



INTERACTIVE DECISION TOOL

DATA FOR THE ASSESSMENT OF RDP ACHIEVEMENTS AND IMPACTS

IMPACT INDICATOR:

I.13 SOIL EROSION BY WATER

I.13-1 ESTIMATED RATE OF SOIL LOSS BY WATER EROSION;

I.13-2 ESTIMATED AGRICULTURAL AREA AFFECTED BY A CERTAIN RATE OF SOIL EROSION BY WATER

JANUARY 2019

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

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>).





ACKNOWLEDGEMENTS

*The interactive **decision tool**, ‘**Data for the assessment of RDP achievements and impacts**’, has been developed by an international team of rural development evaluation experts including Jerzy Michalek, Demetrios Psaltopoulos, Dimitris Skuras, Jela Tvrdonova, Darko Znaor. The related thematic working group has been coordinated by the Evaluation Helpdesk under the guidance of Valdis Kudiņš and Hannes Wimmer. Giulia Bekk, Valérie Dumont, Matteo Metta and Myles Stiffler supported the development work and ensured the quality and visual appearance of the final interactive tool. Various experts have provided valuable input as peer reviewers (Juris Hāzners, Jaroslav Pražan, Gerald Schwarz). Representatives of DG Agriculture and Rural Development have ensured the coherence of the tool with the EU’s policy framework.*

The interactive **decision tool**, ‘**Data for the assessment of RDP achievements and impacts**’, is based on the logic model approach which was originally developed by the EU collaborative project ENVIEVAL (Grant Agreement No. 31207 in the EU’s 7th Framework Programme for research, technological development and demonstration). The Evaluation Helpdesk has applied this approach for its thematic working group, which serves to support Member States in their assessment of RDP impacts in 2019 and the ex-post.





INTRODUCTION

The choice of a suitable evaluation approach is a critical step in the evaluation process. The wish to carry out a robust assessment of the policy's effects needs to be matched with those aspects which factor into conducting an evaluation (data and information availability, budget and resources, and the skills of the evaluators).

In the non-binding Guidelines, 'Assessment of RDP impacts and achievements in 2019', published in August 2018, logic models have been presented for the 13 Common CAP impact indicators covering Pillar II. These logic models support Member States in discussing different criteria for the choice of evaluation approaches for assessing the RDP's impacts during the evaluation activities in 2019 and the ex-post (2024).

The decision tool, 'Data for the assessment of RDP achievements and impacts', transports the logic models developed in the above Guidelines into an interactive format, while providing further detailed and practical information. The decision tool has been specifically **designed for RDP** evaluators who may wish to gain further insights into the criteria for each step of the decision making process when choosing an evaluation approach. This tool also provides practical recommendations on what to do in case of data gaps both in the short and long term, when solutions are needed.





OBJECTIVES

The **interactive decision tool** consists of a set of 7 logic models covering the 13 Pillar 2 CAP Impact Indicators. The 7 logic models can be read separately and aim to:

- **Assist evaluation stakeholders** in their decision on which evaluation approaches they can use for the assessment of the common RDP impact indicators, as well as providing the necessary data and information sources at the EU level for these approaches.
- **Provide recommendations on possible solutions for overcoming data-gaps at the national and regional levels** (e.g. by providing guiding questions, practical hints and links to external information sources).

The tool focuses on data and information sources pertinent for the assessment of RDP achievements and impacts in 2019 and the ex-post. The decision tool is based on the Guidelines '*Assessment of RDP impacts and achievements in 2019*'. Additionally, the tool provides:

- Explanations on data needs for proposed evaluation approaches including availability and suitability of data for RDP evaluations (frequency, delays, time series).
- Important questions to consider.
- Links to existing data sources and good practices.
- Complementary information on evaluation methods and their data needs.





HOW TO USE THE TOOL

This interactive decision tool contains a set of **7 logic models**:

Sector-related impacts



I.01 Agricultural entrepreneurial income



I.02 Agricultural factor income



I.03 Total factor productivity in agriculture

Socio-economic impacts



I.14 Rural employment rate



I.15 Degree of rural poverty



I.16 Rural GDP per capita

Environmental impacts



I.07 Emissions from agriculture

I.07 – 1 GHG emission from agriculture

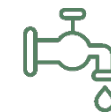
I.07 – 2 Ammonia emissions from agriculture



I.08 Farmland Bird Index (FBI)



I.09 High Nature Value (HNV) farming

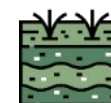


I.10 Water Abstraction in Agriculture



I.11 Water Quality:

I.11-1 Gross Nutrient Balance (GNB) (*Gross Nitrogen Balance (GNB-N) and Gross Phosphorus Balance (GNB-P)*)
I.11-2 Nitrates in freshwater



I.12 Soil organic matter in arable land



I.13 Soil erosion by water

I.13-1 Estimated rate of soil loss by water erosion;
I.13-2 Estimated agricultural area affected by a certain rate of soil erosion by water





HOW TO USE THE TOOL

Navigation within the clickable logic model:



Brings the user back to the starting page of the **logic model**

Are variables explaining participation known?

Takes the user to that specific **decision question** of the logic model



Starting decision question of the logic model

Hyperlinked text

Takes the user to an external source or to another slide



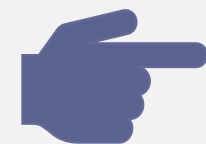
Examples



Additional notes



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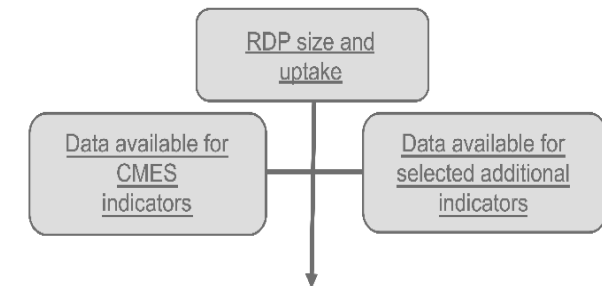


HOW TO USE THE TOOL

Structure:

Each logic model begins with a description of the:

- **RDP size, uptake** and other aspects that have to be considered for the selection of the evaluation approach.
- **Data availability for CMES indicators** needed to assess net impacts at the micro and macro levels, as well as, the specificities in the data availability for regionalised RDPs.
- **Data availability for selected additional indicators.**



Each **decision question** is organised in a way that facilitates the answers to the following **sub-questions**:

- Why is this question important?
- What are the conditions in order to answer the question with YES?
- Are there any specificities to be considered for regionalised RDPs?
- What can be done to improve the data situation (In the short term (for AIR 2019) and long-term (for ex-post)?

