question 4

To what extent have RDP interventions contributed to improving the economic performance, restructuring and modernization of supported farms in particular through increasing their market participation and agricultural diversification?
List of measures contributing to the FA 2A: **Primarily programmed** measures/sub-measures (proposed by EC)[22]: • Measures and sub-measures of Art. [23] 35 Co-operation • Measures and sub-measures of Art. 19 Farm and business development • Measures and sub-measures of Art. 17 Investments in physical assets • Measures and sub-measures of Art. 15 Advisory services, farm management and farm relief services • Measures and sub-measures of Art. 14 Knowledge transfer and information actions Examples of measures/sub-measures programmed under the other FA but potentially **showing the secondary contribution** to this FA: • All above measures if programmed under other FAs than FA 2A and contributing to improving the economic performance, restructuring and modernization of supported farms • Measures and sub-measures of Art. 16, Quality schemes for agriculture products and food stuff • Measures and sub-measures of Art. 27 Setting up of producers groups and organisations • Measures and sub-measures of Art. 30 Natura 2000 and Water framework directive payments • Measures and sub-measures of Art. 31 Payments to areas facing natural or other specific constrains • Measures and sub-measures of Art. 35 of Regulation (EU) no 1303/2013, Support for Leader local development
Consistency check between CEQ, judgement criteria and indicators: **Judgement criteria** Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

[22] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc
[23] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly

- Agricultural output per annual working unit of supported agricultural holdings has increased
- Farms have been modernized
- Farms have been restructured

Above judgment criteria could be completed if they do not specify sufficiently expected success of the intervention, **additional judgment criteria** could be, e.g.:

- Farms' economic performance has improved
- Farms' market participation has increased
- Farms' agricultural diversification has increased

Note: stakeholders in the Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

The following *common indicators should* be used to answer the CEQ:

- R1/T4 - % of agriculture holdings with RDP support for investments in restructuring or modernisation
- R2 - Change in agricultural output on supported farms/AWU (Complementary result indicator)

The following other *common indicators might* be used to answer the CEQ:

Common output indicators[24] (Data are collected via Pillar II operations database):

- O3 – Number of operations supported
- O4 – Number of holdings supported for investment in agriculture holdings (for calculation of R1)

Common context indicators[25]:

- CCI 26 Agriculture entrepreneurial income
- CCI 27 Total factor productivity income

[24] WD: Data item list for Pillar II operations database and WD RD programming and target setting
[25] Data needs and data sources for common context indicators are described in the Working document: Proposed list of common context indicators.

- CCI 14 Labour productivity in agriculture

Additional indicators and information:

Working Document: Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- Economic farm size structure of supported farms

Further examples of possible additional result indicators:

- Gross Farm Income (see JC: economic performance)
- Family farm income (see JC: economic performance)
- Gross investment on fixed assets /agriculture output (see JC: economic performance)
- Net investment on fixed assets / agric. Output (see JC: modernisation/restructuring)
- Sales/total output (see JC: market participation)
- % of agricultural output (by product) (see JC: diversification (1)
- % of agricultural income to total income (see JC: diversification (2)

Note: More additional indicators can be developed when judgement criteria are added to specify the evaluation question in MS.

Qualitative information

The proposal is to collect also qualitative information, e.g. whether farms have increased their market participation with the help of the RDP support (Likert scale).

Data needs and data sources			
	Indicators	**Data needed**	**Data source**
Common result indicators	R1/T4% of agriculture holdings with RDP support for investments in restructuring or modernisation	Total number of farm holdings receiving support for investment in restructuring and/or modernisation under measure 4 (collected via Pillar II operation database as O4 indicator) Total number of agricultural holdings in base year for the RDP area (CCI 17) collected via statistics (national, Eurostat)	Application forms/payment request (beneficiaries - operations database) Eurostat or national statistics: Farms structure survey (total farm population)
	R2 (Complementary result indicator)	Calculation of programme effects using indicator R2 requires collection of data for both **beneficiaries of RD measures affecting P2A and appropriate control groups:** • Numerator: Agricultural output (output of crops and crops products, livestock and livestock products = value of sales + balance of stocks + own use or consumption) per farm in years prior to receiving support from the RDP (i.e. 2013) and after support (i.e. 2016, 2018 and ex post) • Denominator: Total labour input of holding expressed in annual work units (AWU full-time person equivalents) (= family and unpaid labour AWU + paid labour AWU) per farm in years prior to receiving support from RDP (i.e. 2014) and after support (i.e. 2016, 2018 and ex post). • Relevant GIS data (to be used for evaluation of environmentally related measures) • Information on the total amount of subsidies (RDP subsidies directly related to focus area 2A + RDP subsidies non-directly related to focus area 2A + non-RDP subsidies) obtained by a farm in respective periods before the current programme and during its	Application forms/payment request (beneficiaries - operations database) Survey on beneficiaries and non-beneficiaries and/or FADN data base and anonymised paying agency data (no information which could identify entity or person) needed to identify beneficiaries of RDP measures linked to focus area 2A[26] Eurostat: Farm structure survey Standard outputs per MS and region and year – average 2010: http://ec.europa.eu/eurostat/web/agriculture/so-coefficients

[26] Questionnaire of FADN for 2014: to see what data are available for the rural development measures - table M Subsidies: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012R0385&rid=1

		implementation (2014-2016; or 2014-2018; or 2014-2020 <+2 years>) – to be used as control variables and for the calculation of programme **efficiency** In order to calculate effect of RD measures on the focus area P2A using result indicator R2 the change of the **net-value** of the R2 indicator should be estimated, see: description of methodology.	Total standard outputs (overall economic size of farm) per MS and region and per year: http://ec.europa.eu/agriculture/rica/database/report_en.cfm?dwh=SO Regional/National agricultural statistics, e.g. farm bookkeeping data, standard outputs National institutions: GIS data
Additional indicators	Economic farm size structure of supported farms	**To be collected for beneficiaries and non-beneficiaries** (control groups) Economic size = economic size of holding expressed in European size units (on the basis of Community typology) = Total standard output (SO) of the holding expressed in Euro. The SO of the holding is calculated as the sum of the SO of each agricultural product present in the holding multiplied by the relevant number of hectares or heads of livestock of the holding.	FADN http://ec.europa.eu/agriculture/rica/database/database_en.cfm Eurostat: Farms structure survey Regional/National agricultural statistics (e.g. farm bookkeeping data)
	Gross Farm Income	**To be collected for beneficiaries and non-beneficiaries (control groups)** Gross Farm Income (GFI) = SE410 = Output – intermediate consumption + balance current subsidies & taxes	FADN; Farms structure surveys Regional/National agricultural statistics (e.g. farm bookkeeping data)

	Family farm income	**To be collected for beneficiaries and non-beneficiaries** (control groups) Family Farm Income (FFI) = SE420 = farm net value added – total external factors + balance on subsidies and taxes on investment	FADN; Farm structure surveys Eurostat - Economic accounts for agriculture (EAA) for computation of context indicators Eurostat - Agriculture Labour Input statistics (ALI) for computation of context indicators http://ec.europa.eu/eurostat/data/statistics-a-z/abc Regional/National agricultural statistics, e.g. farm bookkeeping data
	Gross investment on fixed assets /agric. output	**To be collected for beneficiaries and non-beneficiaries** (control groups) Gross investment on fixed assets = SE516 = Purchases – sales of fixed assets + breeding livestock change of valuation (divided by total agric. Output)	FADN; Farm structure surveys, Regional/National agricultural statistics, e.g. farm bookkeeping data
Additional indicators	Net investment on fixed assets / agric. output	**To be collected for beneficiaries and non-beneficiaries** (control groups) Net investment on fixed assets = gross investment – depreciation (divided per total agric. Output)	
	Sales/total output	**To be collected for beneficiaries and non-beneficiaries** (control groups) Sales/ (total output) = share of marketed agricultural output	
	% of agricultural output (by product)	**To be collected for beneficiaries and non-beneficiaries** (control groups) % of agricultural output (by product)	
	% of agricultural income to total income	**To be collected for beneficiaries and non-beneficiaries (control groups)** % of agricultural income to total income	

Timing of data collection

Proposed data on beneficiaries and non-beneficiaries should be collected prior to RDP implementation (i.e. years 2010-2013) and during RDP implementation (i.e. 2014-2020: 1st call for proposal, operations database, national/regional statistics, EU sources)

Quantitative method to calculate the complementary result indicator R2 - change in Agricultural output/AWU (= farm labour productivity)[27]

Complementary result indicator **R2** (Agricultural output/AWU) = farm labour productivity) can be interpreted as a partial measurement of the competitiveness of the agricultural sector. Both **primary** (programmed directly under the FA 2A) and **secondary** (programmed under other FAs than 2A, but contributing to 2A) contributions of all relevant RDP measures to this indicator have to be taken in consideration.

The main challenge of the use of the R2 in the evaluation of RDPs is to be seen as a fact that an observed change (e.g. in period 2013-2016) of this indicator in supported projects may result from a number of various factors, e.g.:

a) **Primary contributions** of investment support received **by a given farm** from RDP measures linked directly to the **focus area 2A** (e.g. M3, M4, M6)

b) **Primary contributions** of non-investment support received **by a given farm** from RDP measures associated with the **focus area 2A** (e.g. M1, M2, M9, i.e. training and advisory services, producer groups)

c) **Secondary contributions** of support received **by a given farm** from RDP measures linked to **other focus areas**, e.g. FA4 or FA5 (e.g. via M10, M11, M12, M14, etc.)

d) **Direct and indirect effects** of other **subsidies not related to RDPs** received **by a given farm** (e.g. from Pillar I)

e) **Direct and indirect effects** of other subsidies **not related to the CAP** (e.g. from regional funds - via migration of labour from agriculture to the non-agricultural sector)

f) Effects of **other exogenous factors** not related to the RDP, e.g. change in agricultural prices, change of price ratios between agricultural outputs and inputs which provide an incentive for an increase/decrease of agricultural output; etc.

In order to calculate the extent to which changes in the R2 indicator was caused by RDP measures = net effect of the RDP programme in supported projects, the evaluator has to divide the observed total change of R2 into two independent components: i) a change of R2 which was due to the RDP programme (cases: a-c); and ii) a change in R2 caused by other factors (cases: d-f as one aggregate). Considering the extent to which RDP measures affect R2 cannot be directly observed, separation of these effects must be carried out

[27] The stages and steps for calculation of CRI (adjusted) can be also used for calculation of additional indicators if relevant)

using advanced quantitative evaluation methodologies. Application of methodologies recommended below further allows for the analysis of various indirect programme effects: deadweight loss effect, substitution effect, etc.

The proposed approach for assessing the extent to which RDP measures contributed to a change in the R2 indicator involves three stages, each implemented in several steps:

Stage 1: Estimation of **primary contributions** of RDP measures **directly attributable to the focus area 2A** (i.e. measures: M1, M2, M3, M4, M6, M9, M16) (Note: all measures directly attributable to the focus area 2A are expected inter alia to affect the farm labour productivity (indicator R2) of the direct programme beneficiary.

Steps for the calculation of primary contributions:

Step 1: Find a sample of farms/farmers who received in a given period, e.g. 2014-2016 support from measures M1, M2, M3, M4, M6, M9 or M16 ("beneficiaries"),

Note: In case indicator R2 is calculated on a constant sample, please be aware that about 60% of the sample is the same after 4 years (for instance from 2009 to 2012). This is just an average: the % of constant sample goes from 20% to 90%, depending on the Member State.

Step 2: Select from all farms/farmers who in the same period didn't received support from measures M1, M2, M3, M4, M6, M9 and M16 ("non-beneficiaries") a sample which is at least 2-3 times larger than the sample of "beneficiaries", *Note: MS should be aware of the FADN sample size and see if the sample is sufficient to conduct the counterfactual analysis, in case not the stakeholders in the Member States might have already developed or develop national FADN which would enlarge the sample.*

Step 3: For all farms in both groups collect data on agricultural output and employment (AWU) as well as data on other farms' major characteristics, e.g., farm area, rented area, total inputs used, gross farms income, family farm income, total assets, gross investments in fixed assets, other subsidies received, etc.

Step 4: Apply appropriate techniques (e.g. matching) which enables one to identify from the sample of "non-beneficiaries" (see: step 2) a suitable "control group" for a sample of "beneficiaries" (some of "non-beneficiaries" and/or "beneficiaries" will be dropped from the analysis due to the lack of adequate control units).

Step 5: Check statistically the "similarity" of both groups prior to receiving support from the programme, e.g. by performing statistical tests (average values of farms characteristics in the group of "beneficiaries" should not significantly differ from the "control group")

Step 6: Compute for the group of "beneficiaries" and "control group" the average value of R2 indicator prior to the support (e.g. in year 2013) and after support (e.g. year 2016)

Step 7: Perform a calculation of the specific policy indicators, e.g. Average Treatment Effects on Treated (ATT), using R2 as the result indicator. Compute programme **net effect on R2** (by combining calculated ATTs with Difference in Differences (DID) method)[28]

Step 8: Perform sensitivity of obtained results

Step 9: Calculate the aggregated value of the net indicator at a **programme area level** by applying extrapolation techniques (e.g. by multiplying average micro-results computed at a farm level by a number of supported farms)

Note: application of the methodology described above allows inter alia analysing programme **deadweight loss effects**

Stage 2: Estimation of **secondary contributions** of those RDP measures in which the **main objective is linked to another focus area** (e.g. **renewable energy, water efficiency** e.g. M10, M11, M12) but which also are expected to contribute on farm restructuring and competitiveness. This also includes those operations implemented via CLLD strategies, which show secondary contributions to the farm competitiveness. The most significant contributions should be taken in consideration. Calculation of the above contributions (mainly environmentally oriented) requires additional data on the environmental variables linked to the location of those supported (and non-supported farms). If there is not sufficient uptake to calculate the secondary contributions in a robust way a qualitative assessment is also possible (see the Annex 10 of the Guidelines: Assessment of RDP results: how to prepare for reporting on evaluation 2017).

Steps for the calculation of secondary effects:

Step 1: Find a sample of farms/farmers who received in a given period, e.g. 2014-2016 support from measures M10, M11, M12, M13 and M14 ("beneficiaries")

Step 2: Select from all farms/farmers who in the same period did not receive support from measures M10, M11, M12, M13 and M14 ("non-beneficiaries"). This sample should be at least 2-3 times larger than the sample of "beneficiaries"

Step 3: For all farms in both groups collect data on agricultural output and employment as well as data on the farm's major characteristics (used to construct the control groups), e.g., farm area, rented area, total inputs used, gross farms income, family farm income, total assets, gross investments in fixed assets, other subsidies received, etc. as well as other environmentally relevant characteristics of the farms location, e.g. using GIS data

Step 4: Apply appropriate techniques (e.g. matching) which enables one to identify from the group of "non-beneficiaries" a suitable "control group" (some of the non-beneficiary farms and/or beneficiaries will be dropped from the analysis due to the lack of adequate control units).

[28] Capturing the success of your RDP: Guidelins for the ex-post evaluation of 2007-2013 RDP, PART II, Chapter 4: Methods, part 4.3.3.2 Quantitative approaches, page 94, http://enrd.ec.europa.eu/enrd-static/evaluation/library/evaluation-helpdesk-publications/en/evaluation-helpdesk-publications_en.html

Step 5: Check statistically the “similarity” of both groups prior to receiving support from the programme, e.g. by performing statistical tests (average values of farms characteristics in the group of “beneficiaries” should not significantly differ from the “control group”)

Step 6: Compute for the group of beneficiaries and control group the value of the R2 indicator prior to the support (e.g. in year 2013) and after support (e.g. year 2016)

Step 7: Perform calculation of specific policy indicators, e.g. Average Treatment Effects on Treated (ATT), using R2 as the result indicator. Compute programme net effect on R2 (by combining calculated ATTs with Difference in Differences (DID) method)

Step 8: Perform sensitivity of obtained results

Step 9: Calculate the aggregated value of the net indicator at a programme area level by applying extrapolation techniques (e.g. by multiplying average micro-results computed at a farm level by a number of supported farms)

Note: application of the methodology described above allows inter alia analysis of deadweight loss effects of measures included in the analysis (i.e. M10, M11, M12, M13 and M14)

Stage 3. Estimation of **indirect effects** of the RDP measures identified at **Stage 1 and Stage 2** (Note: it can be expected that support obtained by beneficiaries of RDP measures attributable to the focus area 2A, e.g. M4, may have expected/unexpected general equilibrium effects, e.g. negative effects on non-beneficiaries located in a close neighbourhood of programme beneficiaries. For example, due to intensive support of farm investment (M4) the price of land and investment goods in this region may increase and therefore may affect negatively labour productivity of programme non-beneficiaries): substitution effect. Similarly, <expected/unexpected> indirect effects on labour productivity of programme non-beneficiaries may occur during implementation of measures linked to other focus areas (renewable energy, water efficiency, etc.)

Steps for calculation of indirect effects:

Programme **indirect effects**, e.g. **substitution, displacement, multiplier**, etc. of RDP measures identified in Stage 1 and Stage 2 should be computed and shown **separately.** The methodology which can be applied to analysis of programme indirect effects has been described in: “Approaches for Assessing the Impacts of the RDP in the context of multiple intervening factors”, Brussels, 2010;

Note: The quantitative values resulting from the above methodology can be validated and interpreted with qualitative approaches, involving interviews and focus groups with the managers of measures and/or with representatives of beneficiaries and non-beneficiaries.

Challenges/Risks/Issues

Although building valid counterfactuals is the most promising technique for the separation of RDP measures’ effects from other programme independent factors, the empirical application of the recommended methodology to the evaluation of RDP measures expected to affect the net value of the R2 indicator (i.e. labour productivity) requires an abundant

database (especially when analysing effects of measures linked to environmental targets/focus areas). For the same reason, the institutional entities (MA, regional and/or national institutes of statistics…) and evaluators should not underestimate the role of a systematic collection of data on programme non-beneficiaries enabling the construction of valid counterfactuals. Also, the proposed method will not generate reasonable results if there are other important observable characteristics explaining the differences in performance of programme beneficiaries and control groups but they were **not** included into the model (it is therefore important that all stakeholders who can facilitate to collect respective information as early as possible collaborate, in order to insert into the model several indicators showing the farms' main characteristic and performance). Furthermore, some techniques can be statistically complex and require advanced quantitative skills (econometrics, modelling, etc.).

Proposed solutions

Low number of non-beneficiaries (or small programmes) and proposed solutions

In case in a given programme area a great deal of farms received RDP support a counterfactual analysis of the effectiveness of programme support on indicator R2 should involve other quantitative methods, e.g. generalized propensity score matching (GPSM). Given explicit information on the intensity of investment support (e.g. financial flows into a public investment programme per farm). The effect of the RDP measures on the R2 indicator can be analysed by means of a dose-response function and derivative dose-response function (part of GPSM). Generally speaking, GPSM method not only allows to estimate the average effect of public investment support on the selected result/impact indicator (e.g. GVA/farm or GVA/region), but also to assess the **marginal effects** of the programmes or measures, depending on the support intensity level obtained.

Application in 2017 and low RDP up-take and short time-lags and proposed solutions

The selection of an appropriate time period (after implementation of a given programme) may be crucial for estimating the programme results. Generally, the period which is chosen should not be too short (unfolding outcomes) nor too long, as other confounding factors or policies (specifically targeting either programme beneficiaries or programme non-beneficiaries) may systematically influence the effects. As evaluation methodologies described above are quite flexible regarding the selection of an "end period", it is advisable to undertake re-estimations of outcomes by including the successive years, in order to verify the stability of the estimated effects. Another possibility is to build 2 or 3 year averages to represent the "end period". Unfortunately, there is usually a trade-off between advantages and disadvantage from re-estimations using successive years namely from worsening of the quality of the database resulting from dropping units/observations from the balanced panel. The marginal effectiveness of such an exercise is to be estimated in each individual case by an evaluator.

Solutions to a low uptake at the beginning of the programme can be similar as for slowly unfolding results. A solution is a re-estimation of results in the successive years (or building averages of years as the end period). The cost-effectiveness of using this approach in slow-uptake situations or for a very short period of time of one or two programme years needs to be reviewed on a case by case basis.

Examples of use of CRI R2

"Approaches for Assessing the Impact of the Rural Development Programmes in the Context of Multiple Intervening Factors", The European Evaluation Network for Rural Development, March 2010, pp. 1-225, https://webgate.ec.europa.eu/myenrd/app_templates/filedownload.cfm?id=699C6181-0006- 31E9-DDFD-E9C9FFC0E30A.

"Guidelines for the ex-post evaluation of 2007-2013 Rural Development Programmes", The European Network for Rural Development, pp 1-196, April 2014,

http://enrd.ec.europa.eu/enrd-static/app_templates/enrd_assets/pdf/evaluation/epe_master.pdf ", Guidelines for ex-post evaluation of RDP programmes", Brussels, 2014

"Investment support under Rural Development Policy"; final report; Metis, WIFO, AEIDL; November 2014; http://ec.europa.eu/agriculture/evaluation/rural-development-reports/investment-support-rdp-2014_en.htm

Michalek J. (2012), "Counterfactual impact evaluation of EU rural development programmes - Propensity Score Matching methodology applied to selected EU Member States", Volume 1 – A micro-level approach.", European Commission, JRC Scientific and Policy Reports, pp 1-95, http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=5379

Michalek, J. et. al. (2015), "Investment Crowding Out: Farm-level Evidence from Northern Germany", Regional Studies – DOI: 10.1080/00343404.2015.1044957

Examples of application of GPSM method

Michalek J. et. al. (2014), "Capitalization of CAP Single Payment Scheme into Land Value: Generalized Propensity Score Evidence from the EU", Land Economics, University of Wisconsin Press, May 2014 vol. 90:260-289. http://le.uwpress.org/content/90/2/260.full.pdf+html

Answer to CEQ:

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

2.5 Focus Area P2B, Evaluation question 5

To what extent have RDP interventions supported the entry of adequately skilled farmers into the agricultural sector and in particular, generational renewal?

List of measures contributing to the FA 2B:

Primarily programmed measures/sub-measures (proposed by EC)[29]:

- Measures and sub-measures of Art. [30] 35 Co-operation
- Measures and sub-measures of Art. 19 Farm and business development
- Measures and sub-measures of Art. 17 Investments in physical assets
- Measures and sub-measures of Art. 15 Advisory services, farm management and farm relief services
- Measures and sub-measures of Art. 14 Knowledge transfer and information actions

Examples of measures/sub-measures programmed under the other FA but potentially **showing the secondary contribution** to this FA:

- All above measures if programmed under other FAs than FA 2B and contributing to generational renewal and improved skills of farmers
- Measures and sub-measures of Art. 16, Quality schemes for agriculture products and food stuff
- Measures and sub-measures of Art. 27 Setting up of producers groups and organisations
- Measures and sub-measures of Art. 35 of Regulation (EU) no 1303/2013, Support for Leader local development

Consistency check between CEQ, judgement criteria and indicators:

Judgement criteria

Judgement criteria (JC) proposed by the WD Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Adequately skilled farmers have entered into the agricultural sector
- The share of adequately skilled young farmers in the agricultural sector has increased

Note: stakeholders in Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

The following *common indicators should* be used to answer the CEQ:

Common result/target indicator:

- R3/T5 - % of agriculture holdings with RDP supported business development plan/investments for young farmers

The following other *common indicators might* be used to answer the CEQ:

[29] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc

[30] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly

Common output indicator - O4[31] (data collected via the operations database):

- Number of beneficiaries receiving the start-up aid young farmers
- Number of holdings supported for investment in agriculture holdings

Common context indicators (Data needs and data sources are described in the Working document: Proposed list of common context indicators):

- CCI 17 Agriculture holdings
- CCI 22 Farm labour force
- CCI 23 Age structure of farm managers
- CCI 24 Agriculture training of farm managers

Additional indicators and information

Common indicators are not sufficient to answer the CEQ. WD Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- % of adequately skilled new young farmers in the agricultural sector of the RDP territory

The following additional indicator is proposed to be used in answering the CEQ:

- % of adequately skilled new young farmers in the agricultural sector of the RDP territory

Note: More additional indicators can be developed when judgement criteria are added to specify the evaluation question in MS.

