

EUROPEAN
EVALUATION
HELPDESK
FOR RURAL DEVELOPMENT



REPORT

APPROACHES TO ASSESS ENVIRONMENTAL RDP IMPACTS IN 2019

GOOD PRACTICE WORKSHOP
BRATISLAVA, 12 – 13 DECEMBER 2018

Copyright notice

© European Union, 2019

Reproduction is authorised provided the source is acknowledged.

Recommended citation:

EUROPEAN COMMISSION – Directorate-General for Agriculture and Rural Development – Unit C.4 (2019): Approaches to assess environmental RDP impacts in 2019. Report of the Good Practice Workshop Bratislava, 12 – 13 December 2018. Brussels.

Disclaimer:

The information and views set out in this report are those of the author(s) and do not necessarily reflect the official opinion of the Commission. The Commission does not guarantee the accuracy of the data included in this report. Neither the Commission nor any person acting on the Commission's behalf may be held responsible for the use which may be made of the information contained therein.



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

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>).

REPORT

APPROACHES TO ASSESS ENVIRONMENTAL RDP IMPACTS IN 2019

GOOD PRACTICE WORKSHOP

BRATISLAVA, 12 – 13 DECEMBER 2018

CONTENT

EXECUTIVE SUMMARY	1
1. SETTING THE FRAME	2
2. SHARING EXPERIENCES.....	3
2.1 Introduction	3
2.2 Approaches to assess RDP impacts on Emissions from Agriculture	5
2.3 Approaches to assess RDP impacts on Farmland Bird Index.....	6
2.4 Approaches to assess RDP impacts on High Nature Value (HNV) farming.....	7
2.5 Approaches to assess RDP impacts on Soil (SOC and Soil Erosion by Water).....	8
2.6 Approaches to assess RDP impacts on Water Abstraction in Agriculture	9
2.7 Approaches to assess RDP impacts on Water Quality	10
3. CONCLUDING REMARKS	11
4. ANNEX.....	13
4.1 Outcomes of group discussion on the approaches to assess environmental RDP impacts	13

EXECUTIVE SUMMARY

The 9th Good Practice Workshop 'Approaches to assess environmental RDP impacts in 2019' which took place on 12-13 December 2018 in Bratislava complements the [previous Good Practice Workshop held Warsaw](#), which focused on the assessment of sectoral and socio-economic RDP impacts in 2019. Both workshops aimed at addressing the challenges that Managing Authorities and evaluators are facing for the quantification of impacts, drawing on Member States' experiences, and providing practical recommendations and solutions. The Good Practice Workshop for the assessment of environmental RDP impacts brought together 63 participants from 22 Member States. All seven common environmental impact indicators were covered with case studies from Ireland, United Kingdom (England), Italy (Emilia Romagna), Austria, Greece (Thessaly) and Slovakia. The logic models proposed in the guidelines '[Approaches to assess RDP achievements and impacts in 2019](#)' were used as a reference for the discussion of the selected evaluation approaches and method(s).

The discussion of the case-studies led to the following main messages for the evaluation stakeholders:

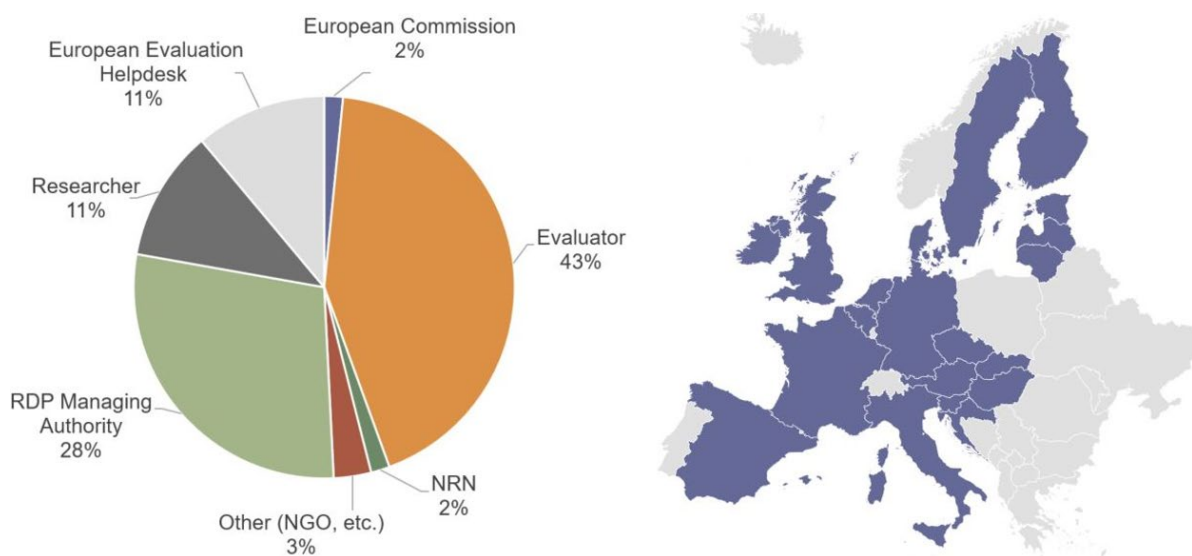
- **The application of robust evaluation methods is conditional upon the availability and quality of data, given that most of these methods are particularly data intensive.** In practical terms, there are certain conditions that enable the applicability of the chosen methods:
 - a. the existence of data that allows the comparison between beneficiaries and non-beneficiaries and data that allows comparisons between different RDP measures;
 - b. the collection of primary data through targeted field surveys, including through adequate monitoring points;
 - c. the harmonisation of data that is often available, but fragmented (e.g. in various databases) or based on different definitions;
 - d. the continuity and consistency of samplings based on sound monitoring systems that are properly maintained;
 - e. finally, all available sources of data should be used, especially in cases where coherent and long-standing monitoring data is not available.
- **There is a wealth of available models and data sources that can be applied in different contexts.** To conduct a counterfactual analysis, a common and more frequently used approach is the quantitative assessment using treatment effects with PSM, also in combination with difference in difference (DiD). This approach can use inter alia GIS or FADN data which is widely available, complemented with MA data on beneficiaries and other institutional sources (e.g. research institutes, ministry of the environment and authorities responsible for the management of natural resources, such as water or soil) and EU level sources (e.g. [water framework directive](#), [LUCAS database](#)). Other models that were tailored to the national level can serve as examples for other countries, e.g. Generalised Linear Mixed Models (for the farmland bird index) which use national level surveys (e.g. the breeding bird survey in the UK) or the different modelling techniques developed in Ireland for the assessment of RDP impacts on GHG emissions or the RUSLE model for soil erosion used in Austria.
- **Planning, timing and resources are key prerequisites for the assessment of net impacts.** Planning involves early contracting of evaluators and agreement with data providers, especially when data confidentiality issues are concerned as well as planning for model development or adaptation. Timing is critical for the collection of coherent and comparable environmental data, avoiding periods of extreme weather events, while data collection over a number of years is also necessary. Resources concern advanced skills of the evaluator (e.g. modelling, statistical or even more specific skills, like biodiversity knowledge), as well as financial resources, which may be considerable (e.g. 2 full-time equivalents per year were used for the case-study from Ireland).

1. SETTING THE FRAME

In June 2019, the Managing Authorities of Rural Development Programmes (RDP) will submit the second enhanced Annual Implementation Reports (AIR), which will also include the evaluation findings on the assessment of the RDP’s progress towards the programme objectives and contribution to achieving the Union’s Strategy for smart, sustainable and inclusive growth. The 9th Good Practice Workshop ‘Approaches to assess environmental RDP impacts in 2019’ took place in Bratislava (SK) with the aim of presenting and discussing examples of evaluation approaches for assessing the environmental related CAP Pillar II impact indicators and for answering the related Common Evaluation Questions (CEQs) in 2019.

63 participants from 22 different EU Member States attended the event, including RDP Managing Authorities, evaluators, EU level representatives (e.g. European Commission, ENRD Evaluation Helpdesk), Researchers, National Rural Networks, and other actors (e.g. NGOs).

Figure 1. Participants of the Good Practice Workshop by role and Member State



The workshop was opened by Ms Karin Radecká (Director, Slovak RDP Managing Authority) who welcomed participants, explaining the relevance of the workshop, as the AIRs are being prepared for 2019, and highlighted the importance of sharing everyone’s experience for this challenging topic.

Following, Ms Joanna Kiszko (DG AGRI, Unit C.4 – Monitoring and Evaluation) and Mr Hannes Wimmer (Team Leader, ENRD Evaluation Helpdesk) jointly introduced and answered some frequently asked questions regarding the legal framework and the guidelines ‘[Assessing RDP achievements and impacts in 2019](#)’. Compared to the experience gained with the enhanced AIRs submitted in 2017, the enhanced AIRs in 2019 call the RDP evaluation stakeholders to a more intense exercise, such as netting out the common impact indicators and answering the common evaluation questions (CEQs) related to the EU level objectives (i.e. CEQs 22 – 30). The environmental conditions and the RDP intervention logics vary across the EU areas, and one evaluation-approach cannot fit all these different situations, including also differences in terms of RDP size, level of uptake, data availability. Therefore, the guidelines propose logic models to support stakeholders in designing their own evaluation approach. More information can be found in the PPT: [Legal framework and Guidelines ‘Assessing RDP achievements and impacts in 2019](#)’.

This report is structured as follows: Chapter 2 illustrates the case-studies presented and discussed with participants. Chapter 3 provides the main conclusions and recommendations derived from the

workshop for the RDP Managing Authorities and evaluators. Finally, the outcomes of the group works have been summarised in the Annex to this report.