Each sub-question can be explored by clicking on its link.

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

[Why is this question important?](#)

[What are the conditions in order to answer the question with YES?](#)

[Are there any specificities to be considered for regionalised RDPs?](#)

[What can be done to improve the data situation?](#)

[Short-term solutions \(for AIR 2019\)](#)

[Long-term solutions \(for ex-post\)](#)

By answering each decision question in the tool with either a **'YES'** or a **'NO'** one will be taken to the next question, which will ultimately lead one to all possible evaluation approaches that can be applied given the specific criteria they have selected.





HOW TO USE THE TOOL

The tool will suggest various applicable approaches based on the data and other information:

- **Approach A (an evaluation approach in an optimal data situation).**
It can be used in 2019 and/or can be planned for the ex post evaluation.
- **Approach B (an alternative evaluation approach in case of data gaps).**
In several cases, approach B contains a qualitative component.

Approach A (optimal)



Approach B (alternative)



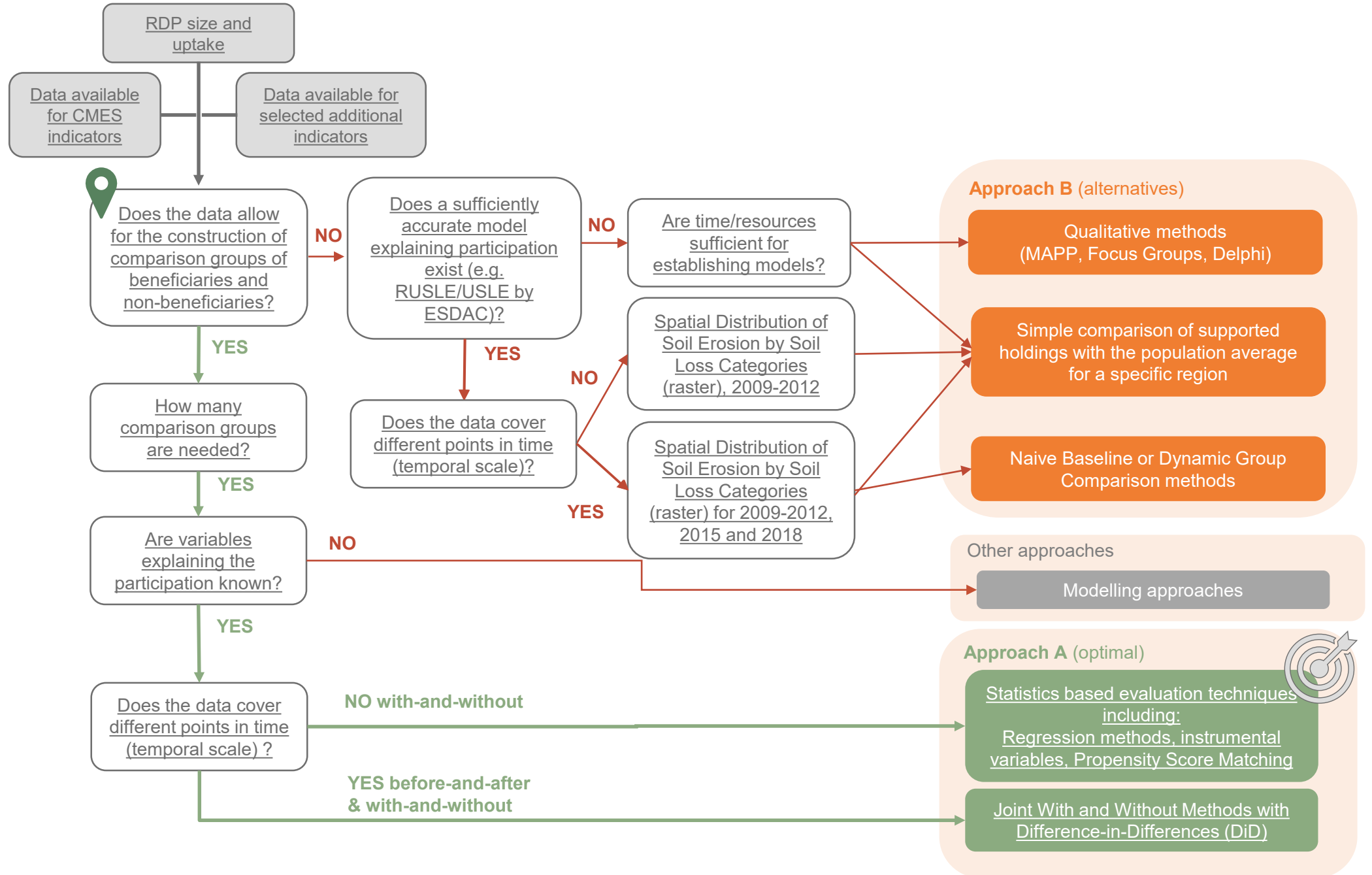
In case of questions or any technical difficulties in accessing the files, please contact the European Evaluation Helpdesk for Rural Development:

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Impact indicator:
I.13





Impact indicators

I.13 Soil erosion by water:

- I.13-1 Estimated rate of soil loss by water erosion
- I.13-2 Estimated agricultural area affected by a certain rate of soil erosion by water

(This estimated area is also expressed as a share of the total agricultural area)

Impact indicator fiches



Guidelines *Assessing RDP achievements and impacts in 2019*, PART II, Chapters 2.8.1 and 2.10.1, Section: 'Intervention logic'

Related Common Evaluation Questions:

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



Guidelines *Assessing RDP achievements and impacts in 2019*, PART III, Chapter 3.7, Section: 'Clarification of general intervention logic linked to the CEQ'

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



Guidelines *Assessing RDP achievements and impacts in 2019*, PART III, Chapter 3.5, Section: 'Clarification of general intervention logic linked to the CEQ'





RDP size and uptake

The size, uptake of measures and the structure of the RDP (types of measures implemented under the focus areas, e.g. investment measures versus area based measures) are important factors in the selection of the evaluation approach. If only a few beneficiaries are supported by measures under the given rural development priorities and focus areas that affect soil erosion, then no significant RDP effects can be expected. If this is the case, the evaluator can only apply a less robust evaluation approach (e.g. naïve baseline or dynamic group comparisons and qualitative methods). In cases where the RDP is large, there is sufficient uptake and there is an existing soil monitoring programme, the evaluator can apply more advanced evaluation approaches (regression methods, instrumental variables, PSM). If the soil monitoring data is provided in time scale the evaluators can also use joint with-and-without methods combined with Difference in Differences.