Qualitative indicators

For **qualitative assessment** the following information can be gathered: Types and description of skills that new entrants (young farmers) bring into the agricultural sector of the RDP territory, if the skills of the young farmers are in line with the supported business development plan/investments for young farmers, if the business plans include future training.

[31] WD: Data item list for Pillar II operation database and WD RD programming and target setting

Data needs and data sources

	Indicators	Data needed	Data sources
Common indicators	R3/T5 - % of agriculture holdings with RDP supported business development plan/investments for young farmers	Total number of farm holdings receiving business start-up aid for young farmers over the programming period (under measure 6.1) Total number of farm holdings supported for investment targeting young farmers (under measure 4.1 in case measure 6.1 is not programmed) (data item O.4) Total number of agricultural holdings in base year for the RDP area	*Beneficiaries* Application form (project start) Payment request (project end) *For total number of agriculture holdings* National/regional statistics Eurostat, Farm Structure Survey, etc. (for the total number of holdings): http://ec.europa.eu/eurostat/web/agriculture/data/main-tables
Additional indicators	% of adequately skilled new young farmers in the agricultural sector of the RDP territory (gross/net)	Number of new skilled young farmers that entered to the agricultural supported by the RDP, by age and level and type of training/education Total number of farmers in the agricultural sector of the RDP territory, by age and level and type of training/education	*Beneficiaries* Application form (project start) Payment request (project end) Survey to new/young farmers supported by the RDP *Beneficiaries and non-beneficiaries* National/regional statistics Eurostat, Farm Structure Survey, etc. (for the total number of farmers and by age and by level of training): http://ec.europa.eu/eurostat/web/agriculture/data/main-tables

Timing of data collection

Proposed data on beneficiaries and non-beneficiaries should be collected prior to RDP implementation (i.e. years 2010-2013) and during RDP implementation (i.e. 2014-2020: 1st call for proposal, operations database, national/regional statistics, EU sources)

Methodology to calculate common and additional indicators

Common indicators

The common indicator R3/T5 is collected via the operations database and calculated as a ratio of agriculture holdings with business plans for young farmers to the total number of holdings supported by the RDP.

Secondary contributions

Secondary contributions to the value of R3/T5 can be tracked also directly through the operations database if in the project applications is indicated that the project promotor is young farmer. This also includes those operations implemented via CLLD strategies. The monitoring should be able to eliminate double counting.

Additional indicators

Both additional indicators are calculated as ratio of adequately skilled new/young farmer of total number of farmers in the RDP territory (the skills of the new/young farmers shall be collected by the application forms and the business plans).

Secondary contributions

Secondary contributions of operations which might be implemented by young farmers, which are programmed under other FAs than P2B are also considered when calculating the indicators. This also includes those operations implemented via CLLD strategies, which show secondary contributions to the generational renewal and enhancement of farmers´ skills. The contributions are assessed with the means of additional result indicators linked to the FA 2B based on a survey with samples of those beneficiaries – (new) young farmers which are implementing operations via different focus areas (e.g. FA 2A, 6A, 6B etc.) and have flagged the contribution to FA 2B in application forms/payment request. Different types of operations can show different sizes of contributions to the value of result indicators used to assess achievements towards the FA 2B. Most significant contributions should be taken into consideration. In cases with a low number of beneficiaries flagging the additional contribution to the FA 2B the total population of beneficiaries can be taken in consideration in the survey. If there is no sufficient uptake to calculate the secondary contributions in a robust way, the qualitative assessment is also possible (see the Annex 10 of the guidelines: Assessment of RDP results: how to prepare for reporting on evaluation 2017). Findings will also be used in answering the CEQ 19.

Qualitative assessment

For qualitative assessment, the proposed methods will enable one to: a) interpret the quantitative values of the indicators; b) assess the net contribution of the RDP on skilled young farmers entering the agriculture sectors. Proposed methods are:

- Survey to new entrants/beneficiaries of measure 6.1
- Survey to supported farms of measure 4.1 (in case measure 6.1 is not programmed)
- Interviews with the managers of the interventions
- Structured focus groups[32], including the MAPP method[33] for the assessment of net effects

Triangulation of the findings from different sources (indicator values, findings from interviews, surveys, focus groups)

[32] For details on how to use surveys and focus groups, see 'Capturing the success of your RDP: Guidelines for ex post evaluation of 2007-2013 RDPs', Evaluation Helpdesk, June 2014

[33] http://ec.europa.eu/agriculture/evaluation/rural-development-reports/investment-support-rdp-2014_en.htm

Challenges/Risks/Issues

- Low quality data that does not provide a robust answer to the EQ
- Lack of data to answer the EQ (e.g. low RDP uptake/no uptake, small programmes etc.)
- Young farmers not attracted to the agricultural sector, which may lead to low uptake

Proposed solutions

In case of a lack of data (low uptake, small programmes), this EQ can focus on an estimation (via interviews and expert opinions) of the expected effect of the RDP on the entry of new and skilled farmers into the agricultural sector.

In case of low uptake due to a lack of interest, explore the reasons that deter young people from entering the agricultural sector via RDP support (e.g. difficulties to acquire farms that are economically viable, or that provide full time employment or that enable them to earn sufficient income).

In case of low quality data, qualitative information can be sought through interviews, surveys, and focus groups.

Answer to CEQ

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

2.6 Focus Area P3A, Evaluation question 6

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 organization?[34]

List of measures contributing to the FA 3A:

Primarily programmed measures/sub-measures (proposed by EC)[35]:

- Measures and sub-measures of Art.[36] 15 Advisory services, farm management and farm relief services
- Measures and sub-measures of Art. 14 Knowledge transfer and information actions
- Measures and sub-measures of Art. 35 Co-operation
- Measures and sub-measures of Art. 33 Animal welfare
- Measures and sub-measures of Art. 20 Basic services and village renewal in rural areas
- Measures and sub-measures of Art. 19 Farm and business development
- Measures and sub-measures of Art. 27 Setting up producer groups and organisations
- Measures and sub-measures of Art. 17 Investments in physical assets

[34]The questions concern the share of primary producers at the final price of the agricultural products proposing various scenarios, e.g. quality schemes, adding value to primary products, participation in short supply circuits, promoting local markets etc.
[35] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc
[36] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly

- Measures and sub-measures of Art. 16 Quality schemes for agriculture products and food stuffs

Examples of measures/sub-measures programmed under the other FA but potentially **showing the secondary contribution** to this FA:

- All above measures if programmed under a different FA other than focus area 3A and contributing 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, and promoting local markets and short supply circuits, or producer groups and inter-branch organization
- Measures and sub-measures of Art. 35 of Regulation (EU) no 1303/2013, Support for Leader local development

Consistency check between CEQ, judgement criteria and indicators

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Competitiveness of supported primary producers has improved
- The share of the final price of agriculture products retained with primary producers has increased
- The added value of agricultural products of primary producers has increased
- Implementation of quality schemes by primary producers has increased
- Participation of primary producers in short circuit schemes, quality-oriented producer group and/or inter branch organization has increased

Note: stakeholders in the Member State might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

The following *common indicators should* be used to answer the CEQ:

Common result/target indicator:

- R4/T6 - % of agricultural holdings receiving support for participating in quality schemes, local markets and short supply circuits, and producer groups/organisations

The following other *common indicators might* be used to answer the CEQ:

Common output indicators[37] (data collected via the operations database):

- O4 Number of holdings supported
- O9 Number of holdings participating in producer groups supported
- O9 Number of agriculture holdings participating in cooperation/local promotion among supply chain actors

Common context indicators (Data need and data sources are described in the Working document: Proposed list of common context indicators):

- CCI 14 Labour productivity in agriculture
- CCI 16 Labour productivity in the food industry

[37] WD: Data item list for Pillar II operation database and WD RD programming and target setting

Additional indicators and information

Common indicators are not sufficient to answer the CEQ. WD Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- Agricultural output on supported farms
- Margin of primary producers in the final price of agricultural products
- % of primary producers introducing quality schemes with RDP support

Further proposed additional indicators:

- Comparison between the margins of producers involved and not involved in quality schemes, short supply circuits, producer groups and inter-branch organization
- Note: More additional indicators can be developed when judgement criteria are added to specify the evaluation question in MS.

Qualitative indicators

For qualitative assessment the following information can be gathered:

- types and description of local markets,
- types and description of short supply chains,
- description of the key factors that motivate farmers to participate in quality schemes (other than the financial support) etc.

Data needs and data sources

	Indicators	Data needed	Data sources
Common indicators	R4/T6 - % of agricultural holdings receiving support for participating in quality schemes, local markets and short supply circuits, and producer groups/organisations	Total number of agricultural holdings receiving support under measure 3.1 'Participation to quality schemes' (data item O.4) Total number of agricultural holdings receiving support under measure 9 'Setting-up producer groups and organisations (data item O.9) Total number of agricultural holdings receiving support under measure 16.4 'Cooperation among supply-chain actors' (data item O.9) Total number of agricultural holdings in base year for the RDP area	*Beneficiaries* Application form (project start) Payment request (project end) *For total number of agriculture holdings* National/regional statistics Eurostat, Farm Structure Survey, etc. (for the total number of holdings): http://ec.europa.eu/eurostat/web/agriculture/data/main-tables

Additional indicators	Changes in agricultural output on supported farms	Agricultural output on supported farms Total number of agriculture holdings divided by sector	*Beneficiaries* Application form (project start) Payment request (project end) *Beneficiaries and non-beneficiaries* Survey on beneficiaries and non-beneficiaries and/or National/regional statistics Eurostat, Agricultural output, price indices and income: http://ec.europa.eu/eurostat/statistics-explained/index.php/Agricultural_output,_price_indices_and_income Eurostat, Farm Structure Survey, etc. (for the total number of holdings): http://ec.europa.eu/eurostat/web/agriculture/data/main-tables FADN
	Margin of primary producers in the final price of agricultural products	Final price of agricultural products Primary producer margins [useful the comparison with farmers which are not involved in quality schemes, short supply circuits, producer groups and inter-branch organization]	
	% of primary producers introducing quality schemes with RDP support	Number of supported primary producers introducing quality schemes divided by sector Total number of agriculture holdings divided by sector	*Beneficiaries* Application form (project start) Payment request (project end) *For total number of agriculture holdings* National/regional statistics

Additional indicators	Comparison between the margins of producers involved and not involved in quality schemes, short supply circuits, producer groups and inter-branch organisation.		*Beneficiaries* Application form (project start) Payment request (project end) Survey of supported primary producers *Beneficiaries and non-beneficiaries* Survey on beneficiaries and non-beneficiaries and/or National/regional statistics FADN Eurostat, Agricultural output, price indices and income: http://ec.europa.eu/eurostat/statistics-explained/index.php/Agricultural_output,_price_indices_and_income Eurostat, Farm Structure Survey, etc. (for the total number of holdings): http://ec.europa.eu/eurostat/web/agriculture/data/main-tables

Timing of data collection

Proposed data on beneficiaries and non-beneficiaries should be collected prior to RDP implementation (i.e. years 2010-2013) and during RDP implementation (i.e. 2014-2020: 1st call for proposal, operations database, national/regional statistics, EU sources)

Methodology to calculate common and additional indicators

Common indicators

The common indicator R4/T6 is collected via the operations database and calculated as a ratio of agriculture holdings receiving support for participating in quality schemes, local markets and short supply circuits, and producer groups/organisations of total number of holdings.

Secondary contributions

Secondary contributions to the value of R4/T6 can be tracked also directly through the operations database if in the project applications is indicated that the project is participating in quality schemes, support local markets and enables short supply circuits. This also includes those operations implemented via CLLD strategies. The monitoring should be able to eliminate double counting.

Additional indicators

Counterfactual is proposed in calculation of two additional indicators:

- Agricultural output on supported farms
- Margin of primary producers in the final price of agricultural products

As techniques, PSM in combination with DID are proposed by the Guidelines for the ex post evaluation of 2007-2013 RDPs[38].

The two other additional indicators are calculated as ratio of farmers, which have introduced quality schemes short supply circuits, producer groups and inter-branch organizations with RDP support of total number of farmers in the RDP territory.

Secondary contributions

Secondary contributions of operations which are programmed under other FAs than P3A should also be considered for the calculation of additional result indicators (if relevant) linked to the CEQ for FA 3A when answering it. This also includes those operations implemented via CLLD strategies, which show secondary contributions to the objectives of FA 3A. Secondary contributions to the value of result indicators are calculated based on a survey with samples of those beneficiaries which are implementing operations in the scope of different focus areas (e.g. 2A, 6A, 6B etc.), but have flagged additional contribution to FA 3A. The assessment may also look at the significance of contributions of different types of operations: e.g. farm investment measures, of farm diversification measures etc. to the participation in quality schemes, producer groups, promoting local markets and short supply circuit and compare the contributions. The most significant contributions should be taken in consideration. In the case of a low number of beneficiaries flagging the additional contribution to the FA 3A the total population of beneficiaries can be taken into consideration in the survey. If there is not sufficient uptake to calculate the secondary contributions in a robust way, the qualitative assessment is also possible (see the Annex 10 of the guidelines: Assessment of RDP results: how to prepare for reporting on evaluation 2017). Findings are also used when answering the CEQ 19.

Qualitative assessment

For the qualitative assessment, the proposed methods will enable one to describe the types of local markets, types of short supply chains, key factors that motivate farmers to participate in quality schemes etc. Proposed methods are:

- Survey to supported and non-supported primary producers under measures 3.1, 9 and 16.4
- Structured focus groups[39], interviews with managers of these measures / producer groups / inter-branch organisations. In relation to focus groups. the MAPP method can be used to assess net effects[40]

Triangulation of the findings from different sources (indicator values, findings from interviews, surveys, focus groups)

Challenges/Risks/Issues

- Low quality data that does not provide a robust answer to the EQ
- Lack of data to answer the EQ (e.g. low RDP uptake/no uptake, small programmes etc.)

Proposed solutions

In case of a lack of data (low uptake, small programmes) this EQ can be answered based on data collected for the total population of contracted beneficiaries for the calculation of the respective indicator. In the case of no uptake the answer can be estimated based on qualitative approaches (via interviews and expert opinions) of the expected improvements in competitiveness of the supported primary producers and for what reasons (e.g. participation in quality schemes, adding value to agricultural products, participating in producer groups, etc.).

In case of low quality data, qualitative information can be sought through interviews, surveys, focus groups.

[38] For details on how to use surveys and focus groups, see 'Capturing the success of your RDP: Guidelines for ex post evaluation of 2007-2013 RDPs', Evaluation Helpdesk, June 2014
[39] For details on how to use surveys and focus groups, see 'Capturing the success of your RDP: Guidelines for ex post evaluation of 2007-2013 RDPs', Evaluation Helpdesk, June 2014
[40] Investment support under Rural Development policy, DG Agri, 2014: http://ec.europa.eu/agriculture/evaluation/rural-development-reports/2014/investment-support-rdp/fulltext_en.pdf

Answer to CEQ

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

2.7 Focus Area P3B, Evaluation question 7

To what extent have RDP interventions supported farm risk prevention and management?

List of measures contributing to the FA 3B:

Primarily programmed measures/sub-measures (proposed by EC)[41]:

- Measures and sub-measures of Art.[42] 15 Advisory services, farm management and farm relief services
- Measures and sub-measures of Art. 14 Knowledge transfer and information actions
- Measures and sub-measures of Art. 35 Co-operation
- Measures and sub-measures of Art. 36 Risk management
- Measures and sub-measures of Art. 18 Restoring agricultural production potential damaged by natural disasters

Examples of measures/sub-measures programmed under the other FA but potentially **showing the secondary contribution** to this FA:

- All above measures if programmed under a different FA other than FA 3B and contributing to farm risk prevention and management
- Measures and sub-measures of Art. 17 Investment in physical assets
- Measures and sub-measures of Art. 19 Farm and business development
- Measures and sub-measures of Art. 35 of Regulation (EU) no 1303/2013, Support for Leader local development

Consistency check between CEQ, judgement criteria and indicators:

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Participation of farms in risk prevention and management schemes has increased

Note: stakeholders in Member States might add/change the judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators:

The following *common indicators should* be used to answer the CEQ:

[41] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc

[42] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly

Common result/target indicator:

- R5/T7 - % of farms participating in risk management schemes

The following other *common indicators might* be used to answer the CEQ:

Common output indicator – O4[43] (data collected via the operations database):

- Number of holdings supported for premium for insurance
- Number of holdings participating in mutual funds
- Number of farm holdings participating in income stabilisation funds
- Number of beneficiaries for preventing actions – farm holdings

Common context indicator (Data needs and data sources are described in the Working Document: Proposed list of common context indicators):

- CCI 17 agricultural holdings (farms)

Additional indicators and information

This evaluation question is related to a new measure introduced in the current programming period (measure 17: risk management). It also covers measure 5.1 'Restoring agricultural production potential damaged by natural disasters and catastrophic events and the introduction of appropriate preventive actions'. Given the novelty of the risk management measure, additional information should be sought to analyse the typology of risks and actions to prevent/manage them:

Further proposed indicators and information collection:

- Number and % of farms participating in risk prevention and management actions, divided by types, e.g.
  - a) actions preventing soil degradation, low tillage and winter green cover;
  - b) establishment of agro-forestry systems that provide synergies to improve soil management including soil carbon stock depletion;
  - c) investments in soft and hard infrastructure to manage climate hazards (e.g. flood risk and volatility in water supply);
  - d) investment in equipment for flood risk management;
  - e) introduction of climate resilient crops and species, including local crop varieties and livestock breeds;
  - f) development of risk analysis models for assessment and management of changing climate hazards;
  - g) creation or modification of existing insurance and compensation funds and schemes according to changing hazards;
  - h) introduction of climate resilient practices and crops as requirements for participation in insurance schemes;
  - i) other

Note: More additional indicators can be developed when the judgement criteria are added to specify the evaluation question in the Member State

Qualitative indicators

[43] WD: Data item list for Pillar II operation database and WD RD programming and target setting

For **qualitative assessment** the following information can be gathered: description of the risks, description of the key factors that motivate farmers to participate in risk prevention and management or, on the other hand, key factors leading to low uptake of the concerned measures.

Data needs and data sources

	Indicators	Data needed	Data sources
Common indicators	R5/T7 - % of farms participating in risk management schemes	Number of agricultural holdings supported for insurance premiums under measure 17.1 (data item O.4) Number of agricultural holdings participating in mutual funds under measure 17.2 (data item O.9) Number of agricultural holdings participating in income stabilisation tools under measure 17.3 (data item O.9) Number of agricultural holdings investing in preventing actions under measure 5.1 (data item O.4) Total number of agricultural holdings in base year for the RDP area	*Beneficiaries* Application form (project start) Payment request (project end) *For total number of agriculture holdings* Eurostat, Farm Structure Survey, etc. (for the total number of holdings): http://ec.europa.eu/eurostat/web/agriculture/data/main-tables
Additional indicators	Number and % of farms participating in risk prevention and management actions divided by type	Number and % of farms participating in risk prevention and management actions divided by type	*Beneficiaries* Application form (project start) Payment request (project end) Surveys

Timing of data collection

Proposed data on beneficiaries and non-beneficiaries should be collected prior to the RDP's implementation (i.e. years 2010-2013) and during the RDP's implementation (i.e. 2014-2020: 1st call for proposal, operations database, national/regional statistics, EU sources)

Methodology to calculate common and additional indicators

Common and additional indicator

Both common (R5/T7) and additional indicators (if relevant) are collected via the operations database and calculated as a ratio of agriculture holdings participating in risk management schemes as a total of the number of holdings. The indicator can be broken down by types of risk management schemes in addition.

Proposed methods are:

- Survey to supported agricultural holdings
- Interviews with managers of these measures

- Triangulation of the findings from different sources (indicator values, findings from interviews, surveys, and focus groups)

Challenges/Risks/Issues

- Lack of data to answer the EQ (e.g. low RDP uptake, small programmes etc.)
- Low quality data that does not provide a robust answer to the EQ

Proposed solutions

In the case of a lack of data (low uptake, small programmes), this EQ can be answered with data collected for the entire population of beneficiaries contracted for the calculation of indicators. In case of no uptake, the answer can be based on a qualitative assessment (via interviews and expert opinions) of the expected participation in risk prevention and management schemes.

In case of low quality data, qualitative information can be sought through interviews, surveys, and focus groups.

Answer to CEQ

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

2.8 Focus Area P4A, Evaluation question 8

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?

List of measures contributing to the FA 4A:

Primarily programmed measures/sub-measures (proposed by EC)[44]:

- Measures and sub-measures of Art.[45] 15 Advisory services, farm management and farm relief services
- Measures and sub-measures of Art. 14 Knowledge transfer and information actions
- Measures and sub-measures of Art. 35 Co-operation
- Measures and sub-measures of Art. 21 Investments in forest area development and improvement of the viability of forests
- Measures and sub-measures of Art. 20 Basic services and village renewal in rural areas
- Measures and sub-measures of Art. 34 Forest-environmental and climate services and forest conservation
- Measures and sub-measures of Art. 30 Natura 2000 and Water framework directive payments

Examples of measures/sub-measures programmed under the other FA but potentially **showing the secondary contribution** to this FA:

- All above measures if programmed under a different FA other than FA 4A and contributing to the restoration, preservation and enhancement of biodiversity
- Measures and sub-measures of Art. 17 Investment in physical assets
- Measures and sub-measures of Art. 28 Agri-environment-climate
- Measures and sub-measures of Art. 29 Organic farming
- Measures and sub-measures of Art. 35 of Regulation (EU) no 1303/2013, Support for Leader local development

Consistency check between CEQ, judgement criteria and indicators:

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Biodiversity on contracted land has been restored, preserved and enhanced

Note: stakeholders in the Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

The following *common indicators should* be used to answer the CEQ:

Common result/target indicators:

[44] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc

[45] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is directly stated otherwise in the text.