2. SHARING EXPERIENCES

2.1 Introduction

Estimating and netting out the environmental effects of the RDP is a challenging exercise for many reasons. The data availability is often scarce and establishing the counterfactual is difficult. Capturing and upscaling environmental effects from micro- to macro-level is methodologically very demanding. However, experiences and capacities have been gained throughout the different programming periods. These are illustrated in the following sections, which describe practical examples of applied evaluation approaches collected from different Member States and exchanged during the Good Practice Workshop. Each practical example was introduced by the ENRD Evaluation Helpdesk’s (HD) experts involved in the development of the guidelines ‘[Assessing RDP achievements and impacts in 2019](#)’. The introductions highlighted the following basic steps which are common to the design of any evaluation approach:

Step 1

Build or review the RDP intervention logic

Darko Znaor (Thematic Expert, ENRD Evaluation Helpdesk) introduced the example of the RDP intervention logic presented in the guidelines for the assessment of the Common Impact Indicator **I.07 Emissions from Agriculture**. He explained that building the intervention logic around this CAP objective is one of the starting steps for carrying out a sound and useful evaluation. This practically means identifying and linking coherently the RDP measures, focus areas, and priorities with the CAP objectives and needs identified in the territory.

Jela Tvrdonova (Evaluation Advisor, ENRD Evaluation Helpdesk) introduced the common evaluation questions related to the RDP impacts on biodiversity. Biodiversity is a multi-dimensional concept, which can be evaluated through the assessment of two common impact indicators, notably **I.08 Farmland Bird Index and I.09 High Nature Value (HNV) farming**. The calculation and understanding of these two composite indicators are particularly challenging due to their sub-components and the lack of a common methodology across the EU. Additional indicators can be also deployed complement the common ones and to assess the RDP impacts on biodiversity.

Step 2

Link the common and additional evaluation elements (i.e. questions and indicators) to the RDP intervention logic

Step 3

Design the evaluation approach by considering multiple factors, such as RDP size and level of uptake, data availability, skills

Marili Parissaki (Good Practice Manager, ENRD Evaluation Helpdesk) introduced the logic models and approaches suggested in the guidelines for the assessment of RDP impacts on soil and water. The two common impact indicators related to water are **I.10 Water Abstraction in Agriculture** and **I.11 Water Quality**; while the impacts on soil can be assessed by the **I.12 Soil Organic Matter in Arable Land** and **I.13 Soil Erosion by Water**. Different approaches exist to calculate these indicators, depending on the level of analysis (micro- or macro-), the data availability, the methodological skills, as well as the level of RDP uptake or RDP size.



2.2 Approaches to assess RDP impacts on Emissions from Agriculture

Mr Richard Gooday (Environmental Consultant, ADAS) presented the modelling techniques applied in Ireland to assess the impacts of the Green Low Carbon Agri-Environmental Scheme (GLAS) supported by the Rural Development Programme 2014 - 2020. The evaluation was commissioned by the Department of Agriculture, Food and the Marine (DAFM) to answer the common evaluation questions in the enhanced Annual Implementation Report in 2017, 2019 and ex post evaluation. Different models were applied within a common multi-pollutant framework, notably: [PSYCHIC](#), [N-Cycle and NitCat](#), [MANNER](#), [NARSES](#). The framework used data related the GLAS scheme, environment, and agriculture practices.



‘This approach based on modelling techniques can have significant data requirements, but it is able to focus on multiple RDP indicators, e.g. those related to the emissions from agriculture, water quality, and soil erosion’. Mr Richard Gooday



After the presentation, participants raised the following questions:

Did you include secondary contributions from other RDP measures, such as M 14 Payment for animal welfare?

We only considered the RDP measures supporting GLAS

Does this approach provide an estimate of the net impacts based on the counterfactual?

The models can be run on two groups: with and without the support of GLAS. However, the two groups are not statistically matched.

What does the map ‘Distribution of emissions’ say (slide 13)? Does this approach run multiple models at the same time?

This approach runs multiple models at the same time. The map in slide 13 shows the distribution of emissions, in terms of Nitrous Oxide Loss (kg/ha). The accompanying table shows that the farms receiving support from GLAS produce less emissions, although this is mostly due to the types of farms in GLAS, rather than a direct result of GLAS.

How did you collect the data on the livestock management?

The IPCC methodology is used, and the data is collected from the Irish GHG inventory data.

Link to the PPT: [Evaluation of RDP impacts on emissions from agriculture in Ireland](#)

2.3 Approaches to assess RDP impacts on Farmland Bird Index

Ms Susanna Phillips (Principal Adviser, Agri-environment Evidence Natural England) presented the assessment of RDP impacts on Farmland Bird Populations in United Kingdom – England.