Data availability for CMES indicators

What is the unit of analysis and data available (EU level)?

- At the micro level, the unit of analysis is the agricultural holding.
- At the macro level, the unit of analysis is the whole RDP area or targeted RDP soil erosion areas.
- Specificities in the data availability for regionalised RDPs.





Soil monitoring programmes:

- The most reliable information on soil erosion by water at the micro level is obtained through a soil monitoring programme that is designed for the purpose of evaluating the RDP(s). A monitoring programme should collect soil erosion measurements for both RDP beneficiaries and non-beneficiaries.

Note

Examples:



- [Austria](#)
- [Germany](#)
- [Spain](#)
- [France](#)
- [Italy](#)
- [Lithuania](#)
- [The United Kingdom](#)

Data available:

- The LUCAS surveys from 2015 and 2018 include visual assessments of soil erosion. These Surveys record management practices that can favour or hinder soil erosion and provide a qualitative assessment of soil erosion by indicating the type of erosion (i.e. sheet, rill, gully, MAs movement, re-deposition and wind erosion), the distance and the direction from the LUCAS point. An estimate of the number of rills or gullies observed is also included. The results of the LUCAS 2015 and 2018 surveys, however, are not yet publicly available. Evaluators are therefore encouraged to visit the [Web site of the European Soil Data Centre \(ESDAC\)](#) for possible updates, which are expected in 2019.
- IACS/LPIS and FADN are also important sources of statistics because they can provide a range of information on production characteristics and the land management of a holding (as well as on regions and the entire RDP area).





Surveys:

- On-field surveys are a good source of information for assessing soil erosion. The surveyors can make a visual assessment of soil conditions and management practices that may favour or hinder soil erosion. A useful description of how to perform an on-field visual survey for assessing soil erosion can be found in the [LUCAS 2018 Sampling Instructions for Surveyors](#).





Data availability for CMES indicators

Micro level

Note(s)



Soil monitoring programmes that account for soil erosion, but are not necessarily designed for the purpose of RDP assessments, can also be a good source of information for assessing soil erosion at the micro-level. However, designing reliable comparison groups of RDP beneficiaries and non-beneficiaries is likely to be a challenge when using data from most programmes of this kind.





Data availability for CMES indicators

Micro level

Note(s)



National and regional soil monitoring programmes whose datasets contain useful information for assessing soil erosion:

Austria: [Bodeninformationssystem BORIS](#)

Germany: [BGR database](#)

Germany: [Soil Information System of Bavaria](#)

Germany: [Soil Information System Lower Saxony](#)

Germany: [Soil Information System North Rhine-Westphalia](#)

Germany: [Schleswig-Holstein Soil Information System](#)

Spain: [Digital Atlas of Galicia Soils](#)

France: [GisSOI database](#)

Italy: [Soil Map of Basilicata Region](#)

Italy: [The soils of Emilia-Romagna Region](#)

Italy: [Soil Maps of Friuli–Venezia Giulia Region](#)

Italy: [The Soils of Lombardy](#)

Italy: [The Soils of Tuscany](#)

Italy: [Soil Maps of Veneto](#)

Lithuania: [Soil Map of Lithuania](#)

The UK: [National Soil Map](#)

The UK: [Scotland's soils](#)





Soil monitoring programmes:

- Without a proper soil monitoring programme or field surveys it is difficult to obtain reliable data for assessing soil erosion at the macro level. Useful information can be obtained by downscaling various soil maps and datasets. Nonetheless, applying only this approach without complementing it by actual field data is likely to be challenging in terms of accuracy and reliability of the results.

Data available:

- The most comprehensive database on soils at the EU level is maintained by the [European Soil Data Centre \(ESDAC\)](#) and is referred to as LUCAS Soil (Land Use and Coverage Area frame Survey). This survey contains a range of information on soil erosion, including metadata, model descriptions and maps. The [ESDAC webpage](#) has a sub-page dedicated to [erosion by water](#). This site describes the four modelling approaches used for assessing soil erosion in the EU (RUSLE2015, G2, PESERA and MESALES) and provides their datasets. [Soil Erosion in Europe](#) produced by the JRC summarises the ESDAC's soil erosion-related modelling activities in the last three years.
- Evaluators are advised to focus on the [RUSLE2015 model](#) assessing soil loss by water erosion in the EU, rather than on the other three models. At a resolution of 100 m, this is the most detailed (and most recent) assessment of soil erosion by water for the EU. This model is a modified version of the Revised Universal Soil Loss Equation (RUSLE) model, with improved estimates based on higher resolution (100 m compared to 1 km) inputs of rainfall, soil, topography, land use and land management from the year 2010 (the latest year for which most of the input factors are estimated). The [RUSLE2015 model](#) includes all key data required to assess soil erosion by water (Rainfall Erosivity (R-factor), Soil Erodibility (K-factor), Topography/Slope Length and Steepness (LS-factor), Cover Management (C-factor), Support Practices (P-factor)). The RUSLE2015 data can be freely downloaded after prior registration through a [Request Form](#). Input datasets used for the estimation of soil loss factors for Europe in the RUSLE2015 model are presented in a [graphical format](#) which provides an informative visual about how the model has been constructed. The RUSLE2015 model is replicable, comparable and data can be used to assess soil erosion by water at different scales.





The ESDAC provides the aggregated data on soil erosion at different scales:

- Soil erosion by water expressed in (t per ha per yr) is available for years 2000, 2010 and 2012 for NUTS 0, NUTS 1, NUTS 2 and NUTS 3 levels.
- Estimated agricultural areas affected by severe water erosion (>11 t per ha per yr) required for assessing the CAP Context Indicator 42 is available for the years 2000, 2010 and 2012 for NUTS 0, NUTS 1, NUTS 2 and NUTS 3 levels.
- Wind erosion soil loss has been estimated only once (2010) and refers only to arable land (CLC codes 12,13). Data is expressed in tonnes of eroded soil per ha per year, as well as in number of hectares affected.