- R7/T9 - % of agricultural land under management contracts supporting biodiversity and/or landscapes
- R6/T8 - % of forest or other wooded areas under management contracts supporting biodiversity

The common indicators can be further broken down by type of actions that are effective in supporting biodiversity and/or landscapes (e.g. AECM typology, conserving hedgerows, biodiversity enhancing crops, farm operations through adapted plant selection, reduced pesticide inputs, landscape protection, etc.)

The following other *common indicators might* be used to answer the CEQ:

Common output indicators[46] (Data collected via the operations database):

- O5 total area (ha)
- O6 Physical area supported (ha)
- O7 No of contracts supported

Common context indicators (Data need and data sources are described in the Working document: Proposed list of common context indicators):

- CCI 34 - Natura 2000 areas
- CCI 35 - Farmland bird index

Additional indicators and information

Common indicators are not sufficient to answer the CEQ. Working Document: Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- Number of flora and fauna species on contracted land

Further possible additional indicators:

- % increase/decrease of flora and fauna species on contracted land (and in the programme area) divided by species, among them those which are endangered

Note: More additional indicators can be developed when judgement criteria are added to specify the evaluation question in the Member State.

Qualitative indicators

Qualitative indicators might also be used, e.g. to assess the typology of actions that have been effective in supporting biodiversity and/or landscapes.

Data needs and data sources

	Indicators	Data needed	Data sources
Common indicators	R7/T9 - % of agricultural land under management contracts supporting biodiversity and/or landscapes	Total agricultural land under land management to improve biodiversity (data items O.6, O.7) Total agriculture for the RDP area (data item O.5)	*Beneficiaries* Application form (project start) Payment request (project end) *For total agriculture land* IACS

[46] WD: Data item list for Pillar II operation database and WD RD programming and target setting

			Eurostat : http://ec.europa.eu/eurostat/statistics-explained/index.php/Farm_structure_statistics#Main_tables
	R6/T8 - % of forest or other wooded areas under management contracts supporting biodiversity	Total forestry area under land management to improve biodiversity (data items O.6, O.7) Total forestry area for the RDP area (data item O.5)	*Beneficiaries* Application form (project start) Payment request (project end) Eurostat : http://ec.europa.eu/eurostat/statistics-explained/index.php/Farm_structure_statistics#Main_tables
Additional indicators	Number and % increase/decrease of flora and fauna species on contracted land and in the programme area divided by species among them those which are endangered	Number of flora and fauna species on contracted land and in the programme area divided by species among them those endangered in timelines (for calculation of increase/decrease	Survey National and regional environmental monitoring European Environment Agency: http://www.eea.europa.eu/ BISE: http://biodiversity.europa.eu/ National/International Agencies (Bird Life International) Our Life Insurance, Our Natural Capital (2012) http://eur-lex.europa.eu/legal-content/PT/TXT/HTML/?uri=CELEX:52011DC0244&from=EN Nível Global – Aichi Biodiversity Targets (2010) https://www.cbd.int/sp/targets/

Timing of data collection

Proposed data on beneficiaries and non-beneficiaries should be collected prior to the RDP's implementation (i.e. years 2010-2013) and during the RDP's implementation (i.e. 2014-2020: 1st call for proposal, operations database, national/regional statistics, EU sources)

Methodology to calculate common and additional indicators

Common indicators

The common indicators – R6/T8 and R7/T9, are collected via the operations database and calculated as a ratio of agriculture land or forestry land under managements contracts supporting biodiversity (and landscape in case of agriculture land) of the total UAA. For those operations programmed under other FAs and contributing to the FA 4A the secondary contributions to values of above indicators are already captured in the monitoring system.

Additional indicators

Additional indicators will be calculated based on monitoring of selected species of flora and fauna on contracted land in the timeline. Number and % will be calculated as difference between baselines data and data collected in the year of the evaluation. For counterfactual similar observation will be done for non-contracted land (as a control group).

The proposed methods are:

- Survey biogeographical and phytosociological data: beneficiaries of measures/sub-measures 10, 11, 12.1, 8.1 and 8.2, and non-beneficiaries
- Survey biogeographical and phytosociological data: beneficiaries of forest measures/sub-measures 12.2, 15 and 8.5, and non-beneficiaries

Secondary contributions (for additional indicators only)

Investment types of operations programmed under FAs other than FA 4A can also show secondary contributions to the restoring, preserving and enhancing the biodiversity. For investment related operations the additional result indicator should be used when assessing the secondary contributions to the FA. Secondary contributions to the values of additional result indicators are estimated based on survey with those beneficiaries which are implementing operations under different focus areas (e.g. FA 2A, 2B, 4B, 4C, 6A) and have been flagged as additional contributors to FA 4A. This also includes those operations implemented via CLLD strategies, which show secondary contributions to the enhancement of biodiversity. Sample sizes of surveyed beneficiaries can be set up in accordance with the expected/actual contributions of implemented operations (e.g. farm investment measures) to the FA's objectives. The ratio of the contribution is estimated based on the above surveys. Most significant contributions should be taken in consideration. If there is no sufficient uptake to calculate the secondary contributions in a robust way the qualitative assessment is also possible (see the Annex 10 of the guidelines: Assessment of RDP results: how to prepare for reporting on evaluation 2017). Findings will be used also in answering the CEQ 19.

Qualitative assessment

For the qualitative assessment the proposed methods will enable one to describe the type of actions that are effective in supporting biodiversity and/or landscapes, the species involved with special attention to those endangered (the floristic diversity responds very quickly to pressures and environmental impacts, pesticides application, soil tillage techniques, local climate change, etc.).

Surveys of beneficiaries, structured focus groups[47] interviews with managers of the measures/sub-measures implemented under this FA are suitable methods for the qualitative assessment. In relation to focus groups, the MAPP[48] method is relevant for assessing the effects of interventions on environmental indicators that are difficult to measure (such as biodiversity in this case).

Challenges/Risks/Issues

- Low quality data that does not provide a robust answer to the EQ
- Lack of data to answer the EQ (e.g. low RDP uptake/no uptake, small programmes etc.)
- Increase/ decrease of targeted species and species diversity of operations cannot be assessed using (general) data available in RDP operations and other databases (e.g. Natura 2000 areas, habitat maps, etc.). These can be assessed only through systematic on-site monitoring programmes. Such programmes should be well designed and implemented across beneficiaries and non-beneficiaries (contracted and non-contracted land) and provided with adequate resources.

Proposed solutions

[47] For details on how to use surveys and focus groups, see 'Capturing the success of your RDP: Guidelines for ex post evaluation of 2007-2013 RDPs', Evaluation Helpdesk, June 2014

[47] Investment support under Rural Development policy, DG Agri, 2014: http://ec.europa.eu/agriculture/evaluation/rural-development-reports/2014/investment-support-rdp/fulltext_en.pdf

[48] Investment support under Rural Development policy, DG Agri, 2014: http://ec.europa.eu/agriculture/evaluation/rural-development-reports/2014/investment-support-rdp/fulltext_en.pdf

In case of a lack of data (low uptake,), this EQ can focus on the estimated land to be covered by management contracts and/or the expected improvements in biodiversity and/or landscapes (via interviews and expert opinions).

In the case of low quality data, qualitative information can be sought through interviews, surveys, and focus groups. A screening of existing monitoring activities through different environmental stakeholders might reveal potentially useful data on specific biodiversity indicators which can be combined with the other data sources for assessment. But comparability and reliability of different data sets can become a critical issue.

In case of no data (no databases available), these can be assessed only through systematic on-site monitoring programmes. Such programmes should be well designed and implemented and provided with adequate resources.

Answer to CEQ

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

2.9 Focus Area P4B, Evaluation question 9

To what extent have RDP interventions supported the improvement of water management, including fertilizer and pesticide management?

List of measures contributing to the FA 4B:

Primarily programmed measures/sub-measures (proposed by EC)[49]:

- Measures and sub-measures of Art.[50] 15 Advisory services, farm management and farm relief services
- Measures and sub-measures of Art. 14 Knowledge transfer and information actions
- Measures and sub-measures of Art. 35 Co-operation
- Measures and sub-measures of Art. 21 Investments in forest area development and improvement of the viability of forests
- Measures and sub-measures of Art. 20 Basic services and village renewal in rural areas
- Measures and sub-measures of Art. 34 Forest-environmental and climate services and forest conservation
- Measures and sub-measures of Art. 30 Natura 2000 and Water framework directive payments

Examples of measures/sub-measures programmed under other FA but potentially **showing the secondary contributions** to this FA:

- All above measures if programmed under another FA other than FA 4B and contributing to the improvement of water management, including fertilizer and pesticide management
- Measures and sub-measures of Art. 17, Investment in physical assets
- Measures and sub-measures of Art. 28 Agri-environment-climate

[49] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc

[50] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly

- Measures and sub-measures of Art. 29 Organic farming
- Measures and sub-measures of Art. 27, Setting up producer groups and organisations in agriculture and forestry sectors
- Measures and sub-measures of Art. 35 of Regulation (EU) no 1303/2013, Support for Leader local development

Consistency check between CEQ, judgement criteria and indicators:

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Water quality has improved

Note: stakeholders in MS might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

The following *common indicators should* be used to answer the CEQ:

Common result/target indicators:

- R8/T10 - % of agricultural land under management contracts to improve water management
- R9/T11 - % of forestry land under management contracts to improve water management

The following *common indicators should* be preliminary used to answer the CEQ:

Common output indicators[51] (Data collected via the operations database):

- O4 number of holdings/beneficiaries supported
- O5 total area (ha)
- O6 Physical area supported (ha)

Common context indicators (Data need and data sources are described in the Working document: Proposed list of common context indicators):

- CCI 40 – Water quality (GNB and nitrates in freshwater)

Additional indicators and information

Common indicators are not sufficient to answer the CEQ. WD Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- Additional information on water quality of the land under management contracts, e.g.:
  - Use of nitrogen and phosphorous (kg/ha)
  - Pesticide use (kg/ha)
  - Rate of macro-invertebrates in fresh water
  - Official water quality indicators (oxygen consuming substances in rivers, content nutrients in freshwater)

[51] WD: Data item list for Pillar II operation database and WD RD programming and target setting

Note: More additional indicators can be developed when judgement criteria are added to specify the evaluation question in the Member State.

Qualitative indicators

Qualitative assessment might be also used, e.g. to assess the typology of actions that have been effective in improving water quality to understand the key factors of individual and cumulative environmental impact and to interpret the quantitative data.

Further, the qualitative analysis will enable one to frame the following issues:

- Not all pesticides equally affect water quality – as this depend on their toxicity, persistence, degrades and environmental fate (behaviour). Reporting on a decrease of pesticide use using a "basket" of pesticides will provide only partial information on their pressure on water quality.
- Key factors of why the pesticide and nitrogen end-up in water. Take into account that it also depends on many (external) factors, namely, rainfall, soil type, slope, crop type – this monitoring needs to be very well designed, organised and results need to be interpreted correctly.

Data needs and data sources

	Indicators	Data needed	Data sources
Common indicators	R8/T10 - % of agricultural land under management contracts to improve water management	Total agricultural land under land management contracts to improve water management (data items O4, O.6,) Total number of agricultural holdings for the RDP area (data item O.4) Total agricultural area for the RDP area (data item O.5)	*Beneficiaries* Application form (project start) Payment request (project end) *For total number of holdings and area* IACS Eurostat : http://ec.europa.eu/eurostat/statistics-explained/index.php/Farm_structure_statistics#Main_tables
	R9/T11 - % of forestry land under management contracts to improve water management	Total forestry area under land management contract to improve water management (data items O4, O.6) Total number of forestry holdings for the RDP area (data item O.4) Total forestry area the RDP area (data item O.5)	

Additional indicators	Use of nitrogen and phosphorous (kg N or P/ha)	Consumption of N and P from mineral fertilisers Consumption of N and P from livestock manure (any form) N fixed in soil by legume crops	*Beneficiaries* Application forms Payment request *Beneficiaries and non-beneficiaries* WISE: http://water.europa.eu/ FADN and farm surveys data Surveys with forest managers National and regional monitoring data on nutrient management and / or water quality National/regional environmental agencies reports Evaluation studies on the environmental quality
	Pesticide use (kg/ha) Rate of macroinvertebrates in fresh water	Consumption of pesticide (= all types of plant protection agents used in agriculture or forestry).	
	Official water quality indicators (e.g. oxygen consuming substances in rivers, content nutrients in freshwater)	Additional information on water quality	*Beneficiaries and non-beneficiaries* National and regional monitoring data on water quality National/regional environmental agencies reports Evaluation studies on the environmental quality Surveys European Environmental Agency (for oxygen consuming substances in rivers, nutrients in freshwater): http://www.eea.europa.eu/data-and-maps

Timing of data collection

Proposed data on beneficiaries and non-beneficiaries should be collected prior to the RDP's implementation (i.e. years 2010-2013) and during the RDP's implementation (i.e. 2014-2020: 1st call for proposal, operations database, national/regional statistics, EU sources)

Methodology to calculate common and additional indicators

Common indicators

The common indicators - R8/T10 and R9/T11 are collected via the operations database and calculated as ratio of agriculture land or forestry land under management contracts to improve water management of the total UAA. For those operations programmed under other FAs and contributing to the FA 4B the secondary contributions to values of above indicators are already captured in the monitoring system.

Additional indicators

For investment related operations an additional indicator should be identified, e.g. when assessing the secondary contributions to the FA (See below).

Additional indicators will be calculated based on data on fertilisers and pesticides use as well as monitoring of water quality affected by agriculture (pesticides and fertilizers) of underground waters. For counterfactual similar observation will be done for contracted and not-contracted land (as a control group). For further analysis on types of actions which might have various effects on water quality, several control groups according the type of actions can be created. However, data should include sufficient information on farm structure and management practices to enable the setting up of the control groups and application of advanced matching techniques.

Secondary contributions (for additional indicators only)

Investment types of operations programmed under other than FA 4B can also show secondary contributions to the water management. For investment related operations the additional result indicator should be used when assessing the secondary contributions to the FA. Secondary contributions to the values of additional result indicators are estimated based on surveys with those beneficiaries which are implementing operations under different focus areas (e.g. FA 2A, 4C) and have flagged the additional contribution to FA 4B. This also includes those operations implemented via CLLD strategies, which show secondary contributions to the enhancement of biodiversity. Sample sizes of surveyed beneficiaries can be set up in accordance with the expected/actual contributions of implemented operations (e.g. farm investment measures) to the FA objectives. The ratio of the contribution is estimated based on the above surveys. Most significant contributions should be taken in consideration. If there is no sufficient uptake to calculate the secondary contributions in a robust way a qualitative assessment is also possible (see the Annex 10 of the guidelines: Assessment of RDP results: how to prepare for reporting on evaluation 2017). Findings will be used also in answering the CEQ 19.

Qualitative assessment

For the qualitative assessment the chosen methods should enable one to describe the type of actions that are effective in supporting water management, fertilizer and pesticide management. Qualitative assessments can be done via surveys to beneficiaries, structured focus groups[52], and interviews with managers of measures/sub-measures programmed under the FA. In relation to focus groups, the MAPP[53] method is relevant for assessing the effects of interventions on environmental indicators that are difficult to measure (e.g. water management).

Challenges/Risks/Issues

- Not all pesticides equally affect water quality – as this depend on their toxicity, persistence, degraders and environmental fate (behaviour). Reporting on a decrease of pesticide use using a “basket” of pesticides will provide only partial information on their pressure on water quality.
- Indicators directly measuring the quality of freshwater bodies might not be easily attributable to beneficiaries and non-beneficiaries.
- No data availability in RDP operations and other databases
- Low quality of data that does not enable a robust answer to the EQ

Proposed solutions

In the case of a lack of data (no databases available), these can be assessed only through systematic on-site monitoring programmes. Such programmes should be well designed and implemented and be provided with adequate resources. In fact, systematic, well organised water quality monitoring programmes are most suitable for judging if RDP operations

[52] For details on how to use surveys and focus groups, see ‘Capturing the success of your RDP: Guidelines for ex post evaluation of 2007-2013 RDPs’, Evaluation Helpdesk, June 2014

[53] Investment support under Rural Development policy, DG Agri, 2014: http://ec.europa.eu/agriculture/evaluation/rural-development-reports/2014/investment-support-rdp/fulltext_en.pdf

contributing to FA 4B really improved water quality. Strategic sampling of monitoring points increases the representativeness of monitoring data and enables the creation of multiple comparison groups of beneficiaries and non-beneficiaries. Thus MS/RDP MAs are encouraged to set-up such programmes to monitor pesticide and nitrogen loss in water (leaching and run-off) in combination with reliable information on fertiliser (e.g. nitrogen) and pesticide management of farms. Monitoring should involve both agricultural/forest land participating in RDP operations contributing to FA 4B and those without RDP support (the later should serve as control group). Monitoring should record both the baseline situation and progress during the implementation of the RDP's operations.

In addition, pesticide and nitrogen ending-up in water depends on many (external) factors, notably rainfall, soil type, slope, crop type – this monitoring needs to be very well designed, organised and results need to be interpreted correctly. Sufficient resources should be allocated to implement it. To increase the cost-effectiveness of monitoring programmes, multiple purposes of such programmes should be considered.

In the case of a lack of data (low uptake,), this EQ can focus on the estimated land to be covered by management contracts and/or the expected improvements in water quality (via interviews and expert opinions).

In case of low quality of data, qualitative information can be sought through interviews, surveys, and focus groups.

Answer to CEQ

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

2.10 Focus Area P4C, Evaluation question 10

To what extent have RDP interventions supported the prevention of soil erosion and improvement of soil management?

List of measures contributing to the FA 4C:

Primarily programmed measures/sub-measures (proposed by EC)[54]:

- Measures and sub-measures of Art.[55] 15 Advisory services, farm management and farm relief services
- Measures and sub-measures of Art. 14 Knowledge transfer and information actions
- Measures and sub-measures of Art. 35 Co-operation
- Measures and sub-measures of Art. 21 Investments in forest area development and improvement of the viability of forests
- Measures and sub-measures of Art. 20 Basic services and village renewal in rural areas
- Measures and sub-measures of Art. 34 Forest-environmental and climate services and forest conservation
- Measures and sub-measures of Art. 30 Natura 2000 and Water framework directive payments

Examples of measures/sub-measures programmed under the other FA but potentially **showing the secondary contribution** to this FA:

[54] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc

[55] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly

- All above measures if programmed under another FA other than FA 4C and contributing to the prevention of soil erosion and improvement of soil management
- Measures and sub-measures of Art. 17 Investment in physical assets
- Measures and sub-measures of Art. 28 Agri-environment-climate
- Measures and sub-measures of Art. 29 Organic farming
- Measures and sub-measures of Art. 35 of Regulation (EU) no 1303/2013, Support for Leader local development

Consistency check between CEQ, judgement criteria and indicators:

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Soil erosion has been prevented
- Soil management has improved

Note: stakeholders in the Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

The following *common indicators should* be preliminary used to answer the CEQ:

Common result/target indicator:

- R10/T12 - % of agricultural land under management contracts to improve soil management and/or prevent soil erosion
- R11/T13 - % of forestry land under management contracts to improve soil management and/or prevent soil erosion

The following other *common indicators might* be used to answer the CEQ:

Common output indicators[56] (Data collected via the operations database):

- O4 number of holdings/beneficiaries supported
- O5 total area (ha)
- O6 Physical area supported (ha)

Common context indicators (Data need and data sources are described in the Working document: Proposed list of common context indicators):

- CCI 41 – Soil organic matters in arable land
- CCI 42 - Soil erosion by water

Additional indicators and information

Common indicators are not sufficient to answer the CEQ. WD Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- Additional information on soil erosion of the land under management contracts, e.g.: official soil erosion indicators (e.g. estimated soil erosion by water, measured in tonnes/ha/year, estimated soil erosion by wind measured in days/year)

[56] WD: Data item list for Pillar II operation database and WD RD programming and target setting

Further proposed additional indicators**:**

- Decrease of quantity of soil eroded
- Change in soil compaction
- Change in earthworm's density (Note: earthworms are considered to be a good indicator of good/improved soil management over a range of soil types and situations. They are easy to detect and count).
- Number and types of actions that contribute to prevent/improve soil erosion

Note: More additional indicators can be developed when the judgement criteria is updated to specify the evaluation question in the Member State.

Qualitative indicators

Qualitative assessment might be also used, e.g.

- to assess the typology of actions that have been effective in preventing/improving soil erosion
- perception of beneficiaries on various actions taken in this respect, etc.

Data needs and data sources

	Indicators	Data needed	Data sources
Common indicators	R10/T12 - % of agricultural land under management contracts to improve soil management and/or prevent soil erosion	Total agricultural land under land management contracts to prevent soil erosion (data items O.6, O.4) Total number of agricultural and forestry holdings for the RDP area (data item O.5)	*Beneficiaries* Application form (project start) Payment request (project end) *For total number of agriculture and forestry holdings* IACS Eurostat : http://ec.europa.eu/eurostat/statistics-explained/index.php/Farm_structure_statistics#Main_tables National/regional statistics
	R11/T13 - % of forestry land under management contracts to improve soil management and/or prevent soil erosion	Total forestry area under land management contracts to prevent soil erosion (data items O.6, O.4) Total agriculture and forestry area in base year for the RDP area (data item O.5)	
Additional indicators	Decrease of quantity of soil eroded (t eroded soil/ha)	Quantity of soil eroded by water Quantity of soil eroded by wind	*Beneficiaries and non-beneficiaries* On-site monitoring of agricultural/forestry land under contract and land not under the contract National/regional environmental agencies reports Evaluation studies on the environmental quality
	Change in soil compaction (% of area with decreased soil compaction)	Area with compacted soil	*Beneficiaries and non-beneficiaries* On-site monitoring of agricultural/forestry land under contract and land not under the contract

Additional indicators	Change in earth worms density (number/m^2)	Number of earthworms per square metre.	*Beneficiaries and non-beneficiaries* On-site monitoring of agricultural/forestry land under contract and land not under the contract
	Number and types of actions that contribute to prevent/improve soil erosion	Number of actions contributing to prevention/improvement soil erosion broken down by type	*Beneficiaries* Application form (project start) Payment request (project end) Surveys
	Official soil erosion indicators (e.g. estimated soil erosion by water, measured in tonnes/ha/yr, estimated soil erosion by wind measured in days/year)	Additional information on soil erosion of the land under management contracts	European Environment Agency (for estimated soil erosion by water and by wind)[57] National/regional environmental statistics

Timing of data collection

Proposed data on beneficiaries and non-beneficiaries should be collected prior to the RDP's implementation (i.e. years 2010-2013) and during the RDP's implementation (i.e. 2014-2020: 1st call for proposal, operations database, national/regional statistics, EU sources)

Methodology to calculate common and additional indicators

Common indicators

The common indicators - R10/T12 and R11/T13, are collected via the operations database and calculated as ratio of agriculture land or forestry land under management contracts to prevent soil erosion and improve soil management of the total UAA. For those operations programmed under other FAs and contributing to the FA 4C the secondary contributions to values of above indicators are already captured in the monitoring system.

Secondary contributions

Secondary contributions of operations which are programmed under other FAs than P4C are also considered when calculating the common indicator. However, only operations linked to the area based measures could be considered. Findings will be considered when answering the CEQ 19.