This evaluation was commissioned by Defra/Natural England to test whether the RDP support to agri-environmental scheme (AES) was associated with the temporal changes in the Farmland Bird abundance. Changes in bird abundance on AES farms were



compared with those across the wider farmed landscape, by using Generalised Linear Mixed Models (GLMMs). [Data from Breeding Bird Survey](#) (BBS) was used as a non-AES control stratum.



After the presentation, participants raised the following questions:

The presented approach was applied for the ex post evaluation 2007- 2013. Are you going to follow and update the obtained values?

Yes, we are applying the same surveys to collect the updated values for the AIR to be submitted in 2019

How did you construct the counterfactual situation?

The Breeding Bird Survey data were used to build comparison groups with the farms receiving RDP support for agri-environmental schemes. Data was collected from three different regions, and the comparison groups were matched on average values.

Can these evaluation findings be representative for the whole of England?

The findings are representative for the specific regions assessed but they can be upscaled at the national level. This approach will be useful to answer the related CEQ.

How did you select the farms supported by agri-environmental schemes (randomly or with criteria)?

They were selected based on whether they had or not a specific population of bird species. Changes in average relative abundance were calculated based on the maximum annual counts (expressed relative to a value of 1 in 2008).

Link to the PPT: [Assessment of RDP impacts on Farmland Bird populations in England](#)

2.4 Approaches to assess RDP impacts on High Nature Value (HNV) farming

Mr Vincenzo Angrisani (Independent evaluator) presented a case-study from the RDP IT - Emilia Romagna on the evaluation of HNV farming from the programming period 2007-2013¹. The approach consisted of a regression and spatial analysis. It focused on the correlation between the changes in HNV farming area and the participation to the agri-environmental scheme (AES) supported by the RDP. The HNV farming indicator used in Emilia Romagna was based upon two of the three elements that constitute the requirements for High Nature Value farmland (i.e. crop diversity and low intensity farming), whereas the third element (i.e. semi-natural vegetation) was replaced by the livestock density. Mr Angrisani explained that the assessment of HNV farming across Europe is characterised by a general lack of robust and available data². While the methodology used was not based on a counterfactual analysis, the findings obtained were able to provide useful information for the design of the RDP 2014 – 2020, especially for the support to organic farming.



Link to the PPT: [Assessing the RDP impact on HNV farming areas](#)



¹ Signorotti, C., Marconi, V., Raggi, M., & Viaggi, D. (2013, June). How do agri-environmental schemes (AES's) contribute to high nature value (HNV) farmland: A case study in Emilia Romagna. In Second Congress of Italian Association of Agricultural and Applied Economics, Parma, Italy.

² EUROPEAN COMMISSION – Directorate-General for Agriculture and Rural Development – Unit C.4 Monitoring and Evaluation (2017): [Working Document. HNV farming indicator in RDPs 2014-2020: Overview from a survey. Brussels](#)

2.5 Approaches to assess RDP impacts on Soil (SOC and Soil Erosion by Water)

Mr Georg Dersch (Evaluator and Advisor, Austrian Agency for Health and Food Safety) presented the approach used in Austria for the assessment of the RDP impacts on Soil Organic Carbon (SOC) and Soil Erosion on Arable Land. Soil mapping of all agricultural area was conducted decades before the starting of the RDP, basically these data were used for the FAO-SOC-map. Soil inventories, including on Heavy Metal contents and SOC were performed on a regular grid of 3-5 km (about 25 more points compared to LUCAS ([Land Use and Coverage Area Frame Survey](#))). SOC (and other parameters) from soil testing were evaluated statistically at regional level. and land use. However, sufficient data is available only in few regions. At the present RDP, in a few selected regions for preventive groundwater protection, the SOC analysis is obligatory for the first time ever in the Austrian RDP and at a high frequency. Moreover, the Active Carbon is tested for eligibility and suitability for evaluation purposes. Regarding the assessment of the I.13 Soil erosion by water, the Revised Universal Soil Loss Equation (RUSLE) is the model being used for answering the common evaluation questions in the AIRs to be submitted in 2019. This model can capture the effects of cover crops, mulch seeding and different crop rotations in organic farms supported by the RDP measures, and to compare them with conventional farms.



'The changes in the SOC are very difficult to detect because they occur in the long-term period. On the opposite, the soil erosion by water can be subject to rapid changes after a heavy rain'. Mr Georg Dersch



After the presentation, participants raised the following questions:

To analyse the impacts of different RDP measures, do you collect information on farm management practices in your soil sampling?

It is not necessary to have more but better sampling points, which can collect also information on the farm management practices supported by the RDP or on the location of each farmers.

In the RUSLE-model, what is meant by the support practice factor?

The support practice factor refers to the farm management practices. These can be linked with and without the support of the RDP measure, and allows the netting out of RDP impacts.

How many LUCAS sampling points were collected in 2018 and were you able to compare them with the Austrian national soil database?