The GIS raw data for all three datasets can be downloaded from the ESDAC's Soil erosion datasets.





- Eurostat provides data on the estimated soil erosion by water (i.e. erosion of 10 tonnes per hectare per year). As explained on the Eurostat webpage, '[t]he indicator assesses the soil loss by the water erosion processes (rain splash, sheetwash and rills) and gives an indication of the area affected by a certain rate of soil erosion (severe soil loss, $E > 10$ tonnes/hectare/year). This area is expressed in km² and as a percentage of the total non-artificial erosive area in the country'. The derived indicator is based on 5 factors (soil erodibility, rainfall erosivity, topography, support practices and cover management). This indicator can be used only as proxy because it does not refer specifically to agricultural land, but includes non-artificial land (incl. forest) affected by soil erosion of more 10 tonnes/hectare annually. Data is available at the level of individual Member States and as an aggregated value for EU-28.
- Eurostat's Web page on the 'Agri-environmental indicator - soil erosion' provides an overview of the data (mainly from 2010) on soil erosion, complemented by all information on definitions, measurement methods and context needed to interpret them correctly.
- Data on estimated soil erosion by water, by NUTS 3 regions for the years 2000 and 2012 are available from Eurostat and are expressed in terms of tonnes of eroded soil per hectare.
- Besides the RUSLE2015 model, the evaluators may consult also other recent publications on soil erosion by the European Soil Data Centre (ESDAC):
 - Net erosion and sediment transport showing the net soil erosion and deposition in the EU
 - Data on textural factor of soil erodibility





Specificities in the data availability for regionalised RDPs

There are no specificities in the data availability for regionalised RDPs.





Data availability for selected additional indicators



Examples of additional indicators, unit of analysis and data sources are provided in the Guidelines *Assessing RDP achievements and impact in 2019*, PART IV, Chapter 4.6, Section 4.6.1 'Additional indicators (examples)'

The guidelines propose the use of one or a combination of four additional indicators listed.

Data available:

- **Wind erosion**

The wind erosion dataset includes the following:

1. Revised Wind Erosion Equation (RWEQ) quantitative assessment (2001-2010);
2. Index of Land Susceptibility to Wind Erosion (ILSWE) qualitative assessment 1981-2010;
3. Wind-erodible fraction of soil (EF);
4. Agriculture Field Parameters on NUTS 3 regions for wind erosion research.

- **Soil Erodibility factor (K- Factor)** (published in 2014, but data is based on the LUCAS 2009 survey)

The Soil Erodibility factor dataset is in Raster format. The public user can download 3 different datasets:

1. Soil erodibility in Europe (K-factor);
2. Soil Erodibility incorporating stoniness (Kst Factor);
3. Effect of Stoniness in K-factor (% reduction).

 Note





Data availability for selected additional indicators

- **Cover Management factor (C-factor)** (data for 2010)

The Cover Management factor dataset is in raster format. The user can download 2 datasets:

1. Cover management factor (C-factor) in the European Union at 100 m resolution
2. A shapefile where the user can map the:
 - Cover-Management factor (C-factor) in arable lands at regional (NUTS 2) level in the European Union
 - Influence of tillage practices on C-factor reduction
 - Influence of plant residues on C-factor reduction
 - Influence of cover crops on C-factor reduction

- **Support Practices factor (P-factor)** (data for 2010)

The Support Practices factor dataset is in raster format. The public user can download 2 datasets:

1. Support practice factor (P-factor) in the European Union at 1 km resolution;
2. Mean P-factor at regional (NUTS 2) level in the European Union.





Data availability for selected additional indicators

Note(s)



The soil erodibility factor (the K-factor), which is proposed as an additional indicator is assessed in the [RUSLE2015 model](#) for approximately 20,000 field sampling points in the [LUCAS 2009](#) survey. The LUCAS soil samples are taken at the precise GIS (geographical information system) coordinates and each location is geo-referenced. The LUCAS database also provides data at the micro level for 20,000 locations throughout the EU. The LUCAS data for each location can be freely obtained by downloading the whole set of LUCAS results, after filling in a [Request Form](#). The soil erodibility factor for all LUCAS sampling points can be downloaded from the [soil erodibility factor dataset](#) of the the European Soil Data Centre (ESDAC).





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

NO

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

Why is this question important?

What are the conditions in order to answer the question with YES?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.8 and PART IV, Chapter 4.6.

Guidelines *Assessment of RDP results*, Chapter 2.1 and 6.2, and Annex 11, Chapter 2.10.
Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

NO

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

Why is this question important?

The RDP's impact on erosion can only be properly assessed if one is able to compare RDP beneficiaries with those who do not benefit from any RDP measures and have similar characteristics regarding physical and agronomic conditions on the farm.

Measuring soil erosion only for the group of beneficiaries (even if regularly and over a longer period) would only show gross effects on the group of beneficiaries and therefore lead to inaccurate evaluation conclusions.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

NO

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

What are the conditions in order to answer the question with YES?

The database should be created from the survey of agricultural holdings and should allow for the construction of comparison groups and therefore should contain the following elements:

- ✓ representative sample of beneficiaries (identified from the CMES operations database);
- ✓ correspondingly representative sample of RDP I.13 non-beneficiaries;
- ✓ a reliable and consistent measurement of the indicator I.13;
- ✓ a record of key agricultural holding's characteristics to be used for excluding non-beneficiaries which are non-eligible. These can be used as matching variables for constructing the counterfactual or as 'control' variables in a simple regression analysis.



The data needed and the methodology to measure the C-factor is presented in the Guidelines *Assessing RDP achievements and impact in 2019*, PART IV, Chapter 4.6.6.

Are there any specificities to be considered for regionalised RDPs?

There are no specificities to be considered for regionalised RDPs.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

NO

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

- The evaluators should try to construct comparison groups of beneficiaries and non-beneficiaries whose parcels fall within the LUCAS soil sampling frame. However, as these are largely based on the data of the LUCAS 2009 survey, whose soil sampling density is sometimes rather modest (and varies greatly among Member States), it is advised to complement the assessment with LUCAS Soil 2015 or even LUCAS Soil 2018 data, which can be obtained from the organisation/agency that performed the on-field surveys. Further assistance can be found from the European Soil Partners (ESP) focal points or from the European Environment Information and Observation Network (Eionet) national focal points.