Additional indicators

For investment related operations an additional indicator should be identified, e.g. when assessing the additional contributions to the FA. This requires a review of existing soil erosion indicators to select the most appropriate indicator for the specific intervention logic and causal relationships of the investment measure.

Additional indicators will be calculated based on on-site monitoring of soil erosion of agricultural/forestry land under contract. For counterfactual similar observation will be done for contracted and not-contracted land (as control group). Monitoring should record both baseline situation and progress during implementation of RDP operations. For further analysis on types

[57] European Environment Agency, Estimated soil erosion by water: http://www.eea.europa.eu/data-and-maps/indicators/soil-erosion-by-water-1/assessment

of actions which that might have various effects on soil erosion, several control groups according the type of actions can be created. However, data should include sufficient information on farm structure and management practices to enable the application of advanced matching techniques.

Secondary contributions (for additional indicators only)

Secondary contributions to the values of additional result indicators are calculated based on surveys with those beneficiaries which are implementing operations via different focus areas (e.g. 2A, 4B, 6A) and have been flagged as providing additional contributions to FA 4C. This also includes those operations implemented via CLLD strategies, which show secondary contributions to the enhancement of biodiversity. Sample sizes of surveyed beneficiaries can be set up in accordance with the expected/actual contributions of implemented operations (e.g. farm investment measures) to the FA objectives. Most significant contributions should be taken in consideration. If there is no sufficient up take to calculate the secondary contributions in a robust way a qualitative assessment is also possible (see the Annex 10 of the guidelines: Assessment of RDP results: how to prepare for reporting on evaluation 2017). Findings can be used in answering the CEQ 19.

Qualitative assessment

For qualitative assessment the following methods are proposed:

- Survey to beneficiaries (and non—beneficiaries) of primarily and secondarily programmed measures/sub-measures
- Structured focus groups[58],
- Interviews with managers of these measures.

In relation to focus groups, the MAPP method is relevant for assessing the effects of interventions on environmental indicators that are difficult to measure (such as soil erosion).

Challenges/Risks/Issues

- Low quality data that does not provide a robust answer to the EQ
- Lack of data to answer the EQ (e.g. low RDP uptake/no uptake, small programmes etc.)
- Systematised and harmonised data on trends in soil erosion in Europe and Member States are lacking (according to the European Environment Agency).
- Soil erosion, change in soil compaction and earth worms density cannot be assessed using (general) data available in RDP operations and other databases (e.g. soil maps, land use data, etc.). This can be assessed only through systematic on-site monitoring programmes. Such programmes should to be well designed and implemented and provided with adequate resources. The cost-effectiveness of such monitoring programme needs to be reviewed.

Proposed solutions

In case there is a lack of data (low uptake, small programmes), this EQ can focus on the estimated land to be covered by management contracts and/or the expected improvements/prevention of soil erosion (via interviews and expert opinions).

In case of low quality data, qualitative information can be sought through interviews, surveys, and focus groups.

In case of a lack of data, use the EEA indicators of estimated soil erosion.

Modelling approaches (non-experimental design) can be used to calculate soil erosion, sediment retention and organic carbon content in circumstances with limited observational soil data. However, the quality of the model input data determines the level at which the results can be used and the type of comparison groups that can be designed for the assessment.

[58] For details on how to use surveys and focus groups, see 'Capturing the success of your RDP: Guidelines for ex post evaluation of 2007-2013 RDPs', Evaluation Helpdesk, June 2014

In case data is not available from the RDP's operations and other databases (e.g. soil maps, land use data, etc.), the indicators can be assessed only through systematic on-site monitoring programmes. Such programmes should to be well designed and implemented and provided with adequate resources.
Answer to CEQ The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	**Recommendations**
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

2.11 Focus Area P5A, Evaluation question 11

To what extent have RDP interventions contributed to increasing efficiency in water use by agriculture?

List of measures contributing to the FA 5A:

Primarily programmed measures/sub-measures (proposed by EC)[59]:

- Measures and sub-measures of Art.[60] 15 Advisory services, farm management and farm relief services
- Measures and sub-measures of Art. 14 Knowledge transfer and information actions
- Measures and sub-measures of Art. 17, Investment in physical assets
- Measures and sub-measures of Art. 35 Co-operation
- Measures and sub-measures of Art. 28 Agri-environment-climate

Examples of measures/sub-measures programmed under other FAs but potentially **showing secondary contributions** to this FA:

- All above measures if programmed under another FA other than FA 5A and contributing to increasing efficiency in water use by agriculture
- Measures and sub-measures of Art. 19 Farm and business development
- Measures and sub-measures of Art. 18 Restoring agricultural production potential damaged by natural disasters and introduction of appropriate prevention
- Measures and sub-measures of Art. 21 Investment in forest area development and improvement of viability of forests (sub-measures 8.1 and 8.2)
- Measures and sub-measures of Art. 27, Setting up producer groups and organisations in agriculture and forestry sectors
- Measures and sub-measures of Art.34 Forest-environment and climate services and forest conservation
- Measures and sub-measures of Art. 35 of Regulation (EU) no 1303/2013, Support for Leader local development

[59] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc
[60] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly

Consistency check between CEQ, judgement criteria and indicators:

Judgement criteria

Judgement criteria (JC) proposed by the WD Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Efficiency in water use by agriculture has increased

Note: stakeholders in Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

The following *common indicators should* be used to answer the CEQ:

Common result indicator:

- R12/T14 - % of irrigated land switching to more efficient irrigation system
- R13 - Increase in efficiency of water use in agriculture in RDP supported projects (complementary result indicator)

The following other *common indicators might* be used to answer the CEQ:

Common output indicator[61] (Data collected via the operations database):

- O5 Total area (ha),
- O6 Physical area supported (ha)

Common context indicator (Data need and data sources are described in the Working document: Proposed list of common context indicators):

- CCI 39 Water abstraction in agriculture (also impact indicator 10)

Additional indicators and information

Since the common indicator is not sufficient to answer the evaluation question additional **quantitative indicators** are suggested:

[61] WD: Data item list for Pillar II operation database and WD RD programming and target setting

- Percentage of area under RDP-supported operations practising residue management (e.g. mulching);
- Percentage of area under RDP-supported operations practising conservation tillage;
- Percentage of area under RDP-supported operations practising soil carbon-building measures.

Note: More additional indicators can be developed when judgement criteria are added to specify the evaluation question in MS.

Qualitative indicators

Further on the evaluator can collect additional **qualitative information**, e.g. perception of beneficiaries on how efficiency in water use by agriculture has increased as a result of the RDP support (Likert scale)

Data needs and data sources

	Indicators	Data needed	Data source
Common indicators	R12/T14 - % of irrigated land switching to more efficient irrigation system	*Beneficiaries* • Number of hectares switching to more efficient irrigation systems through the RDP measures 4 and 10 • Total irrigated land in base year for the RDP area	*Beneficiaries* Application forms (before the project start) Payment request (after the project end) *Beneficiaries and non-beneficiaries* Eurostat (for the total irrigated land in base year)

Common indicators	R13 - Increase in efficiency of water use in agriculture in RDP supported projects	*Beneficiaries:* • Identification and basic characteristics (size, type yield per crop, quantity of water used for irrigation per crop, technology used) of projects with a water saving/efficiency component Information from the completed project on the situation before and after project implementation about the items mentioned above *Beneficiaries and non-beneficiaries* • Yield per crop • Quantity of water used for irrigation per total output of farm (FADN)	*Beneficiaries:* Application forms (before the project start) Payment request (after the project end) *Beneficiaries and non-beneficiaries* Farm structure survey Survey on agriculture production methods (SAPM) Field research FADN - Total output per farm: • Formula: http://ec.europa.eu/agriculture/rica/annex003_en.cfm#ii • Database: http://ec.europa.eu/agriculture/rica/database/database_en.cfm Eurostat – standard outputs: Standard outputs per MS and region and year – average 2010: http://ec.europa.eu/eurostat/web/agriculture/so-coefficients Total standard outputs (overall economic size of farm) per MS and region and per year: http://ec.europa.eu/agriculture/rica/database/report_en.cfm?dwh=SO National and regional statistics **Projects:** OpiRIS - the EU 7th framework programme: Irrigation scheduling expert system – OpIRIS, http://www.opiris4r.com/, which provides the advice on how to set up the precise irrigation scheduling and increase the water efficiency, which does not relate only to technology but also to knowledge and management practice. OpIRIS is a low cost autonomous system dealing with water, fertilizers and energy reduction in Hydroponic Greenhouses and Trees Orchards. OpIRIS **p**rovides free access to a database that helps appraising the potential impact of knowledge-based, irrigation

			management and precision scheduling strategies on water productivity (final yield versus irrigation water) in fruit trees orchards and hydroponic crops. Public visitors can personalise the results by filtering OPIRIS' database according to a specific combination of crop, variety, soil, irrigation system and climatic zone.
Common indicators	CCI 39 Water abstraction in agriculture (also impact indicator 10)	*All farmers* Volume of water which is applied to soils for irrigation purposes in m^3	*All farmers* Farm structure survey Survey on agriculture production methods (SAPM) National and regional data
Additional Indicators	Percentage of area under RDP-supported operations practising residue management (e.g. mulching)	*Beneficiaries and non-beneficiaries* • Area under operations practising residue management	*Beneficiaries:* Application forms (before the project start) Payment request (after the project end) *Beneficiaries and non-beneficiaries* Farm survey
	Percentage of area under RDP-supported operations practising conservation tillage	• Area under operations practising conservation tillage	*Beneficiaries:* Application forms (before the project start) Payment request (after the project end) *Beneficiaries and non-beneficiaries* Farm survey

	Percentage of area under RDP-supported operations practising soil carbon-building measures	• Area under operations practising other carbon – building measures	*Beneficiaries:* Application forms (before the project start) Payment request (after the project end) *Beneficiaries and non-beneficiaries* Farm survey

Methodology to calculate complementary result indicator R13 - Increase in efficiency of water use in agriculture in RDP supported projects (net value)

Water use efficiency is a function of gathering, storing, conveying and using water efficiently on the crop. Gains should be relatively easy to assess if monitoring equipment is in place at either the end of the irrigation conveyance system. Some projects may relate to collective management of irrigation systems so sometimes multi-holding collective appraisal will be needed.

The **steps** identified below should be followed.

Step 1: Identify sample of completed operations on farms who have adopted enhanced irrigation practices with RDP support

Step 2: Select a control group with the same characteristics but has not adopted enhanced irrigation practices with RDP support.

Step 3: Assess consumption of irrigated water (in m^3) per tonne of irrigated crop. The situation as to water consumption and planned situation after the implementation of the investment before the start of the programming period (baseline) for both beneficiaries (e.g. in application forms) and non-beneficiaries (survey), and the situation 1 year after the investment (for beneficiaries could be used the payment request, and beneficiaries and non-beneficiaries survey sheets etc.).

Step 4: Assess the change in water use on supported farms and unsupported farms[62] before and after the investment (see above).

This indicator should be expressed as a **percentage** of the increase in efficiency of water use. This should be calculated by comparing use of irrigated water (in m3) per standard unit of output both in RDP-supported projects and in the control group using the matching approach. Suppose that one of the variables for matching for beneficiaries and control farms is the use m3 irrigated water to obtain the standard output. The increase in efficiency of water use in RDP-supported projects for crop A x%. The same can be used for crop B (y%,), C

[62] Pay attention whether water-intensive farms are dropping out. If this happens – for instance because of increased water price, one could get a wrong overall picture on the success of RDP measures.

(y%), etc. Following this approach, the comparison of the increase in efficiency of water use across Member States can be done for standard unit of outputs for which data are available in the Member States.

Secondary contributions

When calculating the indicator, both – primary and secondary contributions should be taken in consideration. Secondary contributions are understood as contributions of operations programmed and implemented under FAs other than P5A to the values of result indicators. The secondary contributions are calculated based on survey with those beneficiaries which are implementing operations via different focus areas (e.g. 2A, 4B and C) and have been flagged as additional contributors to FA 5A. This also includes those operations implemented via CLLD strategies, which show secondary contributions to the water use efficiency. Samples of surveyed beneficiaries can be set up in accordance with the expected/actual contributions of implemented operations (e.g. farm investment measures, environment & climate, forestry related measures etc.,) to the FA objectives. Most significant contributions should be taken in consideration. The ratio of the contribution is estimated based on the above surveys. If there is not sufficient uptake to calculate the secondary contributions in a robust way a qualitative assessment is also possible (see the Annex 10 of the guidelines: Assessment of RDP results: how to prepare for reporting on evaluation 2017). Findings can be used in answering the CEQ 19.

Qualitative assessment

The **qualitative assessment** is done via surveys, interviews and focus groups, which can serve to contextualize the water use and its efficiency, namely:

- identifying and describing all the factors that contribute to the loss of water in an irrigation system (climate, soil type, hydrology, type of irrigation and topography). These factors are unpredictable and heterogeneous and therefore complicate management and measuring;
- screening and describing unanticipated negative effects in the selected cases[63]; and
- considering the water use at multiple scales from field, to farm to drainage basin/catchment. Thus, there is a need to look at the impacts on the whole water system.

As an example of wider system effects, drip irrigation can impact the groundwater recharge (reducing it) and thereby impact downstream users. Better capture of water by the crop will reduce stream flow and increase the pollution load, so a wider scanning of the catchment for adverse effects should be undertaken where irrigated areas are expanded or irrigation technologies are changed.

[63] See Ward and Pulido-Velazque, 2008 at: http://www.pnas.org/content/105/47/18215.full/Water-conservation-in-irrigation-can-increase-water-use

Principal challenges

- Water use efficiency can be considered at multiple scales from field, to farm to drainage basin/catchment. All are legitimate concerns and scale of evaluation should be contingent on the scale of the RDP-supported scheme. Arguably there is a need to look at the whole water system and related data linked to the irrigated crop. However, the level of efficiency that can potentially be attained is not simply the amount of water taken up by a crop compared to the amount of water applied (Fairweather et al.). In the assessment of indicators and setting up the control groups, it is important to take into account all the factors that contribute to the loss of water in an irrigation system (climate, soil type, hydrology, type of irrigation and topography). There might be some difficulties in data availability, since many factors are mostly unpredictable and heterogeneous and therefore complicate the measurement of the system.
- As an example of wider system effects, drip irrigation can impact on groundwater recharge (reducing it) and thereby impacting downstream users. Unanticipated negative effects should be screened for in selected cases[64] Better capture of water use by the crop will reduce stream flow and increase the pollution load, so a wider scanning of the catchment for adverse effects should be undertaken where irrigated areas are expanded or irrigation technologies are changed.
- Eurostat reports that there is likely to be significant illegal and unmonitored use of water in some parts of Europe.
- It is very important to note that irrigation is not THE ONLY technique increasing efficiency in water use by agriculture. Several other techniques are also important in increasing efficiency of water use in agriculture. For instance:
    - Residue management (e.g. mulching) leaving plant residue on the soil surface improve the ability of the soil to hold moisture – and reduces water run-off from the field – as well as surface evaporation.
    - Conservation tillage – same effect as above.
    - Soil-carbon building practices (e.g. regular application of livestock manure, growth of perennial legumes) increases soil carbon and water holding capacity. Some of these are part of agri-environment schemes. Employing alternative sources of water for irrigation, such as rainwater harvesting and utilising treated (low salinity) wastewater.

How to use the indicator in the situation of lack of data (low RDP uptake, etc.)

The approach adopted assumes limited data at catchment scale but that crop level data is possible to collect to generate indicator values. Where uptake is low care must be taken to ensure a sample size to deliver the requisite confidence in estimates.

Example

Weblink: http://ec.europa.eu/environment/water/quantity/pdf/BIO_Water%20savings%20in%20agiculture_Final%20report.pdf

[64] See for instance Ward and Pulido-Velazque, 2008 at: http://www.pnas.org/content/105/47/18215.full/Water-conservation-in-irrigation-can-increase-water-use

Bio-intelligence Services and others, see BIO Intelligence Service, Cranfield University and Risk and policy Analysts (2012) Water saving potential in agriculture in Europe: findings from the existing studies and application to case studies.

Anon (2015) Example Irrigated Farm Water Use Efficiency Assessment (IFWUEA)

http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0010/598420/example-ifwuea-round-7.pdf *(*Example of detailed analysis of water use efficiency at farm scale based on Australian (New South Wales) study).

Sub-surface drip irrigation, for instance: http://www.agriculture-xprt.com/applications/irrigation-solutions-for-citrics-crops-1126

Advantages of the Watering Community, for instance at: http://www.agriculture-xprt.com/applications/water-filtration-solutions-for-irrigation-sector-1121

Further information

Anon (2015) Example Irrigated Farm Water Use Efficiency Assessment (IFWUEA) http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0010/598420/example-ifwuea-round-7.pdf

BIO Intelligence Service, Cranfield University and Risk and policy Analysts (2012) Water saving potential in agriculture in Europe: findings from the existing studies and application to case studies. http://ec.europa.eu/environment/water/quantity/pdf/BIO_Water%20savings%20in%20agiculture_Final%20report.pdf

Burt, C. M., Clemmens, A. J., Strelkoff, T. S., Solomon, K. H., Bliesner, R. D., Hardy, L. A., Howell, T. A. and Eisenhauer, D. E. (1997) Irrigation performance measures: efficiency and uniformity. *Journal of Irrigation and Drainage Engineering*, 123:423-442 available at http://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1015&context=bae_fac

Fairweather, H., Austin, N. and Hope. M., (undated) Water use Efficiency An information package Water Insights 5.

This provides very useful contextual information and efficiency ratios for use in irrigation appraisal. It was prepared for Australia but the ratios and thinking are highly pertinent for Europe.

Answer to CEQ

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

2.12 Focus Area P5B, Evaluation question 12

To what extent have RDP interventions contributed to increasing efficiency in energy use in agriculture and food processing?

List of measures contributing to the FA 5B:

Primarily programmed measures/sub-measures (proposed by EC)[65]:

- Measures and sub-measures of Art.[66] 15 Advisory services, farm management and farm relief services
- Measures and sub-measures of Art. 14 Knowledge transfer and information actions
- Measures and sub-measures of Art. 17, Investment in physical assets
- Measures and sub-measures of Art. 35 Co-operation
- Measures and sub-measures of Art. 20 Basic services and village renewal in rural areas

Examples of measures/sub-measures programmed under the other FA but potentially **showing secondary contributions** to this FA:

- All above measures if programmed under another FA other than FA 5B and contributing to increasing efficiency in energy use by agriculture
- Measures and sub-measures of Art. 19 Farm and business development
- Measures and sub-measures of Art. 27, Setting up producer groups and organisations in agriculture and forestry sectors
- Measures and sub-measures of Art. 35 of Regulation (EU) No 1303/2013, Support for Leader local development

Consistency check between CEQ, judgement criteria and indicators

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Efficiency of energy use in agriculture and food processing has increased

Note: Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

[65] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc
[66] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly

Indicators

The following *common indicators should* be used to answer the CEQ:

Common result indicators:

- T15 - Total investment for energy efficiency
- R14 - Increase in efficiency of energy use in agriculture and food-processing in RDP supported projects (complementary result indicator)

The following other *common indicators might* be used to answer the CEQ:

Common output indicators[67] (data collected via the operations database):

- O2 Total investment € (public + private)

Common context indicator (data need and data sources are described in the Working document: Proposed list of common context indicators):

- CCI 44 Energy use in agriculture, forestry and food industry

Additional indicator and information

As additional indicator the following one can be used to look at the economic gains of the energy savings>

- Standard output/MJ energy input

Note: If stakeholders in MS have added additional judgement criteria, then other indicators, consistent with the proposed additional judgement criteria, may be included here

Qualitative information

Additional qualitative information may also be collected in the assessment of whether efficiency in energy use in agriculture and food processing has increased, for example:

- The perception of beneficiaries on how efficiency of energy use in agriculture and food processing has increased as a result of the RDP support (Likert scale)
- The types of actions that have proved effective in improving energy efficiency

[67] WD: Data item list for Pillar II operation database and WD RD programming and target setting

Data needs and data sources per indicator			
	Indicators	**Data needed**	**Data source**
Common indicators	T15 Total investment for energy efficiency	Total amount of investments in energy saving and efficiency supported under the RDP	*Beneficiaries* Application forms (prior the project start) Payment request (after project completion)
	R14 Increase in efficiency of energy use in agriculture and food-processing in RDP supported projects	Beneficiaries: • Total energy use data (fuel, electricity) in T.O.E/per standard unit of output Non- Beneficiaries: • Total energy use (fuel, electricity) in T.O.E/per standard unit of output	*Beneficiaries:* • Application forms (prior the project start) • Payment requests (after project completion) • Energy audit (especially for processing industries) *Beneficiaries and non-beneficiaries:* • EUROSTAT – energy statistics • Farm survey of selected beneficiaries and non-beneficiaries • Survey of supported and non-supported food firms FADN - Total output per farm: Formula: http://ec.europa.eu/agriculture/rica/annex003_en.cfm#ii Database: http://ec.europa.eu/agriculture/rica/database/database_en.cfm Eurostat – standard outputs: Standard outputs per MS and region and year – average 2010: http://ec.europa.eu/eurostat/web/agriculture/so-coefficients Total standard outputs (overall economic size of farm) per MS and region and per year: http://ec.europa.eu/agriculture/rica/database/report_en.cfm?dwh=SO National and regional statistics

Additional indicator	Standard output/MJ energy input	Standard outputs per crop and animal (see annex of this document – standard outputs tables	*Beneficiaries and non-beneficiaries:* • EUROSTAT – standard outputs • Farm survey of selected beneficiaries and non-beneficiaries • Survey of supported and non-supported food firms

Timing of data collection

Proposed data on beneficiaries and non-beneficiaries should be collected prior to the RDP's implementation (i.e. years 2010-2013) and during the RDP's implementation (i.e. 2014-2020: 1st call for proposal, operations database, national/regional statistics, EU sources).

Methodology to calculate complementary result indicator R14 - Increase in efficiency of energy use in agriculture and food-processing in RDP supported projects (net value)

It is only possible to estimate the efficiency gains in energy use from RDPs if all RDP-related agriculture and food processing projects are screened for energy use effects. However, energy use should be assessed only where there are significant effects. For example, a 5% change as the threshold could be used. Thus, this analysis shall be restricted to the main measures within Focus Areas which are likely to affect energy use both positively and negatively (using expert judgement as to whether the measure might reach the suggested 5% threshold value). In this scope all measures under FA 5B should be considered (but the minimum should be a focus on Measure 4 and 7).

Energy use will arise from electricity use (e.g. in cooling systems for dairy farms), in fuel use with machinery and tractors, in electricity use with processing food industries. These are reduced to a TOE figure based on a standard multiplier (suggested figure: 1 kW/hr= 0.000085984522785899 (https://www.unitjuggler.com/convert-energy-from-kWh-to-toe.html).

Coefficients for conversion of various energy sources to T.O.E: e.g. Directive 2009/28/EC; International Energy Agency: http://www.iea.org/interenerstat_v2/energy_unit.asp

Standard unit of outputs (Eurostat) are used as a denominator in the calculation of the indicator. An energy audit should be a prerequisite for any farm, processing industry or rural business (or potentially Leader–funded entity) applying for this measure.