About 300 soil samples from LUCAS were provided in 2018. In 2019, these will be analysed and compared with the Austrian methods and results.

Why do you collect an additional indicator on active carbon?

Two of the reasons are that the laboratory determination of this indicator is cheaper (12 euro per soil sample) and is practicable with dried routine samples.

Do you have information on areas where beneficiaries received support and areas where they did not receive support? Otherwise the whole analysis becomes more complex.

In Austria 90% of the arable land is included in the RDP management, therefore, this is not a problem. We are interested more in comparing the soil between different management (animal husbandry, conventional and organic farming).

How do you ensure the collection of data from farmers?

Farmers are obliged to provide data. They provide the samples of soil to the laboratory, and the results are then sent to the MA in digital format.

2.6 Approaches to assess RDP impacts on Water Abstraction in Agriculture

Mr Dimitris Skuras (Researcher, Department of Economics, University of Patras) presented the approach used in the region of Thessaly (Greece) to assess the RDP impacts on the common impact indicator I.10 Water abstraction in agriculture, under the condition of data sparseness and limited time available. As part of a Ph.D. research, a group of post-graduate students from the University of Patras helped the collection of data on non-beneficiaries by using the FADN survey structure, while the RDP Managing Authority provided data on RDP beneficiaries. The units from these two groups were matched through the Propensity Score Matching (PSM) with logit to net out the RDP impacts. The [AquaCrop](#) model has been used for this analysis. The model is adaptable to many water conditions in the world. Other Member States, such as Germany and Italy, have developed their own data model. The statistical significance of the findings was limited due to the small sample size, but this can be increased with a larger sample size. To increase validity, the findings have been validated with the scientific literature, the opinion of academic experts and a qualitative survey with managers of irrigation water associations.



'Data on water abstraction is abundant across EU Member States, but fragmented and often not harmonized. For instance, Eurostat/OECD and the Water Framework Directive use different definitions of water abstraction/use'. Mr Dimitris Skuras

Hands-on demonstration of a crop growth model

Dimitris Skuras gave a demonstration on the AquaCrop Model developed by the Food and Agriculture Organisation (FAO) to estimate, among others, the net irrigation requirements and schedules under different irrigation techniques and field managements. The model can be [downloaded](#) for free in English and French. For the evaluation of RDP impacts on water, the model can be used to estimate total "irrigation requirements" at farm level (beneficiaries and non-beneficiaries). To do so, the model needs to be calibrated for each irrigated cultivation in the area and provides an estimate of "irrigation requirements" (cubic meters of water) per hectare for each cultivation. Then, for each farm, the area of each cultivation is multiplied by the "irrigation requirements" estimated by AquaCrop to provide a total of "irrigation requirements" at farm level. The total "irrigation requirements" are also the potential water abstraction and shall be calculated for all farms (beneficiaries and non-beneficiaries). Finally, beneficiaries are matched to non-beneficiaries to calculate the average difference in total water abstraction, interpreted as the Average Treatment Effect of the RDP.



Link to the PPT: [First Date Tips for AquaCrop](#)

2.7 Approaches to assess RDP impacts on Water Quality

Mr Jerzy Michalek (Thematic expert, ENRD Evaluation Helpdesk) presented a pilot project on the application of quasi-experimental methodologies combined with Geographic Information System data (GIS). The pilot project was commissioned by the Slovak Ministry of Agriculture and Rural Development to assess the net impacts of agri-environmental measures implemented in Slovakia under the RDP 2014 – 2020. Two quantitative methodologies were applied: 1.) binary propensity score matching (PSM) combined with difference in difference (DiD) to calculate the net effects of M10 Agro-environmental climate and M11 Organic farming; and 2.) the Generalised PSM (GPSM) to calculate the indirect effects of these measures on farm profits. The statistical matching of the beneficiary group with the control (non-beneficiary) group was supported by GIS data, which is widely available in form of various specific digital maps (e.g. Corine land cover, satellite photos) and can be easily translated into a raster format. [Corine land cover](#) (CLC) is the most important data source to collect several control variables and analyse them through GIS. Corine land cover data was updated in 2000, 2006, and 2012. The 2018 updates will be available in 2019. In some cases, the Land Parcel Identification System (LPIS) was used to collect more accurate and updated data (e.g. arable land, pastures, etc.). For the application of GPSM, the construction of control groups was based *inter alia* on the level of RDP support received by the beneficiaries.



‘Plenty of data is available! You need to dig into it’. Mr Jerzy Michalek



After the presentation, participants raised the following questions:

Many factors can contribute to the changes in water quality (e.g. tourism, industry, rivers). How did you consider them when building the control group?

Different confounding factors can be considered in the assessment of impacts by adding additional control variables in your statistical matching (e.g. soil properties, distance to river, urban fabric, distance to soil contamination areas, etc.). For individual impact indicators, you may set up different lists of control variables.