 Note

- Evaluators should check if national, regional or local soil monitoring programmes, soil surveys or detailed soil maps exist and if these can assist and support the evaluation process. The ESP focal points will provide support as the current 'Implementation Plan' for Pillar 4 aims to 'enhance the quantity and quality, and availability of soil data and information'.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

NO

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

What can be done to improve the data situation?

Long-term solutions (for ex-post)

Managing Authorities are highly encouraged to discuss with ESDAC and ESP on various forms of cooperation, which might allow the Managing Authority and the evaluators to make better use of the LUCAS Soil surveys. This can be done by communicating the aims and objectives of the evaluation to those responsible for the LUCAS Soil survey and examine ways in which the LUCAS survey can be enhanced to facilitate these aims.

The LUCAS surveys from 2015 and 2018 also include visual assessments of soil erosion. However, the results of LUCAS 2015 and 2018 surveys are not yet publicly available.



Note





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

NO

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

Short-term solutions

Note(s)



The surveyors should check soil conditions and management practices that can favour or hinder soil erosion. They should record for beneficiaries and non-beneficiaries the presence (and where applicable also sequence) of land-cover types, crop residues and landscape features preventing erosion (e.g. terrases, stonewalls, grass margins, alley trees).

Further information should be collected on:

- cultivation practices,
- grazing regime,
- slope gradient,
- height of trees,
- irrigation management.

In arabe fields, vineyards and orchards it is very important to record the presence of green manure/catch crops and contour cultivation practices (e.g. ploughing and planting along contours, perpendicular to the normal flow of runoff).

Useful descriptions of how to conduct an on-field visual survey for assessing soil erosion can be found in the [LUCAS 2018 Sampling Instructions for Surveyors](#).





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

NO

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

Long-term solutions

Note(s)



Evaluators are encouraged to visit the [Website of the the European Soil Data Centre \(ESDAC\)](#) and check if the results have been published. However, as the density of LUCAS sampling locations is rather modest, even with these results it will most likely be quite difficult to construct comparison groups of beneficiaries and non-beneficiaries. The LUCAS 2015 and 2018 results on visual assessments of soil erosion will probably need to be complemented with on-field surveys for both beneficiaries and non-beneficiaries.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

How many comparison groups are needed?

NEXT

How many comparison groups are needed?

Why is this question important?

What are the conditions in order to answer the question?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.8 and PART IV, Chapter 4.6.

Guidelines *Assessment of RDP results*, Chapter 2.1 and 6.2, and Annex 11, Chapter 2.10.
Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

How many comparison groups are needed?

NEXT

How many comparison groups are needed?

Why is this question important?

The number of comparison groups will depend on the chosen evaluation approach. If different measures with a distinct spatial focus are used, the evaluator may want to know separately the direct effect of these measures. This decision will depend on the size and uptake of the various measures that will allow statistically sound samples to be drawn from each group.

What are the conditions in order to answer the question?

The evaluation aims to examine separate direct effects of different measures on soil erosion. Beneficiaries from each measure, or set of measures, will be needed to construct a comparison group(s) alongside the group of non-beneficiaries.

The conditions to decide on the number of comparisons groups are:

- ✓ An adequate sample size for each comparison group has been attained to allow for their statistical representation in the sample and the application of advanced statistics-based methods.
- ✓ The number of agricultural holdings involved in the assessment allows for each holding to be the member of only one comparison group to avoid unnecessary statistical complications.

Are there any specificities to be considered for regionalised RDPs?

There are no specificities in this respect that should be considered for regionalised RDPs.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

How many comparison groups are needed?

NEXT

How many comparison groups are needed?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

The evaluator should try to construct multiple comparison groups of beneficiaries and non-beneficiaries with the parcels falling within the LUCAS Soil sampling framework. With multiple comparison groups this will become more difficult as more soil sampling points are required. In order to overcome this difficulty it is advised to complement the assessment with more sampling points, which can be obtained from the organisation/agency that performed the on-field visual check surveys. On this issue the Managing Authority can ask the assistance of the European Soil Partners (ESP) focal points or of the European Environment Information and Observation Network (Eionet) national focal points.

Long-term solutions (for ex-post)

Managing Authorities are highly encouraged to discuss with ESDAC and ESP on various forms of cooperation, which might allow the Managing Authority and the evaluators to make better use of the LUCAS Soil surveys. This can be done by communicating the aims and objectives of the evaluation to those responsible for the LUCAS Soil survey and examine ways in which the LUCAS survey can be enhanced to facilitate these aims. Through this type of cooperation the evaluation of multiple comparison groups should be more feasible (assuming it is part of the aims and objectives of the evaluation).





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

How many comparison groups are needed?

NEXT

Are variables explaining the participation known?

YES

NO

Are variables explaining the participation known?

Why is this question important?

What are the conditions in order to answer the question with YES?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.8 and PART IV, Chapter 4.6.

Guidelines *Assessment of RDP results*, Chapter 2.1 and 6.2, and Annex 11, Chapter 2.10.
Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

How many comparison groups are needed?

NEXT

Are variables explaining the participation known?

YES

NO

Are variables explaining the participation known?

Why is this question important?

In order to reduce/avoid bias in constructing comparison groups it is important to know the variables explaining the participation in the RDP's measures targeting soil erosion. Important participation-related variables include the eligibility criteria, participation in the previous programme, the size of the holding and biophysical characteristics, etc. If variables explaining the participation are known the more advanced evaluation approaches (e.g. Propensity Score Matching) can be applied.

What are the conditions in order to answer the question with YES?

Variables exist and are readily available for explaining participation (eligibility criteria, participation in the previous programme, the size of the holding and biophysical characteristics).

Are there any specificities to be considered for regionalised RDPs?

There are no specificities in this respect that should be considered for regionalised RDPs.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

How many comparison groups are needed?

NEXT

Are variables explaining the participation known?

YES

NO

Are variables explaining the participation known?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

Member States should discuss with evaluators how to use soil monitoring data to collect information on beneficiaries for the RDP evaluation.

Evaluators should have access to well-functioning data information systems allowing them to easily retrieve information on beneficiaries of measures (notably the eligibility criteria) and the measures' uptake.

Long-term solutions (for ex-post)

Managing Authorities should keep improving data information systems to allow evaluators to easily retrieve information on measures and their uptake. Ideally, this system should be able to link different databases (e.g. IACS, FADN, ESDAC and the national soil monitoring programmes) allowing for the use of various kinds of information on RDP beneficiaries and non-beneficiaries. In addition, Managing Authorities should strive to improve and fine tune the eligibility criteria for the participation in measures targeting soil erosion.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

How many comparison groups are needed?