The following **steps** should then be used in the calculation of the indicator:

Step 1: Specify subset of RDP measures for which assessment is needed. This should be decided at the RDP level.

Step 2: Take stratified samples of all relevant RDP-supported projects (weighted by RDP expenditures).

Step 3: Identify parallel samples of RDP funded projects as the control group.

Step 4: Use energy use records calculated per standard unit of output per commodity (€) and or survey to identify before, and after energy use data on supported and unsupported farms/firms.

Step 5: Assess before and after energy consumption in T.O.E per standard unit of output (€) in supported and control farms and firms.

Step 6: Assess the net energy savings on supported farms and firms (per standard unit of output) in supported and control farms and firms, this ratio should increase as a result of the intervention.

Step 7: Compare the ratio on supported versus unsupported farms. This ratio should increase as a result of the intervention

Secondary contributions

When calculating this indicator, both – primary and secondary contributions should be taken in consideration. Secondary contributions are effects of operations contributions and understood as contributions of operations programmed and implemented under other FAs than P5B to the values of result indicators. The secondary contributions are calculated based on survey with those beneficiaries which are implementing operations via different focus areas (e.g. FA 2A, 6A, 6B) and have been flagged as additional contributors to FA 5B. This also includes those operations implemented via CLLD strategies, which show secondary contributions to the water use efficiency. Samples of surveyed beneficiaries can be set up in accordance with the expected/actual contributions of implemented operations (e.g. farm investment measures, environment & climate, forestry related measures, etc.) to the FA objectives. Most significant contributions should be taken in consideration. The ratio of the contribution is estimated based on the above surveys. If there is not sufficient uptake to calculate the secondary contributions in a robust way a qualitative assessment is also possible (see the Annex 10 of the guidelines: Assessment of RDP results: how to prepare for reporting on evaluation 2017). Findings can be used in answering the CEQ 19.

Principal challenges:

- Where energy use is associated with renewable energy resources the TOE measure is not an appropriate measure of contribution to emissions, but still reflects efficiency. A savings in GHG emissions will arise but there may be a substitution of renewable for non-renewable energy, which means the net emissions will be much less. Equally, TOE using an EU average will not reflect member state differences in the renewable proportion of their electricity production.
- Where energy use is associated with a shift from the application of nitrogenous fertilisers which embody large amounts of energy to organic production, this will be reflected in the reduced use of and demand for nitrogenous fertiliser and will be reflected in fertiliser industry figures not farm level change. ONLY on-farm energy use should be considered, but evaluators should recognise that some activities can be outsourced (e.g. contracting of machinery operations) which reduces farm energy use but not total energy use. Such energy savings could be illusory.
- FA 5A is essential for the efficiency of energy use, so the source (non-renewable vs renewable) is, to a degree, immaterial for this indicator. We should not be concerned with sourcing of energy inputs (which is important for TOE estimates) but with efficiency of energy use. The TOE figure is only used to estimate the amount of energy use in a single denominator.
- Because of price volatility linked to different products it is proposed to use as the standard output the volume of production per crop (farms) and commodity (food processing firms).

How to use the indicator in the situation of lack of data (low RDP up-take, small programmes etc.)

This is unlikely to be an issue as energy use is universal. The key challenge is the screening of projects to determine which projects fall into consideration.

Example (including the web page link if existing)

Example 1 Farm: Northern Ireland pig farm. The farm generated the following savings following energy audit (in this case not RDP funded):

- Milling & mixing costs halved per tonne output creating major savings in energy use and costs
- Less electricity used for lighting, through change in lighting system
- Improved temperature control on heat pads in farrowing house for sows
- 1000 litres of oil saved annually in heating
- Over 3.5 t CO2 emissions saved annually.

These figures can readily be converted into a TOE figure using on line conversion tables.

Example 2 Food firm

Chivas Brothers who are malt whisky producers undertook a careful analysis of its sites and the suitability of thermo-compressors, to guard spirit quality before implementing its rolling programme to retrofit the technology at some of its distilleries with existing heat recovery systems - a programme in place since 2005. The pursutechnology was included in Chivas' expansion of The Glenlivet distillery in 2009, where the new still house uses 20% less energy than the existing part of the site. Benchmarking of distillery performance has confirmed these savings. All distilleries employing thermo-compressors now use between 10% - 20% less energy per unit of alcohol than would be expected for their size category. The actual carbon savings vary by distillery size and fuel type. For example, in distilleries with at least six stills, average annual reductions of 1,750 and 2,000 tonnes of CO2 have been achieved, for gas and oil fuelled sites respectively. Assuming gas or diesel heat source, this amounts to 0.25 kgs CO2 per kW hr of heat produced using Carbon Trust conversion factors, which then needs to be converted to TOE.

Source: http://www.scotch-whisky.org.uk/news-publications/publications/documents/case-study-chivas-brothers-energy-efficiency/#.WInfJfkrJPZ

Further information

Carbon Trust (2006) http://www.inteltect.com/transfer/CT_Carbon_Conversion_Factsheet.pdf

Carbon Trust (2012) Food and drink processing: Introducing energy saving opportunities for business

Carbon Trust (no date) Industrial Energy Efficiency Accelerator Guide to the dairy sector (one of many guides to different parts of food sector)

DARDNI (2011) Farmer Case Studies: How to reduce costs and cut Greenhouse Gas (GHG) Emissions

http://farmcarbontoolkit.org.uk/toolkit/your-farm/372 this provides advice on energy reduction measures

European Commission (JRC) (2009) Reference Document on Best Available Techniques for Energy Efficiency

http://www.scotch-whisky.org.uk/news-publications/publications/documents/case-study-chivas-brothers-energy-efficiency/#.WInfJfkrJPZ

https://www.unitjuggler.com/convert-energy-from-kWh-to-toe.html

http://www.enworks.com/case-studies/whitehaven-brewery film of case of brewery

Answer to CEQ The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.	
Conclusions	**Recommendations**
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

2.13 Focus Area P5C, Evaluation question 13

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?

List of measures contributing to the FA 5C:

Primarily programmed measures/sub-measures (proposed by EC)[68]:

- Measures and sub-measures of Art.[69] 15 Advisory services, farm management and farm relief services
- Measures and sub-measures of Art. 14 Knowledge transfer and information actions
- Measures and sub-measures of Art. 17 Investment in physical assets
- Measures and sub-measures of Art. 35 Co-operation
- Measures and sub-measures of Art. 20 Basic services and village renewal in rural areas
- Measures and sub-measures of Art. 19 Farm and business development
- Measures and sub-measures of Art. 26 Investments in forestry technologies and in processing, mobilising and marketing of forestry products
- Measures and sub-measures of Art. 21 investments in forest area development and improvement of the viability of forests

Examples of measures/sub-measures programmed under the other FAs but potentially **showing secondary contributions** to this FA:

- All above measures if programmed under another FA other than FA 5C and contributing 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
- Measures and sub-measures of Art. 29 Organic farming
- Measures and sub-measures of Art. 27 Setting up producer groups and organisations in agriculture and forestry sectors

[68] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc
[69] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly

- Measures and sub-measures of Art. 35 of Regulation (EU) No 1303/2013, Support for Leader local development

Consistency check between CEQ, judgement criteria and indicators

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- The supply of renewable energy has increased
- The use of renewable energy has increased

Additional judgment criteria:

- Improved economic performance due to renewable energy use

Note: stakeholders in Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

The following *common indicators should* be preliminary used to answer the CEQ:

Common result indicators:

- T16 - Total investment in renewable energy production
- R15 - Renewable energy produced from supported projects (complementary result indicator)

The following other *common indicators might* be used to answer the CEQ:

Common output indicators[70](data collected via the operations database):

- O2 - Total investments € (public and private)

Common context indicators (data need and data sources are described in the Working document: Proposed list of common context indicators):

- CCI 43 Production of renewable energy from agriculture and forestry
- CCI 44 Energy use in agriculture, forestry and food industry

[70] WD: Data item list for Pillar II operation database and WD RD programming and target setting

Additional indicators and information

Common indicators are not sufficient to answer the CEQ. WD Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- Total investments for the use of renewable energy supported by the RDP, including by type of renewable energy
- Renewable energy used in supported holdings,

Further proposed additional indicators:

- Changes in gross Farm Income due to energy consumptions (additional JC: improved economic performance due to renewable energy use)
- Changes in family farm income due to energy consumptions (additional JC: improved economic performance due to renewable energy use)

Note: If stakeholders in the Member States have added additional judgement criteria, or other indicators, consistent with the proposed additional judgement criteria, it may be included here

Qualitative indicators

Qualitative information might be also used, e.g.

- perception of beneficiaries on how the supply and use of renewable energy has increased as a result of the RDP support (Likert scale), and/or
- description of actions to increase the production and supply of renewable energies (e.g. biomass based through cultivating annual and perennial crops such as grasses and coppice trees, forest biomass based, biogas, etc.)

Data needs and sources

	Indicators	Data needed	Data source
Common indicators	T16 Total investment in renewable energy production	*Beneficiaries* • Total investment in renewable energy production under measures 4, 6.2, 6.4, 7.2 and 8.6 *Beneficiaries and non-beneficiaries* • Total investment in renewable energy production in agriculture and forestry	*Beneficiaries* • Application forms (before the project start) • Payment request (after project finalisation) *Beneficiaries and non-beneficiaries* Survey on beneficiaries and non-beneficiaries National and regional statistics Energy supply and control entities data Eurostat – energy statistics http://ec.europa.eu/eurostat/web/energy/data/database
	R15 - Renewable energy produced from supported projects	*Beneficiaries:* • Installed capacity and efficiency factors via using monitoring technology • Renewable energy production *Non-beneficiaries:* • Renewable energy production in agriculture and forestry	*Beneficiaries* • Application forms (before the project start) • Payment request (after project finalisation) *Beneficiaries and non-beneficiaries* National/regional statistics Energy supply and control entities data Eurostat – energy statistics http://ec.europa.eu/eurostat/web/energy/data/database Surveys/focus groups

Additional indicators	Total investments for the use of renewable energy supported by the RDP, including by type of renewable energy	*Beneficiaries:* Data on total investments in technologies which enable the use of renewable energies in supported holdings *Beneficiaries and non-beneficiaries* Data on investments in energy infrastructure in agriculture and forestry	*Beneficiaries* • Application forms (before the project start) • Payment request (after project finalisation) *Beneficiaries and non-beneficiaries* National/regional statistics Eurostat – energy statistics http://ec.europa.eu/eurostat/web/energy/data/database Data on investments in energy infrastructure in agriculture and forestry Energy supply and control entities data Surveys/focus groups

	Renewable energy used in supported holdings	*Beneficiaries:* Data on used renewable energy in supported holdings *Beneficiaries and non-beneficiaries* Data on used renewable energy	*Beneficiaries* • Application forms (before the project start) • Payment request (after project finalisation) *Beneficiaries and non-beneficiaries* National/regional statistics Eurostat – energy statistics http://ec.europa.eu/eurostat/web/energy/data/database Surveys/focus groups Data on used renewable energy Energy supply and control entities data
Additional indicators	Changes in gross Farm Income due to energy consumptions	*Beneficiaries and non-beneficiaries* Gross Farm Income (GFI) = SE410 = Output – intermediate consumption + balance current subsidies & taxes	*Beneficiaries:* Application forms and payment request *Beneficiaries and non-beneficiaries* FADN; farms surveys

	Changes in family farm income due to energy consumptions	*Beneficiaries and non-beneficiaries* Family Farm Income (FFI) = SE420 = farm net value added – total external factors + balance on subsidies and taxes on investment	*Beneficiaries:* Application forms and payment request *Beneficiaries and non-beneficiaries* FADN; farm surveys Eurostat - Economic accounts for agriculture (EAA) Eurostat - Agriculture Labour Input statistics (ALI) http://ec.europa.eu/eurostat/data/statistics-a-z/abc

Methodology to calculate complementary result indicator R15 - Renewable energy produced from supported projects

The production of renewable energy is rarely monitored as energy production, but rather by the capacity of technologies purchased and used by holdings supported via the RDP to produce renewable energy (RDP beneficiaries). For this analysis, however, it is important to look at the installed capacities and realised production after finalisation of the installation at the same time.

The following **steps** should be used to calculate the indicator R15:

Step 1: Define a sample of completed operations in relation to this FA and gather the following data: renewable energy capacity created and generated per renewable due to the RDP support.

Step 2: Convert to TOE figures using standard formula: e.g. use on-line converter: https://www.unitjuggler.com/convert-energy-from-kWh-to-toe.html and/or http://www.interenerstat.org/energy_unit.asp

Step 3: Express energy produced in TOE

Note: The submitted figure should be based on production not export, as domestic or farm use of renewables may reduce the export of power to the wider energy system.

Secondary contributions

When calculating the indicator, both – primary and secondary contributions should be taken in consideration. Secondary contributions are effects of operations which are programmed under other FAs than P5C. The secondary contributions are calculated based on surveys with those beneficiaries which are implementing operations via different focus areas (e.g. FA 2A, 6A, 6B) and have been flagged as additional contributors to FA 5C. This also includes those operations implemented via CLLD strategies, which show secondary contributions to the water use efficiency. Samples of surveyed beneficiaries can be set up in accordance with the expected/actual contributions of implemented operations (e.g. farm investment measures, environment & climate, forestry related measures etc.,) to the FA objectives. Most significant contributions should be taken in consideration. The ratio of the contribution is estimated based on the above surveys. If there is not sufficient uptake to calculate the secondary contributions in a robust way a qualitative assessment is also possible (see the Annex 10 of the guidelines: Assessment of RDP results: how to prepare for reporting on evaluation 2017). Findings can be used in answering the CEQ 19.

Negative effects of renewables

It's important to identify and describe the negative effects of renewable energy production (sustainability) in the programme area. There are some widely recognised negative effects of renewables, which include the depletion of river reaches and the impedance of migratory fish in the case of hydropower and visual intrusion in the case of wind energy turbines. Also the use of farmland for biomass cropping for energy production consumes a great deal of energy in the production process.

These are addressed in The Report From The Commission To The Council And The European Parliament (2010) on sustainability requirements for the use of solid and gaseous biomass sources in electricity, heating and cooling. See http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0011&from=en. *Where a significant proportion of renewable energy production comes from energy crops, Member States are strongly recommended to assess sustainability impacts.* European Parliament protocols should be followed: see http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0011&from=en

Principal challenges regarding CRI

- Many MSs will have other means of funding renewables which are also adopted by farmers, such as national level feed in tariffs. These should be ignored in this calculation as the renewable energy production should be only from RDP-supported projects. Where national schemes exist, the additionality of the RDP supported schemes may be modest and this should be noted by the evaluator. For example, currently in the UK, wood energy use is supported by the Renewable Heat Incentive, which is being widely adopted by farmers. But it falls outside the definition of RDP-supported projects.
- The different technologies have different side effects which may be positive or negative: for example, biogas production produces bio-digestive waste which is a valued fertiliser; biomass energy has a combustion method that is not clean.

These issues fall outside of this indicator but where they are deemed significant they should be flagged rather than measured. Where countries have high levels of uptake of biogas measures, the use of EU sustainability criteria for biofuels is recommended (see earlier note).

How to use the indicator in the situation of lack of data (low RDP up-take, small programmes etc.)

The application forms should have a tight specification of the production of renewable energy to allow the estimation of this kind of energy. The confirmation of the quantity of energy produced through renewable sources should be done by the beneficiaries after the project has reached a “cruising speed”.

In the case of low uptake, this EQ can focus on an estimation (via interviews and expert opinions).

Further information

Banks C, (2009) Optimising anaerobic digestion, conference presentation
http://www.forestry.gov.uk/pdf/rrps_AD250309_optimising_anaerobic_digestion.pdf/$FILE/rrps_AD250309_optimising_anaerobic_digestion.pdf

Bestwick, M. (pers. comm.) Highland eco-design hydropower figures for Scottish example project.

Heinsuu, K, (undated) BioEnergy Farm: Implementation plan for BioEnergy Farm IEE Contract No: IEE/09/637 S12.558213 Intelligent Energy Europe

Held J., Mathiasson,A. and Nylander, A.,(2008)Biogas from manure and waste products - Swedish case studies

Van Foreest, F. (2012) Perspectives for Biogas in Europe, Oxford Institute for Energy Studies NG 70

On-line converter: https://www.unitjuggler.com/convert-energy-from-kWh-to-toe.html

Answer to CEQ	
The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.	
Conclusions	**Recommendations**
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

2.14 Focus area P5D, evaluation question 14

To what extent have RDP interventions contributed to reducing GHG and ammonia emissions from agriculture?
List of measures contributing to the FA 5C:
Primarily programmed measures/sub-m**easures** (proposed by EC)[71]:
• Measures and sub-measures of Art.[72] 15 Advisory services, farm management and farm relief services
• Measures and sub-measures of Art. 14 Knowledge transfer and information actions
• Measures and sub-measures of Art. 17 Investment in physical assets
• Measures and sub-measures of Art. 35 Co-operation
• Measures and sub-measures of Art. 28 Agri-environment-climate
Examples of measures/sub-measures programmed under other FAs but potentially **showing secondary contributions** to this FA:
• All above measures if programmed under other FAs than FA 5C and contributing 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
• Measures and sub-measures of Art. 29 Organic farming
• Measures and sub-measures of Art. 21 Investments in forest area development and improvement of the viability of forests (sub-measures 8.1, 8.5)
• Measures and sub-measures of Art. 30 Natura 2000 and water framework directive
• Measures and sub-measures of Art. 33 Animal welfare
• Measures and sub-measures of Art. 35 of Regulation (EU) No 1303/2013, Support for Leader local development

[71] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc
[72] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly

Consistency check between CEQ, judgement criteria and indicators:

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- GHG and ammonia emissions from agriculture have been reduced

Note: stakeholders in Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

The following *common indicators should* be preliminary used to answer the CEQ:

Common result indicators

- R16/T17 - % of LU concerned by investments in livestock management in view of reducing GHG and/or ammonia emissions
- R17/T18 - % of agricultural land under management contracts targeting reduction of GHG and/or ammonia emissions
- R 18 - Reduced emissions of methane and nitrous oxide (complementary result indicator)
- R 19 - Reduced ammonia emissions (complementary result indicator)

The following other *common indicators might* be used to answer the CEQ:

Common output indicators[73] *(*data collected via the operations database):

- O8 Number of Livestock units (concerned by investment in livestock management in view of reducing GHG and ammonia emissions)

Common context indicators (data need and data sources are described in the Working document: Proposed list of common context indicators):

- CCI 18 Agriculture area
- CCI 21 Livestock units
- CCI 45 GHG emissions from agriculture

[73] WD: Data item list for Pillar II operation database and WD RD programming and target setting

Qualitative indicators

If needed qualitative information can be collected, e.g.:

- Typology of methods/approaches followed by farmers in order to reduce GHG and ammonia emissions, such as more efficient application of fertilisers, organic production methods, better manure management, etc.
- Perception of beneficiaries on how RDP interventions have contributed to reduce GHG and ammonia emissions from agriculture

Data needs and sources

	Indicators	Data needed	Data source
Common indicators	R16/T17 - % of LU concerned by investments in livestock management in view of reducing GHG and/or ammonia emissions	*Beneficiaries* • Livestock units concerned by investments in livestock management in view to reduce GHG and/or ammonia emissions *Beneficiaries and non-beneficiaries* Total number of livestock units	*Beneficiaries* • Application forms (before the project start) • Payment request (after project finalisation) *Beneficiaries and non-beneficiaries* Eurostat - farm structure survey http://ec.europa.eu/eurostat/statistics-explained/index.php/Farm_structure_statistics Survey on beneficiaries and non-beneficiaries National and regional statistics

	R17/T18 - % of agricultural land under management contracts targeting reduction of GHG and/or ammonia emissions	*Beneficiaries* • Agriculture land under management contracts targeting reduction of GHG and/or ammonia emissions *Beneficiaries and non-beneficiaries* Total agriculture area – UAA (arable land, permanent grassland and meadows, permanent crops and respective carbon capture capacity))	*Beneficiaries* • Application forms (before the project start) • Payment request (after project finalisation) *Beneficiaries and non-beneficiaries* Eurostat - farm structure survey http://ec.europa.eu/eurostat/statistics-explained/index.php/Farm_structure_statistics Survey on beneficiaries and non-beneficiaries National and regional statistics

Common indicators	R 18 - Reduced emissions of methane and nitrous oxide	*Beneficiaries:* Farm relevant characteristics: • Livestock housing • Slurry and farmyard manure storage practices • Livestock diets • Excretion of C and N by livestock • Use of nitrogenous fertilisers and organic manure • Management of crop residues Emission values/coefficients The evaluator has to be aware that these vary between livestock species (e.g. cattle, pigs) and within a livestock species as there are large differences between animals kept for different purposes (e.g. dairy cattle versus beef cattle). It is therefore necessary, whenever possible, to disaggregate livestock according to species and production type *Non- Beneficiaries:* Same as above	*Beneficiaries* • Application forms (before the project start) • Payment request (after project finalisation) *Beneficiaries and non-beneficiaries* Eurostat - Farm structure survey http://ec.europa.eu/eurostat/statistics-explained/index.php/Farm_structure_statistics FADN data The 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4: Agriculture, Forestry and Other Land Use http://www.ipcc-nggip.iges.or.jp/public/2006gl/vol4.html On-site empirical measurements; Eurostat's analysis of methodologies for calculating GHG emissions (http://ec.europa.eu/eurostat/documents/3888793/5850629/KS-RA-11-024-EN.PDF) European Environment agency data on GHG emissions (MS level) http://www.eea.europa.eu/data-and-maps/data/national-emissions-reported-to-the-unfccc-and-to-the-eu-greenhouse-gas-monitoring-mechanism-11#tab-metadata For emissions that are not considered by IPCC (such as nitrification inhibitors;) GAINS model can be used, http://gains.iiasa.ac.at/models/ The joint EMEP/EEA air pollutant emission inventory guidebook for reporting on emissions data under the UNECE Convention on Long-range Transboundary Air Pollution (CLRTAP) and the EU National Emission Ceilings Directive, http://www.eea.europa.eu/publications/emep-eea-guidebook-2013,

			National and regional statistics of environmental agencies; Sectoral experts and stakeholder organisations; Other country national and international experts; Reference libraries (national libraries); Scientific and technical articles in environmental books, journals and reports; Universities; Web search for organisations and specialists; Inventory reports from other parties. Projects: OSCAR – http://sitem.herts.ac.uk/aeru/oscar/manual.htm GNOC (global nitrous calculator) –http://gnoc.jrc.ec.europa.eu/ "The Global Nitrous Oxide Calculator (GNOC) online tool has been developed in the context of the "Assessment of GHG default emissions from biofuels in EU legislation" (Edwards et al., 2013). The tool facilitates the calculation soil N2O emissions from biofuel crop calculation for each location globally. The online calculations are consistent with the method applied in the assessment of GHG default emissions. The user is provided with default environmental and management data which are required for the calculations at the selected location. However, the user might change these parameters if local data is available." A useful source of information on GHG emission control options and expected emission reduction efficiency is also available in a recent IIASA's publication commissioned by the EC (http://ec.europa.eu/environment/air/pdf/TSAP-AGRI-20121129_v21.pdf).