Did you include the amount of fertilizer used as control variable?

The inclusion of this control variable is very tricky because data on the intensity of fertilizers on a specific plot ‘before’ RDP is generally not available. Some farm specific data on the use of fertilizers and pesticides (e.g. costs of fertilizers, crop protection, etc.) per ha might be available from FADN data base. In any case, information about the control variable should be set up before the RDP programming period to enable construction of control groups.

How do we build a control group when the entire territory is supported by RDP?

*The generalized PSM allows to build a control group based *inter alia* on the intensity of RDP support received by each beneficiary.*

3. CONCLUDING REMARKS

The workshop helped to identify common challenges facing evaluation stakeholders, notably for data collection and accessibility, matching techniques for netting out impacts as well as resource and coordination challenges. Since the assessment of impacts is expected to feed into the policy cycle, the use of evaluation findings also entails several challenges related to the clarity, relevance, timing and usefulness of findings and the capacity to follow up recommendations stemming from the evaluation.

The lessons from the evaluation of RDP impacts will inform the design of the future programming cycle. To this end, the Commission informed that it is working on the updates of the technical fiches for the common indicators. There is a shift from auditing and controlling, to performance and accountability towards results. In relation to building evaluation capacity in the Member States, the Commission suggests looking at the legal proposals, as well as at the [Report on the implementation of the CMEF](#).

The outcomes of the case studies, discussions and group work culminated into a set of interlinked recommendations for the main RDP evaluation stakeholders. These can be summarised as follow:

Data collection and accessibility

- Sign agreements with data providers to increase data availability for the different actors: evaluators, researchers. In addition, the MA can organise data collection from different providers according to the RDP intervention logic in a single database;
- Establish requirements for increasing the frequency of data collection and details of collected data, including new questions to be asked by established EU level surveys (Eurostat, FADN);
- Explore new solutions for data collection, e.g. satellite data collection systems or precision farming data;
- Create an expert platform to identify solutions for adapting frequently used databases to the farming contexts and methods of different Member States (e.g. the LUCAS database).

Methods for netting out impacts / matching techniques

- Do not reinvent the wheel and try to use modelling techniques developed already in other countries (e.g. models for GHG emissions in [Ireland](#)³, for water quality in [Italy](#), for the Farmland Bird Index in the [UK](#) or for water abstraction in [Greece](#), etc.);
- Develop a monitoring system that covers both beneficiaries and non-beneficiaries to facilitate the netting out of impacts. If the whole territory is covered by the RDP, build control groups based on the intensity of RDP support. There are solutions even if there is no access to databases for beneficiaries and non-beneficiaries, for instance, surveys to farmers (beneficiaries and non-beneficiaries) or data from specific stakeholders depending on the indicator, e.g. water user associations or qualitative methods;
- Check the validity of the findings and analyse causalities with triangulation, including inter alia expert groups, farmers associations (e.g. water user associations), qualitative surveys, etc.;
- Generic modelling techniques can be combined with data from the RDP or other sources to capture the variability across units of analysis at lower levels (parcels, municipalities, small geographical areas).

Resources

- Increase synergies between monitoring and evaluation stakeholders, notably MA, evaluators, relevant ministries (e.g. agriculture and environment), associations such as water associations, etc. The evaluation plan is an important tool for ensuring cooperation between evaluation stakeholders;

³ [PSYCHIC](#), [N-Cycle and NitCat](#), [MANNER](#), [NARSES](#)

- Organise a closer link with beneficiaries to obtain the results of soil or water samples in a consistent and regular manner;
- Set-up an evaluation group from the beginning of the policy cycle and incorporate the institutional memory related to evaluation.

Use of evaluation findings

- Clearly define responsibilities, tasks and timeline for following up the evaluation recommendations (who, what and when). Accountability is important for taking forward the recommendations;
- Use communication experts or include the dissemination of evaluation findings to the different target groups in the evaluators' tasks, e.g. simpler and user-friendly language for the wide audience, including the use of infographics.



Group Photo: Participants of the Good Practice Workshop: Approaches to assess environmental RDP impacts in 2019. Bratislava, 12 – 13 December 2018.

4. ANNEX

4.1 Outcomes of group discussion on the approaches to assess environmental RDP impacts

In a World Café style, participants shared their challenges for the assessment of environmental RDP impacts and identified recommendation for RDP Managing Authorities and evaluators to address these challenges. The group work was organised around the following common CAP Pillar II impact indicators:

Challenges and recommendations related to the following indicators:

I.07 Emissions from agriculture



I.08 Farmland Bird Index



I.09 High Nature Value (HNV) farming



Challenges	Recommendations
Data accessibility	
<ul style="list-style-type: none"> ✓ Data is often not publicly available due to the data protection concerns (e.g. GDPR regulation). 	<ul style="list-style-type: none"> ✓ Sign agreements with data providers to increase the public availability of data for different actors: evaluators, researchers, beneficiaries.
Data collection	
<ul style="list-style-type: none"> ✓ I.07 GHG: data for the control variables are often neglected (e.g. farm management practices). This creation of control group can become very difficult. ✓ I.08 FBI: in Greece, surveys are conducted on a small sample size. Data is infrequently updated, and they control variables are not collected to build a counterfactual situation. ✓ I.08 FBI: the sensitivities of this indicator should be tested especially in very fragmented rural areas. ✓ I.08 HNV: Data available is limited only to mapping HNV farming areas. Often the link with the RDP measures is missing. 	<ul style="list-style-type: none"> ✓ Increase synergies between organisations working on monitoring and evaluation. ✓ Update data (2015) on GHG emissions ✓ MA can propose to FADN and Eurostat to add new questions related to GHG emissions in their farm surveys (e.g. this is done in UK England). ✓ Establish EU requirements for increasing the frequency and details of collected data. ✓ Explore new solutions to collect data (e.g. satellite data collection systems).
Methodologies for netting out impacts	
<ul style="list-style-type: none"> ✓ How to build a counterfactual situation when all the territory is supported by RDP measures? ✓ How to build a counterfactual for biodiversity? 	<ul style="list-style-type: none"> ✓ Rely on modelling techniques to calculate the net effects (e.g. models being developed in Austria to assess GHG emissions from agriculture). ✓ Build a monitoring system which covers the entire territory, including beneficiaries and non-beneficiaries.
<ul style="list-style-type: none"> ✓ How to attribute effects to the RDP support, and exclude other external factors? 	<ul style="list-style-type: none"> ✓ Part IV of the Helpdesk guidelines proposes useful tips for Managing Authorities and evaluators.

Challenges	Recommendations
	<ul style="list-style-type: none"> ✓ Develop and test new methodologies which can be commonly applied across multiple RDPs.
<ul style="list-style-type: none"> ✓ How to check the sensitivity of the coefficients used in modelling techniques? 	<ul style="list-style-type: none"> ✓ Triangulate evaluation findings with the other methods or compare monitoring data with predictions. ✓ Use additional (impact or result) indicators to complement the common ones. For instance, in Finland, different FBI species are monitored.
<ul style="list-style-type: none"> ✓ Oversimplifying complex phenomena and trends with the application of quantitative methods. 	<ul style="list-style-type: none"> ✓ Use of qualitative surveys and triangulation of methods. ✓ Results of PSM or regression analysis needs to be interpreted and discussed by a panel of experts (e.g. in DK). ✓ Specific evaluation studies and further data collection can support naïve comparisons.
<ul style="list-style-type: none"> ✓ For biodiversity, the aggregation of multiple environmental indicators is challenging (e.g. HNV, Farmland Bird Index, etc.) 	<ul style="list-style-type: none"> ✓ In Sweden, different data systems are aggregated to test the effects of agri-environmental schemes on biodiversity.
Resources	
<ul style="list-style-type: none"> ✓ Outsourcing and public tenders = lightly and costly. ✓ Not enough qualified personnel within the Managing authorities 	<ul style="list-style-type: none"> ✓ Promote partnership between researchers, MA and evaluator which last across different programming periods.
<ul style="list-style-type: none"> ✓ Understanding of the minimum standards and quality expected from the EC on the impact evaluation of RDPs. 	<ul style="list-style-type: none"> ✓ The guidelines can give advance on the minimum requirements from EC side.
<ul style="list-style-type: none"> ✓ Low budget availability for analysing adequate sample size. ✓ Lack of sufficient time to conduct long-term evaluation studies. ✓ Lack of staff/expert availability at right time. ✓ Adequate skillset - analysis and field skills. 	<ul style="list-style-type: none"> ✓ Implement better evaluation plan, which go into details. ✓ Invest in the coordination of all bodies involved in data management. ✓ Establish an evaluation group in the first stages of policy/scheme design. ✓ Keep institutional memory in the policy coordination. ✓ Stream lining + creating more synergies between monitoring (long-term) + evaluations
<ul style="list-style-type: none"> ✓ Different perspective and use of indicators for the RDP MA and EC 	<ul style="list-style-type: none"> ✓ European Evaluation agency to work on EU common indicators and methodology ✓ Education (WSHPs) ✓ Ask the MAs to carry out environmental monitoring
<ul style="list-style-type: none"> ✓ Time frame: some steps of the survey for the I.08 FBI needs to be repeated. The evaluation is starting late in Italy. 	