NEXT

Are variables explaining the participation known?

YES

NO

Does the data cover different points in time (temporal scale)?

YES
before-and-after
&
with-and-without

NO
with-and-without

Does the data cover different points in time (temporal scale)?

Why is this question important?

What are the conditions in order to answer the question with YES?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.8 and PART IV, Chapter 4.6.

Guidelines *Assessment of RDP results*, Chapter 2.1 and 6.2, and Annex 11, Chapter 2.10.
Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

How many comparison groups are needed?

NEXT

Are variables explaining the participation known?

YES

NO

Does the data cover different points in time (temporal scale)?

YES
before-and-after
&
with-and-without

NO
with-and-without

Does the data cover different points in time (temporal scale)?

Why is this question important?

Soil erosion under regular conditions is a long-term dynamic process, because of this, the effect of erosion prevention measures can be correctly evaluated only if the baseline situation is established and the impact of the RDP measures is assessed during and at the end of the programme. Irregular conditions such as extensive fires and abrupt land use change may affect soil erosion in the short-term. If there is abrupt land use change, then an additional focused survey will be required.

What are the conditions in order to answer the question with YES?

The data on soil erosion for different points in time must be available for before and after the programme implementation, or within the programme's period, if certain conditions favouring increased soil erosion occurs (e.g. abrupt land use change from extensive forest fires, landslides or other physical phenomena may change soil erosion conditions on the agricultural land of the area).

Are there any specificities to be considered for regionalised RDPs?

There are no specificities in this respect that should be considered for regionalised RDPs.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

How many comparison groups are needed?

NEXT

Are variables explaining the participation known?

YES

NO

Does the data cover different points in time (temporal scale)?

YES
before-and-after
&
with-and-without

NO
with-and-without

Does the data cover different points in time (temporal scale)?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

Evaluators can conduct on-field surveys and visually assess soil erosion both for beneficiary and non-beneficiary holdings. Data can be collected from the [RUSLE2015 model](#), [Soil Erodibility factor dataset](#), [Cover Management factor dataset](#), [Support Practices factor dataset](#) and [wind erosion dataset](#).

Long-term solutions (for ex-post)

Managing Authorities are advised to coordinate with the ESDAC and the ESP for enlarging their existing soil monitoring programmes and recording soil erosion that will better serve the objectives and aims of the evaluation.

Evaluators can also use the results of the LUCAS surveys from 2015 and 2018, which also include visual assessments of soil erosion (this data is not yet publicly available and the publication date is still pending). Therefore, evaluators are encouraged to visit the [Website of the the European Soil Data Centre \(ESDAC\)](#) and check if the results have been published. Nevertheless even with the LUCAS data, due to the modest density of sampling locations further visual assessments of soil erosion will most probably need to be complemented with on-field surveys for both beneficiaries and non-beneficiaries.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

How many comparison groups are needed?

NEXT

Are variables explaining the participation known?

YES

NO

Does the data cover different points in time (temporal scale)?

YES

before-and-after & with-and-without

Joint With and Without Methods with Difference in Differences



At the micro level, the assessment approach in case of good data availability at the level of the agricultural holding is based on the comparisons of beneficiaries and non-beneficiaries at the beginning of the programme and at the time of the evaluation. The main objective is to net out the RDP's effects on soil erosion, while using advanced econometric methods such as PSM combined with Difference in Differences.

At the macro level (RDP area or areas supported for soil erosion), the RDP's net effects can be assessed via the application of the Generalised PSM by comparing the RDP's supported and non-supported areas or by comparing areas of different intensities of support.



Read more in Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.8.3 and PART IV, Chapter 4.6.2.



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

How many comparison groups are needed?

NEXT

Are variables explaining the participation known?

YES

NO

Does the data cover different points in time (temporal scale)?

NO

with-and-without

Statistics based evaluation techniques: Regression Methods, Instrumental Variables, Propensity Score Matching



At the micro-level, the assessment approach in case of adequate data availability at the level of the agricultural holding should be based on the comparison of beneficiaries and non-beneficiaries. In order to net out the RDP's effects on soil erosion, advanced econometric methods can be applied (e.g. PSM, regression methods, instrumental variables).

At the macro level (RDP area or areas supported for soil erosion), the RDP's net effects can be assessed via the application of the Generalised PSM by comparing the RDP's supported and non-supported areas or by comparing areas of different intensities of support.



Read more in Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.8.3 and PART IV, Chapter 4.6.2.



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

YES

How many comparison groups are needed?

NEXT

Are variables explaining the participation known?

NO

Other approaches:
Modelling approaches



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

NO

Does a sufficiently accurate model explaining participation exist?

Why is this question important?

What are the conditions in order to answer the question with YES?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.8 and PART IV, Chapter 4.6.

Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3.3.2.



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

NO

Does a sufficiently accurate model explaining participation exist?

Why is this question important?

It is important to know if a sufficiently accurate model exists. If a model does exist, the evaluator will be able to use statistical techniques to provide a quantitative response to the evaluation question. If a model does not exist or cannot be estimated, the evaluator has to rely on qualitative methods.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

NO

Does a sufficiently accurate model explaining participation exist?

What are the conditions in order to answer the question with YES?

- A model exists
- The data used are recent or data exist to update the model in a more recent date
- Appropriate GIS skills

At the EU, national and regional levels there have been several models quantifying soil erosion at spatial scales of high resolution.



Examples:

- EU
- Germany
- Belgium - Wallonia

Are there any specificities to be considered for regionalised RDPs?

There are no specificities in this respect that should be considered for regionalised RDPs.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

NO

Does a sufficiently accurate model explaining participation exist?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

EU level models can be complemented/modified with supplementary field visits, which focus on the areas where the RDP has directed its resources (not the whole country or region). The field visits should target conservation practices affecting the cover management factor (C-factor) by beneficiaries and non-beneficiaries.

Long-term solutions (for ex-post)

The Managing Authority should pursue solutions that will facilitate the use of models. This can be achieved either by enhancing the European wide RUSLE2015 or by updating any national or regional models that already exist.

Managing Authorities should continue to improve data information systems, allowing evaluators to easily retrieve information on measures and their uptake. In addition, they should strive to improve and fine-tune the eligibility criteria for the participation in measures targeting soil erosion.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES **NO**

Does a sufficiently accurate model explaining participation exist?