	R19 - Reduced ammonia emissions	*Beneficiaries:* Farm relevant characteristics: • Livestock housing • Slurry and farmyard manure storage practices • Slurry and farmyard manure application techniques • Livestock diets • Excretion of N by livestock • Use of nitrogenous fertilisers Emission values/coefficients: The evaluator has to be aware that these vary between livestock species (e.g. cattle, pigs) and within a livestock species as there are large differences between animals kept for different purposes (e.g. dairy cattle versus beef cattle). It is therefore necessary, whenever possible, to disaggregate livestock according to species and production type. *Non- Beneficiaries*: Same as above	*Beneficiaries* • Application forms (before the project start) • Payment request (after project finalisation) *Beneficiaries and non-beneficiaries:* Farm surveys FADN data Farm surveys done by evaluator European Environment agency data on ammonia emissions (MS level) http://www.eea.europa.eu/data-and-maps/data/data-viewers/air-emissions-viewer-lrtap (air polutant data viewer) and EMEP/EEA emission inventory guidebook 2013, Chapter 3 (http://www.eea.europa.eu/publications/emep-eea-guidebook-2013) On-farm empirical measurements;

Additional indicators			Eurostat's analysis of methodologies for calculating ammonia emissions (http://ec.europa.eu/eurostat/documents/3888793/5850629/KS-RA-11-024-EN.PDF) National Statistics Agencies; Sectoral experts and stakeholder organisations; Other country national and international experts; Reference libraries (national libraries); Scientific and technical articles in environmental books, journals and reports; Universities; Web search for organisations and specialists; Inventory reports from other parties. A useful source of information on ammonia emission control options and expected emission reduction efficiency is also available in a recent IIASA's publication commissioned by the EC (http://ec.europa.eu/environment/air/pdf/TSAP-AGRI-20121129_v21.pdf).

Methodology to calculate complementary result indicator R18 - Reduced emissions of methane and nitrous oxide

All EU Member States are signatory of the UN Framework Convention on Climate Change and the Kyoto Protocol. The 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4: Agriculture, Forestry and Other Land Use (http://www.ipcc-nggip.iges.or.jp/public/2006gl/vol4.html) support the reporting of greenhouse gas (GHG) emissions under this Convention. The IPCC documents provide expert guidance (including detailed methodology) for calculating GHG emissions. All Member States use these Guidelines in preparing their National Inventory Reports. Eurostat has also prepared an instructive publication on methodologies for calculating GHG emissions from agriculture (http://ec.europa.eu/eurostat/documents/3888793/5850629/KS-RA-11-024-EN.PDF). Information and guidelines presented in it are the principal source in setting-up methodological complement for this CRI on reduced emissions of methane and nitrous oxide. The data needs for calculating of methane and nitrous oxide emissions are relatively large and concern farming (livestock and crop production) as well as non-farming activities. It is unlikely that data required for assessment of methane and nitrous oxide emissions reduction will be readily available in RDP operations database. FADN, Farm Structure Surveys and similar databases do not contain some vital information required for calculating methane and nitrous oxide emissions either (e.g. data on livestock feeding and housing systems, manure storage systems, etc.). Ad-hoc surveys are generally required to provide additional information. In all Member States agriculture is identified as a key source with regards to methane and nitrous oxide emissions. **It is therefore suggested that methane and nitrous oxide emissions reduction be assessed only in RDP-supported projects with the investments in the agriculture sector.** Member States are obliged to use a Tier 2 or higher methodology for inventory reporting. Tier 2 and higher methodologies require data that are both detailed and respect the relationships between emission sources. These data can only be collected at farm scale. Methane and nitrous oxide emissions should be estimated by multiplying activity data with emission factors. The assessment reduction of methane and nitrous oxide emissions therefore comprises two major activities: (i) obtaining activity data and (ii) choosing activity-specific emission factors.

Steps in conducting the analysis are:

Step 1: Identify sample of mixed farms (crop and livestock production) to serve as control groups. Since farm management practices influencing methane and nitrous oxide emissions tends to vary with farm type (cattle, pig, etc.), size and the environmental conditions (e.g. climate, soil type, etc.), the control group should be stratified according to farm type, size and environmental conditions.

Step 2: From the operations database identify a sample of farms that completed RDP-supported operations/projects flagged as contributing to the Focus Area 5D, either as the main or secondary objective. The farm sample should be stratified in the same way as in Step 1.

Step 3: Define data you needed for assessing methane and nitrous oxide emissions and potential emissions reductions. As agricultural emissions strongly depend on the animal housing & diet, and on the manure management system distribution, make sure that relevant data on these are collected. These should cover main methane and nitrous oxide emissions sources and include information on: (i) livestock housing, including proportion of time spent by animals indoors and outside; (ii) slurry and farmyard manure storage practices, loose or packed heaps of solid manure, any treatment applied to the manure such as aeration, separation or composting; (iii) livestock diets; (iv) excretion of C and N by livestock. Be aware that these vary between livestock species (e.g. cattle, pigs) and within a livestock species as there are large differences between animals kept for different purposes (e.g. dairy

cattle versus beef cattle). It is therefore necessary, whenever possible, to disaggregate livestock according to species and production type; (v) use of nitrogenous fertilisers and organic manure; (vi) management of crop residues (burned and returned to soil).

In order to be sure that you collect all essential data, consider collecting ammonia-related activity data suggested in Table S1 and Table 1 in the Annex of Eurostat's publication on methodologies for calculating GHG emissions.

(http://ec.europa.eu/eurostat/documents/3888793/5850629/KS-RA-11-024-EN.PDF). Table S1 provides "optimum" and "minimum" data collection requirements. Activity data listed under "minimum requirement" must be collected, because without these data, a proper methane and nitrous oxide emissions inventory is not possible. Using only these data, the effect of mitigation measures cannot be shown in the inventory and the cost effectiveness of mitigation measures cannot be assessed. Activity data listed under "optimum requirement" should be collected for estimating inventories more accurately. They offer more possibilities for accounting for farm-specific mitigation measures and enable the assessment of environmental impacts of farm management practices. For most of these data, the additional effort for collecting them is small and the additional benefit is large.

Note: selection of data requirements for assessment of methane and nitrous oxide emissions should be co-ordinated/merged with those required for the assessment of reduction of ammonia emissions as there is a huge overlap.

Step 4: Run surveys at control group (selected in Step 1) and at RDP-supported farms (selected in Step 2), collecting data defined in Step 3.

Note: these surveys should be combined with those required for the assessment of reduction of ammonia emissions.

Step 5: Adjust default (coefficient) values provided in the 2006 IPCC Guidelines to region or farm-specific (coefficient) values. Default 2006 IPCC Guidelines values are intended to be reasonable estimates for the specified geographic area. They often disguise a wide geographic variation in actual values, either due to variations in climate or to regional variations in agricultural practices. In addition, the default values generally relate to situations where no abatement measures have been implemented. Thus, region or farm-specific appropriate values of the coefficients should be defined – preferably relying on information reported in scientific and technical articles in environmental books, (peer-reviewed) journals and reports. In case literature does not provide reliable information on emissions and other values, it is advised to undertake empirical measurements of methane and nitrous oxide emissions. The 2006 IPCC Guidelines and Eurostat publication on methodologies for calculating GHG emissions mentioned in the introduction part provide information on how to generate new data both by empirical measurements and by surveying activity data.

Step 6: Following standard methodology described in the 2006 IPCC Guidelines (http://www.ipcc-nggip.iges.or.jp/public/2006gl/vol4.html), using data collected though surveys (Step 4) and applying region and/or farm-specific emission coefficients defined in Step 5, calculate methane and nitrous oxide emissions in a control group and at RDP-supported farms. Total methane and nitrous oxide emissions should be the sum of the following emission sources:

1. Enteric fermentation (CH4)
2. Manure management (CH4 and N2O);

3. Rice cultivation (CH4);
4. Agricultural soil management (CH4 and N2O);
5. Field burning of agricultural residues (CH4 and N2O).

Step 7: Convert methane and nitrous oxide emissions CO2 equivalent (CO2-eq) applying following factors: 1 unit of CH4 = 25 units of CO2-eq; 1 unit of N2O=298 units of CO2-eq. Total emissions of methane and nitrous oxide should be reported in tonnes of CO2-eq. Express the quantity of emissions per hectare and per LU both for control group and RDP-supported farms.

Step 8: Assess if there is any reduction in methane and nitrous oxide emissions in RDP-supported farms as compared to the control group.

Secondary contributions

When calculating the indicator, both – primary and secondary contributions should be taken in consideration. Secondary contributions are effects of operations which are programmed under other FAs than P5D. The secondary contributions are calculated based on surveys with those beneficiaries which are implementing operations via different focus areas (e.g. FA 2A, 4A, 4B, 4C) and have flagged the additional contributions to FA 5D (see also step 2 – 8). Samples of surveyed beneficiaries can be set up in accordance with the expected/actual contributions of implemented operations (e.g. farm investment measures) to the FA objective. Most significant contributions should be taken into consideration. The ratio of the contribution is estimated based on the above surveys. If there is no sufficient up take to calculate the secondary contributions in a robust way a qualitative assessment is also possible (see the Annex 10 of the guidelines: Assessment of RDP results: how to prepare for reporting on evaluation 2017). Findings can be used in answering the CEQ 19.

Methodology to calculate complementary result indicator R 19 - Reduced ammonia emissions

All EU Member States are signatory of the UN Convention on Long- Range Transboundary Air Pollution (CLTRP). The joint EMEP/EEA Air Pollutant Emission Inventory Guidebook (http://www.eea.europa.eu/publications/emep-eea-guidebook-2013) supports the reporting of emissions data under the CLTRP and the EU National Emission Ceilings Directive 2001/81/EC. It provides expert guidance (including detailed methodology) for calculating ammonia emissions. All Member States use this Guidebook for preparing their CLTRP National Emission Reports. Eurostat has also prepared an instructive publication on methodologies for calculating ammonia emissions (http://ec.europa.eu/eurostat/documents/3888793/5850629/KS-RA-11-024-EN.PDF). Information and guides presented in it are the primary source in setting-up the methodological complement for this CRI Fiche on reduced ammonia emissions. As agriculture is responsible for 94 % of total ammonia emissions across the EU there is no point of assessing ammonia emissions reduction in non-agriculture RDP-supported projects. The data needs for calculating NH3 emissions are relatively large and concern both livestock and crop production. It is highly unlikely that all these data will be readily available in RDP operations database. FADN, Farm Structure Surveys and similar databases do not contain vital information required for calculating NH3 emissions either (e.g. data on livestock feeding and housing systems, manure storage systems, manure application techniques, etc.). Ad-hoc surveys are generally required to provide additional information. As in all Member States agriculture is identified as a key source with regards to ammonia emissions, Member States are obliged to use a Tier 2 or higher methodology for inventory reporting. Tier 2 and higher methodologies require data that are both detailed and respect the relationships between emission sources. These data can only be collected at farm scale. Ammonia emissions should be estimated by multiplying activity data with emission factors. The assessment reduction of ammonia emissions therefore comprises two major activities: (i) obtaining activity data and (ii) choosing activity-specific emission factors).

Steps in conducting analysis are:

Step 1: Identify sample of mixed farms (crop and livestock production) to serve as a control group. Since farm management practices influencing ammonia emissions tend to vary with farm type (cattle, pig, etc.), size and the environmental conditions (e.g. climate, soil type, etc.), the control group should be stratified according to farm type, size and environmental conditions.

Step 2: From the operations database identify a sample of farms that completed RDP-supported operations/projects flagged as contributing to the Focus Area 5D, either as the main or secondary objective. The farm sample should be stratified in the same way as in Step 1.

Step 3: Define data needed for assessing ammonia emissions and potential emissions reduction. As agricultural emissions strongly depend on the animal housing & diet, and on manure management system distribution, make sure that relevant data on these are collected. These should cover main ammonia emissions sources and include information on: (i) livestock housing, including proportion of time spent by animals indoors and outside; (ii) slurry and farmyard manure storage practices including information on open or covered slurry tanks and lagoons, loose or packed heap of solid manure, any treatment applied to the manure such as aeration, separation or composting; (iii) slurry and farmyard manure application techniques, including method and rate of application, the time between application and incorporation, meteorological conditions and method of incorporation; (iv) livestock diets; (v) excretion of N by livestock; (vi) use of nitrogenous fertilisers. Be aware that these vary between livestock species (e.g. cattle, pigs) and within a livestock species as there are large

differences between animals kept for different purposes (e.g. dairy cattle versus beef cattle). It is therefore necessary, whenever possible, to disaggregate livestock according to species and production type; (vi) use of nitrogenous fertilisers.

In order to be sure that you collect all essential data, consider collecting ammonia-related activity data suggested in Table S1 and Table 1 in the Annex of Eurostat's publication on methodologies for calculating ammonia emissions

(http://ec.europa.eu/eurostat/documents/3888793/5850629/KS-RA-11-024-EN.PDF). Table S1 provides "optimum" and "minimum" data collection requirements. Activity data listed under "minimum requirement" must be collected, because without these data, a proper ammonia emissions inventory is not possible. Using only these data, the effect of mitigation measures cannot be shown in the inventory and the cost effectiveness of mitigation measures cannot be assessed. Activity data listed under "optimum requirement" should be collected for more accurately estimating inventories. They offer more possibilities for accounting for farm-specific mitigation measures and enable the assessment of environmental impacts of farm management practices. For most of these data, the additional effort for collecting them is small and the additional benefit is large.

Note: selection of data requirements for assessment of ammonia emissions should be co-ordinated/merged with those required for the assessment of reduction of methane and nitrous oxide emissions as there is a huge overlap.

Step 4: Run surveys at control group (selected in Step 1) and at RDP-supported farms (selected in Step 2), collecting data defined in Step 3.

Note: these surveys should be combined with those required for the assessment of reduction of methane and nitrous oxide emissions.

Step 5: Adjust default (coefficient) values provided in the EMEP/EEA Guidebook to region or farm-specific (coefficient) values. Default EMEP/EEA values are intended to be reasonable estimates for the specified geographic area. They often disguise a wide geographic variation in actual values, either due to variations in climate or to regional variations in agricultural practices. In addition, the default values generally relate to situations where no abatement measures have been implemented. Thus, region or farm-specific appropriate values of the coefficients should be defined – preferably relying on information reported in scientific and technical articles in environmental books, (peer-reviewed) journals and reports. In case literature does not provide reliable information on emissions and other values, it is advised to undertake empirical measurements of ammonia emissions. The EMEP/EEA Guidebook (Chapter 3) and Eurostat publication on methodologies for calculating ammonia emissions mentioned in the introduction part provide information on how to generate new data both by empirical measurements and by surveying activity data.

Step 6: Following standard methodology described in EMEP/EEA Guidebook (http://www.eea.europa.eu/publications/emep-eea-guidebook-2013), using data collected though surveys (Step 4) and applying region and/or farm-specific emission coefficients defined in Step 5, calculate ammonia emissions in control group and at RDP-supported farms. Total ammonia emissions should be the sum of NFR subsectors 4B1-9 [excl. 4B5] + 4B13 + 4D1a + 4D2a, b, c + 4F + 4G:

1. Cattle dairy (4B1b)
2. Cattle non-dairy (4B1b)

3. Swine (4B8)
4. Laying hens (4B9a)
5. Broilers (4B9b)
6. Synthetic N-fertilizer (4D1a)
7. All other subsectors (4B2-7 [except 4B%] + 4B9c, d + 4B13 + 4D2a, b, c +4F + 4G)

Step 7: Total ammonia emissions should be reported in tonnes of ammonia (NH3). Express the quantity of emissions per hectare and per LU both for control group and RDP-supported farms.

Step 8: Assess if there is any reduction in ammonia emissions in RDP-supported farms as compared to control group.

Secondary contributions

When calculating the indicator, both – primary and secondary contributions should be taken in consideration. Secondary contributions are effects of operations which are programmed under other FA than P5D. The secondary contributions are calculated based on survey with those beneficiaries which are implementing operations via different focus areas (e.g. FA 2A, 4A, 4B, 4C) and have flagged the additional contribution to FA 5D (see also step 2 – 8). Samples of surveyed beneficiaries can be set up in accordance with the expected/actual contributions of implemented operations (e.g. farm investment measures) to the FA objectives. Most significant contributions should be taken in consideration. The ration of the contribution is estimated based on above surveys. If there is not sufficient up take to calculate the secondary contributions in a robust way the qualitative assessment is also possible (see the Annex 10 of the guidelines: Assessment of RDP results: how to prepare for reporting on evaluation 2017). Findings can be used in answering the CEQ 19.

Principal challenges regarding CRI

CRI 18 Reduced emissions of methane and nitrous oxide (FA 5D - Complementary result indicator R18)

- A fair assessment of methane and nitrous oxide reduction in operations/measures that do not contribute primarily or exclusively to Focus Area 5D (for instance organic farming) will be quite difficult.
- The Fiche for R18 does not require identification of the most cost-effective methane and nitrous oxide abatement measures. However, evaluators are encouraged to assess the cost-effectiveness of the abatement measures applied. This should be fairly easy (at least for operations contributing primarily to Focus Area 5D) as both the data on reduction of methane and nitrous oxide emissions and cost of RDP-supported operations aiming at reduction of methane and nitrous oxide will be available.
- Injection of slurries reduces ammonia emission. However according to the above-mentioned IIASA publication, there is also some evidence that nitrous oxide emissions are higher with injection of slurries compared to surface (and band) spreading of slurries.

How to use the indicator in the situation of lack of data (low RDP uptake, small programmes, etc.)

The approach adopted assumes limited data availability and requires that data should be collected though surveys. Where uptake is low care must be taken to ensure a sample size to deliver the requisite confidence in estimates.

CRI 19 Reduced ammonia emissions (FA 5D - Complementary result indicator R19)

- A fair assessment of reduction of ammonia in operations/measures that do not contribute primarily or exclusively to Focus Area 5D (for instance organic farming) will be quite difficult.
- The Fiche for R19 does not require identification of the most cost-effective ammonia abatement measures. However, evaluators are encouraged to assess the cost-effectiveness of the abatement measures applied. This should be fairly easy (at least for operations contributing primarily to Focus Area 5D) as both the data on reduction of ammonia emissions and cost of RDP-supported operations aiming at reduction of ammonia will be available.
- An “ammonia gap” between the expected reduction and monitoring results has been identified in several MS. Although most of time this is attributed to ineffectiveness of the abatement measures, this gap can appear also because of incorrect measurements or interpretation of monitoring data.
- When calculating its proposed emission reduction commitments, the EC made a distinction between small or medium farms and large industrial cattle feedlots – but farms with less than 15 LU were excluded from the ammonia emission reductions calculations in National Emission Ceilings Directive 2001/81/EC (see: Impact Assessment accompanying the NEC revision, December 2013., page 278, quoted by the European Environmental Bureau at: http://www.eeb.org/index.cfm/library/methane-and-nec-fact-checking/)

How to use the indicator in the situation of a lack of data (low RDP uptake, small programmes etc.)

The approach adopted assumes limited data availability and requires that data should be collected though surveys. Where uptake is low care must be taken to ensure a sample size to deliver the requisite confidence in estimates.

Example for CRI 18

EU-27

http://www.moa.gov.cy/moa/da/ead/ead.nsf/48A241AEE92E5701C2257B04003AF725/$file/eu%20rural%20review%204.pdf

About one-third of RDPs 2007-2013 have measures specifically tailored towards climate-related actions. Approaches vary, reflecting the fact that all three thematic axes of the Rural Development Regulation provide possibilities to help in curbing methane and nitrous oxide emissions, reducing CO2 emissions from energy use, promoting climate-friendly production and use of renewable energy. In most RDPs, emission reduction activities were before predominantly or exclusively supported by two measures, namely: modernisation of agricultural holdings and agri-environment.

Northern Ireland

https://www.lmcni.com/site/wp-content/uploads/2015/04/13-14-186-ghgip-phase-1-report.pdf

Low Carbon Beef Project

A project was initiated to identify means of reducing the carbon intensity of local beef. As part of the programme, an online greenhouse gas benchmarking application has been developed. This greenhouse gas calculator has the potential to provide an accurate assessment of carbon emissions from a range of beef production systems, supplying solid evidence on the effects of GHG mitigation measures on beef systems. Fundamental to this project was the desire to promote the benefits of lowering the age at which suckler cows are first in calf to 24 months. Adoption of this measure on-farm increased efficiency and benefit both the farmer and the environment. The average age at which heifers had their first calf was reduced from 988 to 939 days. Features of herds where 24 month calving has been implemented include greater productivity and proportionally less need for housing. Based on a 100 cow suckler herd, the project found that an 8-10% saving in GHGs was achieved by utilising these measures.

Animal Health and Welfare project

BVD is a contagious disease of the bovine which reduces the productivity of affected cattle, as well as compromising their welfare. In 2011 66% of Northern Ireland dairy and suckler heeds tested showed some degree of exposure to the virus. The carbon savings which would be associated with the eradication of BVD in Northern Ireland is estimated at equivalent to 91,000 tonnes of carbon. Based on the analysis of the dairy sector, it is estimated that a 3% improvement in replacement rate in the beef industry will lead to a 1.5% reduction in GHG emissions. This amounts to an estimated 43,500 tonnes of carbon savings from the beef sector.

UK (Scotland)

https://www.theccc.org.uk/wp-content/uploads/2015/01/SRUC.pdf

Farming for a Better Climate is a programme of work funded by the Scottish Government aimed at reducing carbon emissions from the agriculture sector in Scotland. The programme combines ideas trialled by volunteer Climate Change Focus Farms and information from state-of-the-art scientific research. Agricultural consultants offer practical advice to help choose the most relevant measures to improve both farm performance and resilience to future climate change effects. The Scottish Government has estimated that the programme will deliver annual carbon savings of 103 kT CO2-eq by 2020. An evaluation of the first phase of the programme has demonstrated savings in GHG emissions by the monitor farms of around 10-12% per year despite challenging weather conditions that were prevalent at this time. The programme explores a range of practical options to help reduce GHG emissions in ways that are consistent with improving efficiency and maximising profitability. Effective management of nutrients (and particularly nitrogen) is found to be critically important in delivering lower GHG emissions form farming. With Climate Change and Pollution Prevention Advisory Activity funding from Scottish Government, the programme has established a voluntary network of farmers to help promote more efficient nutrient use (improved planning testing and application of nutrients) to help deliver targets for GHG reduction.

One innovative investigation into the effect of disease on GHG emission was carried out with small groups of sheep carrying a worm burden.

http://www.sruc.ac.uk/news/article/337/greencow_project_identifies_routes_to_reducing_methane_from_cattle_and_sheep

Results so far seem to indicate that while individual measurements show no significant difference between the methane output per kg of feed between wormy and healthy sheep, disease does contribute to GHG emissions as animals take longer achieve the same productive output. For example, it takes them a week more to produce a 25Kg lamb. There is an additional environmental impact however, as wormy ewes produced about 20% more faeces than healthy ewes, an effect not previously considered.