Challenges	Recommendations
Use of evaluation findings	
<ul style="list-style-type: none"> ✓ How do we measure the representativeness of the evaluation findings (e.g. FBI)? ✓ How to be sure that net impact is 100% based on RDP? 	<ul style="list-style-type: none"> ✓ Use counterfactual analysis. ✓ Triangulate evaluation findings and check the sensitivity of coefficients used in modelling techniques.
<ul style="list-style-type: none"> ✓ How to establish the logical link between findings, conclusions and recommendations? ✓ How to translate the findings for different audiences? ✓ How to make findings more understandable? ✓ Use of evaluation findings for research publications? 	<ul style="list-style-type: none"> ✓ Use communication experts to disseminate the findings and translate them into an easier and user-friendly language. ✓ Use best practices field trip to bring people into the RDP results. ✓ Improve communication and understanding RDP. ✓ Transfer knowledge from adviser/evaluators to farmers. ✓ Improve 'soft' skills of the evaluators.
<ul style="list-style-type: none"> ✓ How to formulate evaluation findings which can be easily used by the RDP MA? ✓ How to put evaluation findings to the SFC and communicate the mandatory part to evaluators? 	<ul style="list-style-type: none"> ✓ Ask contractors to deliver chapter 7 (no translation needed) + infographics. ✓ In NL, the RDP MA signed an agreement with the evaluator to report the findings in the SFC template, as well as to deliver info-graphics.
<ul style="list-style-type: none"> ✓ How to ensure capacities for follow-up activities? ✓ How to translate the findings of environmental evaluation into eco-system services? ✓ Understanding the necessary consequences for improving the monitoring system. ✓ How to ensure that evaluation is more in line with the RDP management needs at any stage of evaluation? 	<ul style="list-style-type: none"> ✓ Define who, what and when to implement recommendation. ✓ Management responses to follow-up recommendations.
<ul style="list-style-type: none"> ✓ Problems with interpreting the evaluation findings. ✓ Data for impact indicators came too late and RDP policy has implemented only few years. 	<ul style="list-style-type: none"> ✓ Follow up the recommendations. ✓ Incorporate good practice in a new strategic plan CAP. ✓ Review the recommendation and follow up them after a few years.
<ul style="list-style-type: none"> ✓ How to 'scale-up' findings from the regional to the national level (in view of the CAP Strategic Plans 2021 - 2027)? 	

Challenges and recommendation related to the following indicators:

I.10 Water abstraction in agriculture	I.11 Water quality
	

Challenge	Recommendation
Definition of indicators used	
<ul style="list-style-type: none"> ✓ Different definitions exist for Water use in agriculture. Some definitions ignore the use of water for livestock, and the loss of water occurring during the transportation. ✓ The timeframe of data collected for the same Indicators changes across different regions. 	<ul style="list-style-type: none"> ✓ Do not mix definitions in order to enable policy makers to take informed decisions based on the results of the water abstraction indicator.
Data collection and accessibility	
<ul style="list-style-type: none"> ✓ Data on pollution of water (sediments, nutrients) is not available. ✓ Lack of data collection in some MS. ✓ Monitoring costs are very high. ✓ Data is collected by different institutions and sometimes show inconsistent trends. This creates validation problems. ✓ Existing water-related monitoring systems are hardly connected with the RDP intervention logic and operational database. 	<ul style="list-style-type: none"> ✓ Make data publicly available. ✓ Increase financial resources allocated to the data collection. ✓ Ask data from water associations to build case-studies. ✓ Sign joint agreements with data providers. ✓ Better collaboration between the ministries of agriculture and environment. ✓ The MA can organise the data collected from different data providers according the RDP intervention logic.
Matching techniques	
<ul style="list-style-type: none"> ✓ Which data to use for matching groups based on multiple variables (e.g. distance from river, altitude, type of soil)? ✓ Generic model techniques are not able to capture the variability across units of analysis at lower levels (parcels, municipalities, small geographical areas). 	<ul style="list-style-type: none"> ✓ Adjusting network of monitoring points to the RDP intensity against tertiary factors contributing to water abstraction and quality (e.g. industry, tourism). ✓ Generic modelling techniques (e.g. IRRINET used in Italy for water quality) can be combined with <i>ad hoc</i> data collected from the RDP at national, regional or lower level (parcels). ✓ Sensitivity analysis of the scenarios (e.g. questionnaire for beneficiaries in DK).

Challenges and recommendation related to the following indicators:

<p>I.12 Soil organic matter in arable land</p>	<p>I.13 Soil erosion by water</p>
	

Challenge	Recommendation
Data	
<ul style="list-style-type: none"> ✓ LUCAS data is not always updated. Moreover, the database is not always adapted to the Member States' needs and situation. ✓ How to link LUCAS data with different farming methods? ✓ There is no unified regulation about soil monitoring in the EU. ✓ High need to establish a soil quality monitoring system and get available data. 	<ul style="list-style-type: none"> ✓ Create platforms to discuss with experts on the application of this database to the Member States' needs and situation. ✓ Specify legal requirements for the measurement of soil indicators and define common basic standards for all MS. ✓ Use data from satellites and precision farming. ✓ Collect the results of the analysis of soil samples from beneficiaries.

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>