What are the conditions in order to answer the question with YES?

Example(s)



EU: The Pan-European Soil Erosion Risk Assessment (PESERA) uses a process based and spatially distributed model that quantifies water soil erosion and its risks across Europe (available for 2003 and 2010).



EU: The Revised Universal Soil Loss Equation (RUSLE) model (RUSLE2015) estimates soil loss, rainfall erosivity, soil erodibility, cover management and support practices in Europe for the reference year 2010. These are high quality estimates as they use the most recent land cover data at a high resolution of 100 m.



Germany: This study combines CORINE land-cover data with statistical data on land-use from the 'main representative survey of land-use' in Germany. The model produces digital maps of actual erosion risk in high spatial resolution for the 439 administrative districts. The model is relatively old but, from a methodological perspective very useful.



Belgium - Wallonia: This model recognises and maps three types of erosion risks. The risk of diffused runoff, the risk of concentrated runoff and the risk of diffused erosion. The data covers the entire Region of Wallonia with an excellent ground resolution (10 m). Access to this data is restricted by the Region of Wallonia.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

Does the data cover different points in time (temporal scale)?

YES

NO

Does the data cover different points in time (temporal scale)?

Why is this question important?

What are the conditions in order to answer the question with YES?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.8 and PART IV, Chapter 4.6.

Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3.3.2



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

Does the data cover different points in time (temporal scale)?

YES

NO

Does the data cover different points in time (temporal scale)?

Why is this question important?

If the scale of the data is temporal, it will allow the evaluator to conduct a naïve group comparison at different points in time (e.g. before (baseline situation), during and after the programme's implementation, making the assessment more dynamic). This will enlighten the processes and drivers underlying the observed change or no-change with respect to the land management elements targeted by the RDP.

What are the conditions in order to answer the question with YES?

The same model (e.g. the RUSLE2015 model) should be constructed for at least two points in time. Since the soil erosion processes are long term processes, even a model constructed at the start and the end of the programming period will be sufficient.

Are there any specificities to be considered for regionalised RDPs?

There are no specificities in this respect that should be considered for regionalised RDPs.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

Does the data cover different points in time (temporal scale)?

YES

NO

Does the data cover different points in time (temporal scale)?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

If the Managing Authority does not support its own model and relies on the EU wide RUSLE2015 model, then other evaluation options must be used. This is due to the fact that the LUCAS Soil 2015 data will not be available for the AIR 2019.

If the Managing Authority supports its own model, the model can be updated with the most recent available data, taking into account that soil erosion is a long-term process. The Managing Authority should consider the cost effectiveness of updating a model for the AIR 2019 or postponing this update for the ex-post evaluation.

Long-term solutions (for ex-post)

If the Managing Authority does not support its own model and relies on the EU wide RUSLE2015 model, then for the ex-post the LUCAS Soil 2015 and 2018 results will be publicly available. This data will have real soil erosion observations (not estimated) and will be harmonised with the RUSLE 2015 model, which used 2009-2012 data to allow for comparisons.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

Does the data cover different points in time (temporal scale)?

YES

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster) for 2009-2012, 2015 and 2018

Approach

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster) for 2009-2012, 2015 and 2018

Why is this issue important?

What are the conditions in order to address this issue?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.8 and PART IV, Chapter 4.6.



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

Does the data cover different points in time (temporal scale)?

YES

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster) for 2009-2012, 2015 and 2018

Approach

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster) for 2009-2012, 2015 and 2018

Why is this issue important?

The 2009-2012 RUSLE model by ESDAC is available in a raster format, which depicts the spatial distribution of erosion by soil loss categories. If similar model results become available for at least one more point in time (e.g. 2015 or 2018), then the evaluator can use naïve baseline or dynamic group comparisons. Naïve baseline comparisons refer to comparisons across groups in the same time period, while dynamic group comparisons refer to comparisons across groups and across periods.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

Does the data cover different points in time (temporal scale)?

YES

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster) for 2009-2012, 2015 and 2018

Approach

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster) for 2009-2012, 2015 and 2018

What are the conditions in order to address this issue?

The primary conditions are:

- a reliable measurement of the indicator for soil erosion (C-factor) available for beneficiaries;
- Georeferenced plots/parcels for beneficiaries;
- a high-resolution raster of C-factor estimates for the region or country from ESDAC or from a national/regional model at various points in time;
- a DEM/DTM (Data Elevation Model/Data Terrain Model) for the region or the country that will allow the evaluator to formulate groups of the same slope and/or elevation;
- a land use and a soil map of the area.

If there is no DEM/DTM available for the area, the evaluator can use the corresponding EU wide DEM (slope) dataset.

The more information on beneficiaries, the more focused and coherent the construction of the comparison groups will be. The average of the C-factors for the comparison groups that will include both beneficiaries and non-beneficiaries can be extracted using GIS methods for rasters by isolating groups with the same slope and elevation. This can be similarly done for land cover and broad soil conditions. These groups can be formulated for different points in time if the respective surveys (LUCAS Soil 2015 and 2018) provide the corresponding C-factor rasters.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

Does the data cover different points in time (temporal scale)?

YES

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster) for 2009-2012, 2015 and 2018

Approach

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster) for 2009-2012, 2015 and 2018

Are there any specificities to be considered for regionalised RDPs?

There are no specificities in this respect that should be considered for regionalised RDPs.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

Does the data cover different points in time (temporal scale)?

YES

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster) for 2009-2012, 2015 and 2018

Approach

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster) for 2009-2012, 2015 and 2018

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

For the AIR 2019 it is likely that there will not be an updated C-factor figure. This means that, unless the RDP has access to its own model, there will be no option for dynamic group comparisons (i.e., comparisons across different points in time).

Managing Authorities should try to retrieve as much data as possible for beneficiaries. This will allow for the construction of more meaningful and targeted comparison groups.

Long-term solutions (for ex-post)

In long term, the Managing Authority will have a fairly good idea of the progress of the measures targeting soil erosion. Based on this, it should be possible to formulate groups and compare them with beneficiaries. The Managing Authority should, therefore, take care and make sure to meet the conditions under which the naïve groups will be formulated. In other words, the Managing Authority should take care of making the appropriate data available such as georeferenced plots, slope rasters, land use and soil maps, etc.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

Does the data cover different points in time (temporal scale)?