The pre-2014 RDP provided financial support for some actions that lead to GHG co-benefits; specifically covering slurry stores and anaerobic digestion of animal waste. However, the quantity of GHG savings associated with implementing pre-2014 RDP measures remains uncertain (as per May 2013). It was found that with the exception of reduced fertiliser applications and livestock numbers, the GHG savings would not be captured in the national GHG inventory.

http://www.climatexchange.org.uk/files/4413/7348/8395/Impacts_of_the_Scotland_Rural_Development_Programme_on_Greenhouse_Gas_Mitigation.pdf

Example for CRI 19

Northern Ireland

The Manure Efficiency Technology Scheme (METS) was a capital grant scheme under the Northern Ireland Rural Development Programme 2007-2013. The scheme aimed to encourage uptake of advanced slurry spreading systems which was supposed to deliver a range of environmental and productive benefits on farm, including reduced ammonia emissions from slurry spreading and reduced chemical fertiliser usage. There are still no data available on the effectiveness of this measure on reduction of ammonia emissions. However, it was expected that farmers participating in this scheme could cut ammonia emissions by 30–80%, while increasing grass yields by 24% and saving approximately 44 kg/ha fertiliser N, worth 10.5 EUR/ha https://www.lmcni.com/site/wp-content/uploads/2015/04/13-14-186-ghgip-phase-1-report.pdf

Ireland

Ireland's Rural Development Programme 2014-2020

http://www.agriculture.gov.ie/media/migration/ruralenvironment/ruraldevelopment/ruraldevelopmentprogramme2014-2020/RDP20142020Full270515.pdf

Example advocates an integrated approach in reducing ammonia emissions from agriculture (mainly through a new integrated agri-environment scheme "GLAS ", that is expected to recruit 50,000 participants). Following actions are expected to help in reducing ammonia emissions:

- A greater uptake of low emission slurry application technologies (e.g. trailing shoe);
- Improvement of fertiliser/manure efficiency, including use of new fertiliser additives/inhibitors and the increased use of clover offering possibility to significantly reduce nitrogen fertiliser usage;
- Introduction of farm nitrogen budgets to improve the efficiency of its use and reduce nitrogen losses;
- Introduction of new quantified targets, such as LU affected by ammonia reduction supports;
- Cattle spending more time grazing outdoors;
- Improved breeding/genetic improvements in livestock, feeding and other management practices;
- Knowledge Transfer Groups stimulating farmers' enrolment in the Carbon Navigator – a tool allowing farmers to understand how their farms produce greenhouse gas – and to identify mitigation capacity and set targets and a pathway to reduce emissions.

Finland

http://www.unece.org/fileadmin/DAM/env/documents/2015/AIR/IMPLEMENTATION_COMMITTEE/Finland_Gothenburg_NH3_31032015.pdf

Finnish measures for reducing ammonia emissions from agriculture include:

- Well-balanced use of nutrients, including specifications on manure utilisation injecting slurry into the soil;
- Investment support for covering solid manure, slurry and liquid manure storage facilities and for cooling manure channels;
- Measures in which the use of (inorganic) nitrogen is restricted or eliminated – such as organic farming;
- Investments in more effective handing, storage and application of manure, incl. building of remote storages and purchasing of manure processing systems;
- Compulsory covering of new manure storage facilities;
- Stricter requirements for large manure storage facilities;
- Stricter rules for storing manure on heaps, manure spreading periods and incorporation of manure when applied on field;
- Financing studies on improving knowledge on ammonia behaviour and reduction measures;

• Survey on manure management practices revealing data on manure management life cycle (production, storage, transportation and application) resulting in setting-up database on manure management practices. Data is used to feed an ammonia emission modelling and studies on emission reduction potentials and cost effectiveness of the reduction measures applied.
Answer to CEQ The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	**Recommendations**
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

2.15 Focus Area P5E, Evaluation question 15

To what extent have RDP interventions supported carbon conservation and sequestration in agriculture and forestry?

List of measures contributing to the FA 5E:

Primarily programmed measures/sub-measures (proposed by EC)[74]:

- Measures and sub-measures of Art.[75] 15 Advisory services, farm management and farm relief services
- Measures and sub-measures of Art. 14 Knowledge transfer and information actions
- Measures and sub-measures of Art. 35 Co-operation
- Measures and sub-measures of Art. 17, Investment in physical assets
- Measures and sub-measures of Art. 34 Forest environmental and climate services and forest conservation
- Measures and sub-measures of Art. 21 Investment in forest area development and improvement of the viability of forests
- Measures and sub-measures of Art. 26 Investment in forestry technologies and in processing, mobilising and marketing of forest products

Examples of measures/sub-measures programmed under the other FAs but potentially **showing secondary contributions** to this FA:

- All above measures if programmed under other FAs than FA 5E and contributing to carbon conservation and sequestration in agriculture and forestry
- Measures and sub-measures of Art. 19 Farm and business development
- Measures and sub-measures of Art. 20 Basic services and village renewal in rural areas
- Measures and sub-measures of Art. 29 Organic farming
- Measures and sub-measures of Art. 35 of Regulation (EU) No 1303/2013, Support for Leader local development

Consistency check between CEQ, judgement criteria and indicators

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Carbon conservation and sequestration in agriculture and forestry has increased
- Agricultural and forestry land under enhanced management contract contributing to carbon sequestration has been enlarged

Note: stakeholders in Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

The following *common indicators should* primarily be used to answer the CEQ:

Common result/target indicator

- R20/T19 - % of agricultural and forest land under management contracts contributing to carbon sequestration and conservation

[74] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc

[75] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly

The following other common indicators might be used to answer the CEQ:

Common output indicator[76] (data collected via the operations database):

- O5 Total area (afforested, with agro-forestry systems, under agri-environment climate)
- O6 Physical area supported (Ha)

Common context indicators (Data needs and data sources are described in the Working document: Proposed list of common context indicators):

- CCI 33 Farming intensity
- CCI 41 Soil organic matter in arable land

Additional indicators and information

Common indicators are not sufficient to answer the CEQ. Working Document: Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- Additional information on carbon conservation and sequestration of the land under management contracts

Further proposed additional indicator:

- CCI 41 broken down as follows: Soil organic matter in arable land, expressed as a) concentration of carbon in the soil, b) total organic carbon (TIC), c) organic carbon concentration in biomass

Note: More additional indicators can be developed when judgement criteria are added to specify the evaluation question in MS.

Qualitative indicators

Qualitative indicators might be also used, e.g.:

- types of actions that contribute to carbon conservation and sequestration of the land under management contracts (e.g. afforestation, maintenance of forests, carbon sequestered by permanent crops and/or grassland, etc.)

Data needs and data sources

	Indicators	Data needed	Data sources
Common indicators	R20/T19 - % of agricultural and forest land under management contracts contributing to carbon sequestration and conservation	Agricultural and forest land under management contacts to foster carbon conservation/sequestration supported under the RDP (data item O.5 and O.6) Total agricultural land in base year (data item O.5) Total forestry land in base year (data item O.5)	*Beneficiaries* Application form (project start) Payment request (project end) *Beneficiaries and non-beneficiaries* IACS Eurostat: http://ec.europa.eu/eurostat/statistics-explained/index.php/Farm_structure_statistics#Main_tables National and regional statistics

[76] WD: Data item list for Pillar II operation database and WD RD programming and target setting

Additional indicators	Soil organic matter in arable land due to RDP support, expressed as a) concentration of carbon in the soil, b) total organic carbon (TIC), c) organic carbon concentration in biomass	The length of the application of each measure 8.1, 8.2 and 10 Type of land management (organic / conventional) Type of soil (categories of soil type) Hydrology of land parcels (waterlogged / non-waterlogged)	*Beneficiaries* Application form (project start) and Payment request (project end) – for the length of application of each measure *Beneficiaries and non-beneficiaries* National/regional databases Carbon accounts
	Types of actions that contribute to carbon conservation and sequestration of the land under management contracts (e.g. afforestation, maintenance of forests, carbon sequestered by permanent crops and/or grassland, etc.)	Description of actions to increase carbon conservation and sequestration Perception of beneficiaries on the effectiveness of actions to increase carbon conservation/sequestration	*Beneficiaries* Application form (project start) and Payment request (project end) – for the description of the actions Surveys/focus groups with relevant stakeholders Interviews with managers of interventions

Timing of data collection

Proposed data on beneficiaries and non-beneficiaries should be collected prior to the RDP's implementation (i.e. years 2010-2013) and during the RDP's implementation (i.e. 2014-2020: 1st call for proposal, operations database, national/regional statistics, EU sources)

Methodology to calculate common and additional indicators

Common indicator

The common indicator - R20/T19, is collected via the operations database and calculated as ratio of agriculture land or forestry land under management contracts contributing to carbon sequestration and conservation of the total agricultural and forestry land. For those operations programmed under other FAs and contributing to the FA 5E the secondary contributions to values of above indicators are already captured in the monitoring system.

Additional indicators

For investment related operations the additional indicators will have to be identified, e.g. when assessing the secondary contributions to the FA.

For additional indicators, it is recommended that one conduct the analysis of treated and non-treated parcels by constructing ex ante parameters and using analysis techniques for the concentration of carbon in the soil (NCS Flash 2000), total organic carbon (analyser CS 500) and organic carbon concentration in biomass (GHG inventory and methodology IPCC). The ex-post 2007-2013 evaluation guidelines offer a detailed description of this method applied to assess the effects of axis 2 measures on carbon sequestration (see chapter 8.8 of the 'Guidelines for ex post evaluations 2007-2013').

Secondary contributions

Secondary contributions to the values of additional result indicators are calculated based on surveys with those beneficiaries which are implementing operations via different focus areas (e.g. FA 2A, 4A, B and C, 5A,) and have flagged the additional contributions to FA 5E. Samples of surveyed beneficiaries can be set up in accordance with the expected/actual contributions of implemented operations (e.g. farm investment measures, environment and climate,

forestry related measures etc.) to the FA's objectives. Most significant contributions should be taken in consideration. If there is no sufficient up take to calculate the secondary contributions in a robust way a qualitative assessment is also possible (see the Annex 10 of the guidelines: Assessment of RDP results: how to prepare for reporting on evaluation 2017). Findings can be used in answering the CEQ 19.

Qualitative assessment

For qualitative analysis of net effects, the proposal is to use:

- MAPP method focus groups which is relevant for assessing the effects of interventions on environmental indicators that are difficult to measure (such as carbon conservation/sequestration in this case).
- Surveys[77] to beneficiaries and non-beneficiaries of implemented measures
- The combination of the above mentioned methods will provide the necessary triangulation results to validate the findings

Challenges/Risks/Issues

- Low quality data that does not provide a robust answer to the EQ
- Lack of data to answer the EQ (e.g. low RDP uptake/no uptake, small programmes, etc.)
- Systematised and harmonised data on carbon conservation/sequestration in Europe are lacking (according to the European Environment Agency)
- Carbon accounts do not exist in every country

Proposed solutions

In cases where there is a lack of data (low uptake, small programmes), this EQ can focus on the estimated land to be covered by management contracts contributing to carbon conservation/sequestration (via interviews and expert opinions).

Modelling approaches can be used to calculate organic carbon content in circumstances with limited observational soil data. However, the quality of the model input data determines the level at which the results can be used and the type of comparison groups that can be designed for the assessment.

In case of low quality data, qualitative information can be sought through interviews, surveys, focus groups.

Given the lack of harmonised data and carbon accounts, assess the contribution of RDP interventions with the use of expert panels and expert opinions. Also EEA studies may include information in this respect.

Answer to CEQ

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

[77] For details on how to use surveys, see 'Capturing the success of your RDP: Guidelines for ex post evaluation of 2007-2013 RDPs', Evaluation Helpdesk, June 2014

2.16 Focus area P6A, evaluation question 16

To what extent have RDP interventions supported the diversification, creation and development of small enterprises and job creation?

List of measures contributing to the FA 6A:

Programmed measures/sub-measures (proposed by EC)[78]:

- Measures and sub-measures of Art.[79] 15 Advisory services, farm management and farm relief services
- Measures and sub-measures of Art. 14 Knowledge transfer and information actions
- Measures and sub-measures of Art. 35 Co-operation
- Measures and sub-measures of Art. 19 Farm and business development
- Measures and sub-measures of Art. 17 Investments in physical assets

Examples of measures/sub-measures programmed under other FAs but potentially **showing secondary contributions** to this FA:

- All above measures if programmed under other FAs than FA 6A and contributing to carbon conservation and sequestration in agriculture and forestry
- Measures and sub-measures of Art. 16 Quality schemes for agricultural products and foodstuffs
- Measures and sub-measures of Art. 20 Basic services and village renewal in rural areas
- Measures and sub-measures of Art. 21 Investments in forest area development and improvement of the viability of forests (sub-measure 8.6)
- Measures and sub-measures of Art. 27 Setting up of producer groups and organisations
- Measures and sub-measures of Art. 29 Organic farming
- Measures and sub-measures of Art. 35 of Regulation (EU) No 1303/2013, Support for Leader local development

Consistency check between CEQ, judgement criteria and indicators

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Small enterprises have been created
- Small enterprises have diversified their economic activity
- Jobs have been created

Note: stakeholders in MS might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

The following *common indicators should* be used to answer the CEQ:

Common result/target indicator

- R21/T20 - Jobs created in supported projects

Common output indicators[80] (data collected via the operations database):

[78] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc
[79] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly
[80] WD: Data item list for Pillar II operation database and WD RD programming and target setting

- O4 Number of beneficiaries (of support for investments in processing and marketing)
- O4 Number of beneficiaries/holdings (receiving start-up aid/support for investment in non-agricultural activities in rural areas)
- Number of operations for investment in in forestry technology and primary processing/marketing

Common context indicators (data need and data sources are described in the Working document: Proposed list of common context indicators):

- CCI 5 Employment rate
- CCI 6 Self-employment rate
- CCI 7 Unemployment rate
- CCI 10 Structure of the economy
- CCI 11 Structure of the employment

Additional indicators and information

Common indicators are not sufficient to answer the CEQ. WD Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- % of small enterprises in the non-agriculture sector created with the RDP support
- % of new small enterprises created with the RDP support

Further proposed additional indicators**:**

- Created jobs divided by sector/branch (e.g. economic sectors agriculture, forestry, food processing, other processing, services and tourism).
- Created small businesses divided by sector/branch

Further breakdown of jobs/enterprises, e.g. by age, gender, education/skills level, is possible as well, etc.

Note: More additional indicators can be developed when judgement criteria are added to specify the evaluation question in the Member States.

Qualitative indicators

Is important to add qualitative information in the assessment, e.g.:

- description of the environment for business start-ups,
- diversification opportunities, etc.

Data needs and data sources

	Indicators	Data needed	Data source
Common indicators	R21/T20 Jobs created in supported projects	Total number of permanent jobs created (not maintained) through supported projects under measures 4, 6 and 8.6, expressed in FTE, by gender	*Beneficiaries* Application form (project start) Payment request (project end) *Beneficiaries and non-beneficiaries* National/regional statistics
Additional indicators	% of small enterprises in the non-agriculture sector created with the RDP support	Created new businesses in non-agriculture sector by branch/sector: • By beneficiaries • In programme area	

	% of new small enterprises created with the RDP support	Created new businesses by branch/sector: • By beneficiaries • In programme area	Eurostat employment statistics: http://ec.europa.eu/eurostat/web/lfs/data/database
	Created jobs divided by sector/branch (gross/net)	Created jobs by sector/branch: • By beneficiaries • In the programme area	
	Created small businesses divided by sector/branch	Created small businesses: • By beneficiaries • In the programme area	

Timing of data collection

All data should be collected for beneficiaries and non-beneficiaries from 1.1.2014 or from the programme start – baselines.

Methodology to calculate common and additional indicators

Common indicators

The common indicator - R21/T20, is calculated as the sum of jobs created via supported projects based on monitoring data from the operations database. Thus, it corresponds to the gross number of jobs created from the RDP support.

This indicator can be however used also as indicator to calculate net effects on job creation. In this case it is proposed to apply a quantitative approach: Quasi experimental design using PSM/DiD can be applied in the calculation of net effects for jobs created. If sufficient data is not available, the Input-Output method can also be used.

Secondary contributions

Secondary contributions of operations which are programmed under other FAs than P6A might be also considered when calculating the indicator. This also includes those operations implemented via CLLD strategies. Secondary contributions to the value of result indicators are calculated based on surveys with those beneficiaries which are implementing operations via different focus areas (e.g. 2A, and B, 3A, 6B) and have flagged the additional contributions to FA 6A. Samples of surveyed beneficiaries can be set up in accordance with the expected/actual contributions of implemented operations (e.g. farm investment measures, young farmers, farm diversification measures, forestry technology and processing measures etc.) to the FA's objectives. If there is not sufficient uptake to calculate the secondary contributions in a robust way a qualitative assessment is also possible (see the Annex 10 of the guidelines: Assessment of RDP results: how to prepare for reporting on evaluation 2017). Findings can be used in answering the CEQ 19.

Additional indicators

Additional indicators can be collected via the operations database and calculated as the ratio of non-agriculture small businesses in the agriculture sector to the total number of small businesses. Operations database can also collect data on created jobs and created small businesses broken down by sector and branch.

Secondary contributions of operations implemented under FAs other than FA 6A should also be included in the calculation of additional indicators. The procedure is similar to the one described for common indicators.

Qualitative assessment

The following methods can be used in the qualitative assessment[81]:

- Surveys of beneficiaries on measures 4, 6 and 8.6
- Structured focus groups[82],
- Interviews with managers of these measures.

In relation to focus groups, the MAPP[83] method is relevant for assessing the net effects of interventions on job creation, also using control groups to assess the counterfactual.

All of the above methods will provide sufficient triangulation findings for validating and analysing the results.

Similar approaches can be used in the case of additional indicators.

Generally, decisions in relation to proportionality and cost-effectiveness need to be considered in the choice of evaluation methods, in particular in cases of relatively small measures.

Challenges/Risks/Issues

- Low quality data that does not provide a robust answer to the EQ
- Lack of data to answer the EQ (e.g. low RDP uptake/no uptake, small programmes etc.)
- Estimate the effects on the level of indirect beneficiaries

Proposed solutions

In case of a lack of data (low uptake,), this EQ can focus on the expected jobs/small enterprises to be created (via interviews and expert opinions).

In case of low quality data, qualitative information can be sought through interviews, surveys, focus groups. The MAPP method is also useful when there is significant uptake but limited data.

Estimation of effects on indirect beneficiaries is part of netting out of the indicators´ values in the assessment of programme externalities.

Further information

Working Paper on Capturing impacts of Leader and of measures to improve Quality of Life in rural areas, July 2010 (http://enrd.ec.europa.eu/enrd-static/fms/pdf/98275CF6-C4FD-1908-07DE-1F1EA065BC29.pdf)

Answer to CEQ

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

[81] Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4, http://enrd.ec.europa.eu/enrd-static/evaluation/library/evaluation-helpdesk-publications/en/evaluation-helpdesk-publications_en.html

[82] For details on how to use surveys and focus groups, see 'Capturing the success of your RDP: Guidelines for ex post evaluation of 2007-2013 RDPs', Evaluation Helpdesk, June 2014

[83] Study: Investment support under Rural Development policy, DG Agri, 2014: http://ec.europa.eu/agriculture/evaluation/rural-development-reports/2014/investment-support-rdp/fulltext_en.pdf

2.17 Focus Area P6B, Evaluation question 17

To what extent have RDP interventions supported local development in rural areas?

List of measures contributing to the FA 6B:

Programmed measures/sub-measures (proposed by EC)[84]:

- Measures and sub-measures of Art.[85] 15 Advisory services, farm management and farm relief services
- Measures and sub-measures of Art. 14 Knowledge transfer and information actions
- Measures and sub-measures of Art. 35 Co-operation
- Measures and sub-measures of Art. 20 Basic services and village renewal in rural areas
- Measures and sub-measures of Art. 42 Local action group

Examples of measures/sub-measures programmed under other FAs but potentially **showing secondary contributions** to this FA:

- All other measures and sub-measures programed under other focus areas, implemented via CLLD strategies.

Consistency check between CEQ, judgement criteria and indicators

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Services and local infrastructure in rural areas has improved
- Access to services and local infrastructure has increased in rural areas
- Rural people have participated in local actions
- Rural people have benefited from local actions
- Employment opportunities have been created via local development strategies
- Rural territory and population covered by LAGs has increased

Note: stakeholders in Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

Common indicators

Common result/target indicators:

- R22/T21 - % of rural population covered by local development strategies
- R24/T23 - Jobs created in supported projects (Leader)
- R23/T22 - % of rural population benefiting from improved services/ infrastructures

The following other *common indicators might* be used to answer the CEQ:

Common output indicators[86] *(*data collected via the operations database):

[84] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc
[85] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly
[86] WD: Data item list for Pillar II operation database and WD RD programming and target setting

- All Leader related output indicators
- O3 Number of actions/operation supported
- O4 Number of beneficiaries/holdings
- O15 Population benefiting from improved services

Common context indicators (data need and data sources are described in the Working document: Proposed list of common context indicators):

- CCI 1 Population
- CCI 2 Age structure
- CCI 3 Territory
- CCI 8 GDP per capita
- CCI 10 Structure of the economy
- CCI 12 Labour productivity by sector

Additional indicators and information

Common indicators are not sufficient to answer the CEQ. Working Document: Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- Number of projects/initiatives supported by the Local Development Strategy divided by type
- % of expenditure in Leader measures with respect to total RDP expenditures

Further proposed additional indicators:

- Number and % of innovative projects supported by LAGs of all innovative RDP projects
- Number of partnerships created (Leader)

Qualitative information

Is important to add qualitative information to answer this CEQ, e.g. to assess the quality of local services and infrastructure, the integration of all stakeholders in the LDS (roles and contribution

Note: Additional indicators can be developed when judgement criteria are added to specify the evaluation question in the Member State.