YES

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster) for 2009-2012, 2015 and 2018

Approach

**Naïve Baseline or Dynamic Group Comparison methods,
Simple comparison of supported holdings with the population
average for a specific region,
Qualitative methods
(MAPP, Focus Groups, Delphi)**

If there is insufficient data, the evaluator can apply naïve baseline or dynamic group comparisons at the micro-level, or a naïve comparison between the average of the treated areas and the national average. This can then be supported by qualitative methods to net out the RDP's effects on soil erosion.



Read more in Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.8.4 and PART IV, Chapter 4.6.3.



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

Does the data cover different points in time (temporal scale)?

NO

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster), 2009-2012

Approach

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster), 2009-2012

Why is this issue important?

What are the conditions in order to address this issue?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.8 and PART IV, Chapter 4.6.



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

Does the data cover different points in time (temporal scale)?

NO

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster), 2009-2012

Approach

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster), 2009-2012

Why is this issue important?

The 2009-2012 RUSLE model by ESDAC is available in a raster format which depicts the spatial distribution of erosion by soil loss categories. If the same soil erosion model results for 2015 or 2018 have not yet become available the evaluator can only apply naïve baseline comparisons. The evaluator can compare the group of beneficiaries with groups containing both beneficiaries and non-beneficiaries in the same time period.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

Does the data cover different points in time (temporal scale)?

NO

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster), 2009-2012

Approach

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster), 2009-2012

What are the conditions in order to address this issue?

The primary conditions are:

- ✓ a reliable measurement of the indicator for soil erosion (C-factor) available for beneficiaries;
- ✓ georeferenced plots/parcels for beneficiaries;
- ✓ a high-resolution raster of C-factor estimates for the region or country from ESDAC or from a national/regional model;
- ✓ a DEM/DTM (Data Elevation Model/Data Terrain Model) for the region or the country that will allow the evaluator to formulate groups of the same slope and/or elevation;
- ✓ a land use and a soil map for the area.

The more the information on beneficiaries, the more focused and coherent the construction of the comparison groups will be. The average of the C-factor for the comparison groups of both beneficiaries and non-beneficiaries can be extracted using GIS methods for rasters by isolating groups with the same slope and elevation, similar land cover and broad soil conditions.

Are there any specificities to be considered for regionalised RDPs?

There are no specificities in this respect that should be considered for regionalised RDPs.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

Does the data cover different points in time (temporal scale)?

NO

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster), 2009-2012

Approach

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster), 2009-2012

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

The Managing Authority should try and retrieve as much data as possible for beneficiaries and better target the comparison groups (soils, land cover, slopes, etc.). This will allow the construction of better more targeted comparison groups.

Long-term solutions (for ex-post)

In long term, the Managing Authority will have a fairly good idea of the progress of the measures targeting soil erosion. Based on this, it should be possible to formulate groups and compare them with beneficiaries. The Managing Authority should, therefore, take care and make sure to meet the conditions under which the naïve groups will be formulated. In other words, the Managing Authority should take care of making the appropriate data available such as georeferenced plots, slope rasters, land use and soil maps, etc.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

YES

Does the data cover different points in time (temporal scale)?

NO

Spatial Distribution of Soil Erosion by Soil Loss Categories (raster), 2009-2012

Approach

**Naïve Baseline or Dynamic Group Comparison methods,
Simple comparison of supported holdings with the population
average for a specific region,
Qualitative methods
(MAPP, Focus Groups, Delphi)**

If there is insufficient data, the evaluator can apply naïve baseline or dynamic group comparisons at the micro-level, or a naïve comparison between the average of the treated areas and the national average. This can then be supported by qualitative methods to net out the RDP's effects on soil erosion.



Read more in Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.8.4 and PART IV, Chapter 4.6.3.



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

NO

Are time/resources sufficient for establishing models?

Approach

Are time/resources sufficient for establishing models?

Why is this question important?

What are the conditions in order to answer the question with YES?

Are there any specificities to be considered for regionalised RDPs?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

Long-term solutions (for ex-post)



Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.1 and 2.8 and PART IV, Chapter 4.6.

Guidelines for the ex post evaluation of 2007-2013 RDPs, Chapter 4.3.3.2.



RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

NO

Are time/resources sufficient for establishing models?

Approach

Are time/resources sufficient for establishing models?

Why is this question important?

If time and resources are not sufficient for establishing a model or for not using the EU level model, then the evaluator will have to rely solely on qualitative methods. Qualitative methods should be used nevertheless to complement and support statistics-based methods and/or model based naïve group comparisons.

What are the conditions in order to answer the question with YES?

The main conditions are:

- ✓ personnel with adequate knowledge of soil science and of modelling soil erosion are available;
- ✓ there is no time to establish a model but there may be time to use the EU wide model (RUSLE 2015) and apply to ESDAC to retrieve the relevant data;
- ✓ there are ready to use databases supporting georeferenced and GIS data (DEMs, soil and land cover rasters, etc.) for beneficiaries.

Are there any specificities to be considered for regionalised RDPs?

There are no specificities in this respect that should be considered for regionalised RDPs.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

NO

Are time/resources sufficient for establishing models?

Approach

Are time/resources sufficient for establishing models?

What can be done to improve the data situation?

Short-term solutions (for AIR 2019)

The Managing Authority can directly use the RUSLE 2015 results to retrieve as much data as possible for beneficiaries and construct comparison groups based on a less demanding and time-consuming criteria. For example, compare the group of beneficiaries with a regional average irrespective of slopes, land cover and/or differences in soil conditions. Use these very naïve estimates to feed your qualitative methods.

Long-term solutions (for ex-post)

Either a model should be built or the EU wide RUSLE 2015 model should be adopted.





RDP size and uptake

Data availability for CMES indicators

Data availability for selected additional indicators

Does the data allow for the construction of comparison groups of beneficiaries and non-beneficiaries?

NO

Does a sufficiently accurate model explaining participation exist (e.g. RUSLE/USLE by ESDAC)?

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Approach

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If there is insufficient data, the evaluator can apply naïve baseline or dynamic group comparisons at the micro-level, or a naïve comparison between the average of the treated areas and the national average. This can then be supported by qualitative methods to net out the RDP's effects on soil erosion.



Read more in Guidelines *Assessing RDP achievements and impact in 2019*, PART II, Chapter 2.8.4 and PART IV, Chapter 4.6.3.



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