Data needs and data sources

	Indicators	Data needed	Data source
Common indicators	R22/T21 - % of rural population covered by local development strategies	Total rural population covered by LAGs funded under LEADER (data item O.18) Total rural population covered by the RDP area	*Beneficiaries* Application form (project start) Payment request (project end) LAG operations databases *Beneficiaries and non-beneficiaries* National and regional statistic Eurostat - rural population statistics: http://ec.europa.eu/eurostat/web/rural-development/data/database

Common indicators	R24/T23 - Jobs created in supported projects (Leader)	Total number of permanent jobs created (not maintained) through supported projects via Leader local development strategies	*Beneficiaries* Application form (project start) Payment request (project end) LAG operations databases Surveys to LAGs and end beneficiaries
	R23/T22 - % of rural population benefiting from improved services/ infrastructures	Population benefiting from improved services/infrastructures supported under measure 7 (data item O.15/T.22) Total rural population covered by the RDP area	*Beneficiaries* Application form (project start) Payment request (project end) LAG operations databases Surveys to LAGs and end beneficiaries *Beneficiaries and non-beneficiaries* National and regional statistic systems Eurostat rural population statistics: http://ec.europa.eu/eurostat/web/rural-development/data/database
Additional indicators	Number of projects/initiatives supported by the Local Development Strategy divided by type	Number and types of local actions/initiatives/projects implemented under the LDS	*Beneficiaries* Application form (project start) Payment request (project end) LAG operations databases Surveys to LAGs and end beneficiaries *Beneficiaries and non-beneficiaries* National and regional statistic
	% of expenditure in Leader measures with respect to total RDP expenditures	Total RDP expenditures and total expenditures by local development strategies according measures	*Beneficiaries* Application form (project start) Payment request (project end) LAG operations databases
	Number and % of innovative projects supported by LAGs of all innovative RDP projects	Number of innovative projects supported by LAGs Number of innovative projects supported by the RDP	*Beneficiaries* Application form (project start) Payment request (project end) LAG operations databases Surveys to LAGs and end beneficiaries

	Number of partnerships created (Leader)	Number of partnerships created under Leader	Application form (project start) Payment request (project end) LAG operations databases

Timing of data collection

All data should be collected for beneficiaries and non-beneficiaries from 1.1.2014 or from the programme start – baselines

Methodology to calculate common and additional indicators

Common indicators

For common indicators R24/T23 - Jobs created in supported projects (Leader), the procedure is similar as in case of CEQ 16.

For 2 other common indicators – R22/T21 and R23/T22, the calculation is based on monitoring data collected via the LAG operations database as a ratio of the rural population covered by the intervention to the total rural population.

Secondary contributions

Secondary contributions of operations which are programmed under other FAs than P6B might be also considered when calculating the indicator R24. Secondary contributions to the value of result indicators are calculated based on surveys with those beneficiaries which are implementing operations via different focus areas (e.g. 2A and B, 3A, 6A) and have flagged the additional contributions to FA 6B. Samples of surveyed beneficiaries can be set up in accordance with the expected/actual contributions of implemented operations (e.g. farm investment measures, young farmers, farm diversification measures, forestry technology and processing measures, local infrastructure etc.) to the FA's objectives. If there is not sufficient uptake to calculate the secondary contributions in a robust way a qualitative assessment is also possible (see the Annex 10 of the guidelines: Assessment of RDP results: how to prepare for reporting on evaluation 2017). Findings can be used in answering the CEQ 19.

Additional indicators

Additional indicators can also be calculated based on the data collected by the LAG operations database or using the qualitative methods:

- Survey to beneficiaries of measures 7.1, 7.2, 7.4-7.8
- Structured focus groups[87], including MAPP method for the assessment of net effects, interviews with LAGs involved in these measures.

The proposed methods will enable: a) the collection of additional information in order to interpret the quantitative values of the indicators; b) the collection of data in order to assess the net effects of the RDP on local development.

Secondary contributions of operations implemented under FAs other than 6A FA should also be included in the calculation of additional indicators. The procedure is similar to the one described for common indicators.

Challenges/Risks/Issues

- Lack of data to answer the EQ (e.g. low RDP uptake, etc.)
- Low quality of data that does not enable to provide evidence based answer to the EQ

[87] For details on how to use surveys and focus groups, see 'Capturing the success of your RDP: Guidelines for ex post evaluation of 2007-2013 RDPs', Evaluation Helpdesk, June 2014

Proposed solutions

In case of a lack of data (low uptake,), this EQ can focus on the expected jobs to be created, services improved, and access to services (via interviews and expert opinions).

In case of low quality data, qualitative information can be sought through interviews, surveys, focus groups.

Answer to CEQ

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

2.18 Focus Area P6C, Evaluation question 18

To what extent have RDP interventions enhanced the accessibility, use and quality of information and communication technologies (ICT) in rural areas?

List of measures contributing to the FA 6C:

Programmed measures/sub-measures (proposed by EC)[88]:

- Measures and sub-measures of Art.[89] 15 Advisory services, farm management and farm relief services
- Measures and sub-measures of Art. 14 Knowledge transfer and information actions
- Measures and sub-measures of Art. 35 Co-operation
- Measures and sub-measures of Art. 19 Basic services and village renewal in rural areas

Examples of measures/sub-measures programmed under other FAs but potentially **showing secondary contributions** to this FA:

- All above measures if programmed under the other than 6C focus area and contributing to the. accessibility, use and quality of information and communication technologies (ICT) in rural areas
- Measures and sub-measures of Art. 35 of Regulation (EU) No 1303/2013, Support for Leader local development

Consistency check between CEQ, judgement criteria and indicators

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Access of rural households to ICT has increased

Note: stakeholders in Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

[88] WP: Guidelines for strategic programming for the period 2014-2020, European Commission, 04/03/2014, published on ECAS/circabc

[89] All articles mentioned in this section of each fiche for answering CEQ 1 – 18 are of Regulation (EU) No 1305/2013, unless it is stated otherwise in the text directly

Indicators

Common indicators

Common result/target indicator:

- R25/T24 - % of rural population benefiting from improved services/ infrastructures (Information and communication technologies – ICT)

The following other *common indicators might* be used to answer the CEQ:

Common output indicators[90] *(*Data collected via the operations database):

- O3 Number of actions/operation supported
- O4 Number of beneficiaries
- O15 Population benefiting from improved services

Common context indicator *(*Data need and data sources are described in the Working document: Proposed list of common context indicators)**:**

- CCI 1 Population

Additional indicators and information

Common indicators are not sufficient to answer the CEQ. WD Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- % of rural households accessing ICT with the RDP support

Note: More additional indicators can be developed when judgement criteria are added to specify the evaluation question in MS.

Qualitative indicators

Quantitative information may also be used, e.g. to assess the quality of ICT services/infrastructure created and the extent to which this improves the attractiveness of local rural areas, Degree of satisfaction with quality, accessibility and coverage of ICT services and infrastructure.

Data needs and data sources

	Indicators	Data needed	Data source
Common indicators	R25/T24 Access of rural households to ICT has increased	Population benefiting from supports services/infrastructure (broadband internet infrastructure and other ICT) under measure 7.3 Total rural population covered by the RDP area	*Beneficiaries* Application form (project start) Payment request (project end) *Beneficiaries and non-beneficiaries* National and regional statistic Eurostat rural population statistics: http://ec.europa.eu/eurostat/web/rural-development/data/database

[90] WD: Data item list for Pillar II operation database and WD RD programming and target setting

Additional indicators	% of rural households accessing ICT with the RDP support	Number of rural households accessing ICT, of which with RDP support	*Beneficiaries* Application form (project start) Payment request (project end) *Beneficiaries and non-beneficiaries* National and regional statistic

Timing of data collection

All data should be collected for beneficiaries and non-beneficiaries from 1.1.2014 or from the programme start – baselines

Methodology to calculate common and additional indicators

Common indicator

The common indicator – R25/T24, is calculated based on monitoring data collected via the operations database as a ratio of rural population benefiting from improved services/ infrastructures (Information and communication technologies – ICT) to the total rural population.

Additional indicator

Additional indicator can be also collected via the operations database (if added in the monitoring system) or using qualitative methods, such as:

- Survey to population covered by measure 7.3
- Structured focus groups[91], including the MAPP method to assess the net effects of the RDP (see section XX for a description of this method).
- Interviews with LAGs involved in this measure
- The combination of surveys and MAPP method will provide the necessary triangulation results to validate the findings.

The proposed methods will enable: a) the collection of additional information in order to interpret the quantitative values of the indicators; b) the collection of data in order to assess the net effects of the RDP on accessibility to and quality of ICTs.

Challenges/Risks/Issues

- Lack of data to answer the EQ (e.g. low RDP uptake)
- Low quality of data that does not enable to provide evidence based answer to the EQ

Proposed solutions

In case of lack of data (low uptake,), this EQ can focus on the expected coverage, accessibility and use of broadband and other ICT (via interviews and expert opinions).

In case of low quality of data, qualitative information can be sought through interviews, surveys, focus groups.

Answer to CEQ

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

[91] For details on how to use surveys and focus groups, see 'Capturing the success of your RDP: Guidelines for ex post evaluation of 2007-2013 RDPs', Evaluation Helpdesk, June 2014

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

3. EVALUATION QUESTIONS RELATED TO OTHER RDP ASPECTS

3.1 Operational performance, Evaluation question 19

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

Programme synergies are linked to the entire RDP intervention logic and to primary and secondary contributions of RDP operations to rural development focus areas, which can create synergies or transverse effects between them and consequently also between rural development priorities.

Consistency check between CEQ, judgement criteria and indicators

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- The supported RDP measures are complementary so as to produce synergy through their interaction

Note: stakeholders in Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

- The composition of measures supports their synergy at FA, RD priority and at programme level

Indicators

Common indicators

This CEQ concerns all common result indicators as defined by Commission Implementing act, Annex IV.

Additional indicators and information

WD Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- Positive and negative interactions among the supported RDP measures
- Secondary contributions of supported RDP measures

Note: More additional indicators can be developed when judgement criteria are added to specify the evaluation question in MS.

Qualitative information

In the AIR submitted in 2017 a qualitative assessment of synergies between focus areas and between RD priorities is planned. Synergies are positive horizontal transverse effects which occur due to positive interactions between various focus areas/RD priorities (fostering effects on one focus area from interventions under the other focus areas). Apart from synergies, focus areas and priorities can also affect each other in a negative way and cause negative transverse effects, weakening the effects of one focus area due to the interventions under the other focus areas). Positive or negative transverse effects are assessed qualitatively in 2017, starting from the RDP specific composition of measures/sub-measures under each focus area and comparing it with all the other focus areas. These comparisons will allow one to judge the extent to which pursuing a specific intervention logic affected the final achievements towards objectives, effectiveness and efficiency of the RDP and its results and impacts.

Data needs and sources

	Indicators	Data needs	Data sources
Common indicators	All result indicators and complementary result indicators	Quantification of all common and additional indicators used to observe the programme results taking in consideration the primary and secondary contributions	Evaluation findings for CEQ 1 – 18 and calculation of result indicators Reports on thematic evaluations Operations database
Additional indicators	All additional indicators which are used to calculate primary and secondary contributions to focus areas	Quantification of all relevant additional indicators	Evaluation findings for CEQ 1 – 18 and calculation of result indicators Reports on thematic evaluations

Information collection linked **qualitative assessment**:

- Confirm and describe synergies between measures addressing the same focus area
- Identify synergies, complementarities and conflicts between measures addressing different focus areas, between focus areas and RD priorities

Timing of data collection

Proposed data are collected through an ongoing processes starting at the beginning of RDP's implementation. Qualitative information is collected at the time of evaluation.

Methodology to calculate common and additional indicators

To answer the above question in a sound way is a methodological challenge.

For the reporting in 2017, in the assessment of synergies between focus areas and between priorities, the following should be taken into consideration:

- Secondary contributions of operations to FAs other than the programmed focus areas as calculated during answering CEQ 1- 18
- Findings of the qualitative assessment

Quantitative assessment

For the quantitative assessment it is recommended to look at how operations programmed under certain FA contributed additionally to the value of indicators (common/additional) related to other focus areas and compare these findings between focus areas. The comparisons will help to understand better the interactions between focus areas and their intervention logics. For example, high contribution to the indicators value´s indicate a strong synergy between FA. Low or minus contributions show negative transverse effects. The scores should be followed by an explanatory text describing the reasons for the positive, negative or neutral interactions.

Qualitative assessment

Findings of quantitative assessment should be triangulated with the qualitative assessment. There are the following possibilities:

The tool to appraise the additional/secondary contributions of measures/sub-measures to other focus areas than those programmed and synergies/negative transverse effects between focus areas and between priorities is presented in the Guidelines "Assessment of RDP results: how to prepare for reporting on evaluation in 2017, PART III, Annex 10. The table 1 of the Annex 10 allows to follow the direct (primary) and secondary path from single measures to the focus areas

and RD priorities. Table 2 of the Annex 10 describes how the combination of measures programmed under a specific focus area impact all other focus areas, either weakening (negative transverse effects) or fostering them (synergies).

In the standard situation it is expected that measures programmed under the same focus area would demonstrate strong positive interactions so as to contribute to the policy objectives of that focus area. The tool will help to confirm and/or dispute this depending on the influence of evolving RDP contexts. For the rest, it is up to the evaluator to analyse the positive, negative or neutral interactions between different RDP measures.

This tool can be completed with the theory of change and by expert panels to triangulate findings of the table and confirm/correct synergies/negative transverse effects between measures, FAs and RD priorities.

There are several options how to proceed in the assessment of programme synergies: 1.) The evaluator can start with a qualitative assessment (using both tables of annex 10 in the PART III of the guidelines), 2.) Conduct the quantitative assessment of values of result indicators and 3.) Check the findings with theory of change or panels of experts. Alternatively, one can start with a quantitative assessment and triangulate findings using both tables, theory of change and panels of experts.

Challenges/Risks/Issues

- No risks, since the proposed qualitative assessment

Proposed solutions

- N/A

Answer to CEQ:

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

3.2 Technical Assistance, Evaluation question 20

To what extent has technical assistance contributed to achieving the objectives laid down in Art. 59(1) of Regulation (EU) No 1303/2013 and Art. 51(2) of Regulation (EU) No 1305/2013?

List of activities of the TA

TA assistance supports the entire RDP implementation, monitoring and evaluation and therefore is linked to the RDP intervention logic.

Consistency check between CEQ, judgement criteria and indicators

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Institutional and administrative capacities for the effective management of the RDP have been strengthened
- Capacities of relevant partners as defined by the Regulation (EU) No 1303/2013, Art. 5(1) have been reinforced
- RDP has been communicated with the public and information has been disseminated
- Monitoring has been improved

- Evaluation methods have been improved and have provided robust evaluation results
- Information on evaluation practices has been exchanged
- The RDP implementation has been improved
- Administrative burden on beneficiaries has been reduced

Note: stakeholders in Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

Common indicators

There is **no common indicator** for Technical Assistance

Additional indicators and information

In the absence of a common indicators, the following additional information are proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014-2020 suggests:

- Number of staff involved in RDP management
- Skills of staff involved in RDP management (broken down by types of skills)
- Types and number of capacity building activities
- Functionality of the IT system for programme management
- Number and type of RDP communication and dissemination activities
- Number of people receiving information about the RDP
- Information on the use of evaluation results
- The length of the application and payment process

Note: More additional indicators can be developed if needed, e.g. when additional judgement criteria are added to specify the evaluation question in the Member State.

Qualitative information

Additional **qualitative information** can be collected, e.g. quality and effectiveness of communication and dissemination activities, quality of the reports developed through the TA support (e.g., thematic evaluations).

Data needs

Monitoring data:

- Expenditures and outputs of activities operated under the technical assistance measure.

Additional data linked to additional information (optional) and methods used, e.g.:

- Number and skills of the staff involved in RDP management
- Number of capacity building activities, by type of capacity building
- Number of staff that use the IT management system
- Level of satisfaction with the IT management system (Likert scale)
- Number of communication and dissemination activities, by type and volume of attendance
- Level of satisfaction with the quality of communication and dissemination activities (e.g. provide the information needed according to the different target groups).
- % and description of evaluation recommendations that have been taken into account in the RDP implementation
- Duration (in days) of the application process (from for the formal application to the respective approval)
- Duration (in days) of the payment process (from issuing invoices to receiving payment)

Data sources

Monitoring systems of the MA to incorporate data on the above indicators

Interviews to staff involved in RDP management

Surveys to target groups of communication and dissemination activities

Attendance sheets of communication and dissemination events

Evaluation sheets for participants of communication and dissemination events

Information from monitoring and evaluation reports and audits

Timing of data collection

It is recommended to collect data information on TA activities from RDP stakeholders and beneficiaries systematically from the start of TA activities.

Proposed methodology to calculate additional indicators, and analyse data and information

Interviews with various actors involved in programme implementation, monitoring and evaluation, surveys, collection of information from evaluations, attendance sheets of events, observations of the IT system´s efficiency and effectiveness, information from reports and audits, observations of the delivery mechanism, etc.

Challenges/Risks/Issues

- Late start of the implementation of the technical assistance

Proposed solutions

In case of a late start, an estimate of the expected contribution of technical assistance should be carried out through interviews with the MA and relevant staff.

Answer to CEQ

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

3.3 National Rural Networks (NRN), Evaluation question 21

To what extent has the national rural network contributed to achieving the objectives laid down in Art. 54(2) of Regulation (EU) No 1305/2013?

Intervention logic of the NRN, common elements:

- 4 common NRN objectives[92]
- 7 groups of common activities[93]

Stakeholders in MS should complete above common elements with programme specific NRN objectives and groups of activities if relevant.[94]

Consistency check between CEQ, judgement criteria and indicators

Judgement criteria

Judgement criteria (JC) proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014- 2020**:**

- Number and types of stakeholders involved in RDP implementation has increased
- The quality of implementation of the RDP has been improved through the activities of the NRN, e.g.
  - Improved capacity of RDP beneficiaries
  - Improved evaluation awareness
  - Lessons from evaluations are taken into account in programme implementation
- Broader public and potential beneficiaries are aware of the rural development policy and funding opportunities through activities of the NRN
- Innovation in agriculture, food production forestry and rural areas has been fostered by the NRN

Note: stakeholders in Member States might add/change judgement criteria in line with the intervention logic of the FA (selection and combination of measures)

Indicators

No *common* result/target indicator proposed.

Common output indicators[95] *(*Data collected via the operations database):

- Number of thematic and analytical exchanges set up with the support of NRN
- Number of NRN communication tools

[92] Art. 54(2) of Regulation (EU) No 1305/2013
[93] Art. 54(3) of Regulation (EU) No 1305/2013
[94] Guidelines: Evaluation of NRN 2014-2020, European Evaluation Helpdesk for Rural Development, 2016, http://enrd.ec.europa.eu/evaluation/publications/e-library_en
[95] WD: Data item list for Pillar II operation database and WD RD programming and target setting

- Number of ENRD activities in which the NRN has participated

Additional indicators and information

Stakeholders will develop additional result indicators to answer the evaluation question in the AIR submitted in 2017. In case the NRN intervention logic contains programme specific objectives and evaluation questions, stakeholders will develop programme specific indicators. Programme specific indicators are not used to answer the above common evaluation question; only additional indicators will be used for this purpose. Additional result indicators should be consistent to the above judgment criteria or the judgment criteria added by the stakeholders in the Member States and should express the NRN's added value, as defined by the common objectives or by stakeholders in the Member State. Additional NRN result indicators might be of a quantitative or qualitative nature[96].

Additional indicators proposed by the Working Document: Common Evaluation Questions for Rural Development Programmes 2014-2020:

- Number of stakeholders (by type) participating in the implementation of the RDP due to activities of the NRN (including those through LAGs)
- Number of RDP modifications based on evaluation findings and recommendations from thematic working groups organized by the NRN
- % of RDP implemented projects encouraged by NRN(P) activities
- Number of persons that have been informed about the rural development policy and funding opportunities through the NRN communication tools
- % of innovative projects encouraged by NRN out of the total number of innovative projects supported by the RDP(s)

Further proposed additional indicators:

- Number of new applications for funding as a result of NRN awareness raising activity

Note: Additional indicators can be developed when further judgement criteria are added to specify the evaluation question in the Member State.

Qualitative indicators

For the qualitative assessment the following qualitative indicators can be proposed:

- Degree of increased evaluation awareness
- Degree of increased capacity acquired by RDP beneficiaries
- Degree of increased awareness of rural development policy and funding opportunities of the broader public and potential beneficiaries

[96] Guidelines: Evaluation of NRN 2014-2020, European Evaluation Helpdesk for Rural Development, 2016, http://enrd.ec.europa.eu/evaluation/publications/e-library_en

Data needs

The data needs are also described in detail in the Guidelines: Evaluation of NRN 2014-2020. The data for output indicators are collected via the operations database.

Data and information linked to additional indicators/information at the result level (optional, but recommended as output indicators are not sufficient to answer the CEQ) can also be collected via the operations data base and with respect to selected methods (described above) from NRN members, beneficiaries, and other stakeholders, for example:

- Number and type of stakeholders participating in RDP implementation as a result of NRN activities, of which through LAGs
- Number of RDP modifications based on: a) evaluation results; b) recommendation from NRN TWGs
- Target groups of NRN activities that have Increased evaluation awareness (Likert scale)
- NRN members (number) and MA staff involved in RDP management (number) who claim to have increased their knowledge about evaluation thanks to NRN activities (and description)
- RDP beneficiaries that have Increased their capacity due to NRN activities (Likert scale and description of capacity improvements) and description of NRN activities most useful for increasing capacity
- Total number of RDP implemented projects
- Number of RDP projects implemented as a result of NRN(P) activities
- Number of persons that have been informed about the rural development policy and funding opportunities through the NRN communication tools
- Increased awareness (Likert scale) of the broader public and potential beneficiaries
- Number of new applications for funding due to NRN activities
- Number of innovative projects encouraged by the NRN
- Total number of innovative projects supported by the RDP

Data sources

Minimum required for the output indicators:

- NRN monitoring data (for the output indicators)
- NRN websites

Data sources for additional information:

- It is proposed that NRNs include the above data for additional quantitative indicators in their monitoring systems
- Further qualitative information through interviews/focus groups with NRN members
- Surveys to NRN members

Timing of data collection

It is recommended to collect data and information on NRN beneficiaries and contextual data (data for context parameters (as defined by the Guidelines: Evaluation of NRN 2014-2020) systematically from the start of NRN activities.

Methodology to calculate common and additional indicators

Proposed methods are described in detail in the Guidelines for NRN evaluation[97]. For example, the following methods:

- Surveys
- Dialogue based or participatory methods (e.g. self-assessment practices, focus groups)
- Analytical methods (e.g. cost-benefit analysis)
- Diagnostic methods (e.g. functional analysis of Networks, network diagnosis, social network analysis
- Interpretative methods (e.g. imaging, systemic structure constellations or choreographies, text analysis)
- Case studies
- MAPP method

The combination of several methods is proposed as the best evaluation approach and for triangulation of findings.

Challenges/Risks/Issues

1. Late set-up of the NRN units
2. Late start of the NRN's activities

Proposed solutions

In cases where the set-up was late, assess through interviews with the MA or with the newly established NRN unit (if it exists) the expected contributions of the NRN to RDP's implementation.

In cases where there is a late set-up and/or late start of the NRN's activities, assess the expected contributions of the NRN to the achievement of the objectives laid down in Art. 54(2) of Regulation (EU) No 1305/2013 (through interviews with the MA, with the newly set-up NRN unit (if it exists) or focus groups with NRN members).

Answer to CEQ

The answer is provided based on the calculated values of indicators, on the collected qualitative information or on the qualitative assessment.

Conclusions	Recommendations
Main conclusions are stated here for the FA based on the evaluation findings.	Main recommendations linked to the conclusions are stated here for the FA.

[97] Guidelines: Evaluation of NRN 2014-2020, European Evaluation Helpdesk for Rural Development, 2016 http://enrd.ec.europa.eu/evaluation/publications/e-library_en

European Evaluation Helpdesk
Boulevard Saint-Michel 77-79
B - 1040 BRUSSELS
T: +32 2 737 51 30
Email: info@ruralevaluation.eu
http://enrd.ec.europa.eu