



**Towards climate-smart sustainable management of
agricultural soils**

Deliverable 8.5

Protocol for the collection of research results

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List of acronyms and abbreviations

WP	Work Package
EU	European Union



1. Executive Summary

Task 8.4 Disseminate & Promote, involves the dissemination and promotion of scientific evidence based outcomes for sustainable soil futures as a result of both the existing and newly developed knowledge within the EJP SOIL Programme. This task aims to capture research results relevant to policy and make them available to policymakers at national, regional, European and international levels.

Before these key findings can be shared, they must first be collected. This activity occurs in Sub-Task 8.4.1 Information Capture, which involved the development of a protocol for rapid collection of research results which could be of interest to policymakers. This Deliverable 8.5 Protocol for the collection of research results, describes the protocol developed under Sub-Task 8.4.1. It presents the method of data collection developed and outlines the metadata and input categories of information to be collected. The protocol itself consists of a total of 46 questions within eight sections developed in a MS Excel data collection template.

The protocol aims to capture information about the research projects occurring within the EJP SOIL and their findings in such a way as to present a comprehensive snapshot of the completed or ongoing work and the relevance of that work to various areas of policy, stakeholders and policymakers at different levels (national, regional, EU, International). This will contribute to the subsequent creation of portal containing all of the collected data on the EJP SOIL website.

The protocol will be completed by EJP SOIL participants who should review their project load and fill in this form for all of the relevant ongoing projects they are currently working on. It is suggested that this review and protocol completion occur bi-annually to capture new projects that arise throughout the course of the EJP SOIL Programme lifetime.

Keeping in mind the users of the protocol as well as the long-term aim of dissemination of the key information sought by policy stakeholders by EJP SOIL WP9 "Dissemination" in subsequent tasks, this protocol was developed with consultation from WP9. It was determined that a MS Excel data collection template was best suited to the needs of data summary and dissemination activities. Other criteria including the nature of data input types, the flexibility and customizability for data management and reporting as well as a high degree of user familiarity with this program also contributed to the suitability of MS Excel for this task.

The eight sections of the protocol collect data on a range of relevant aspects of the research project including background information, methods used, the accessibility of the results, possible implications, relevance to the EJP SOIL Programme and potential policy recommendations and relatedness of results to policymakers. Images of each section of the protocol in the MS Excel data collection template are included in the Appendix. This deliverable has also been submitted with a copy of the MS Excel file itself.

The creation of this protocol and the subsequent collection of data will set the foundation for the development of the Resources Infrastructure and Capabilities Inventory (RICI) and the ensuing creation of a useful database that can be utilised in future EJP SOIL tasks and shared with the relevant parties in the future. It will improve the transfer of knowledge from scientific outputs to the policy domain and increase the access to available results and knowledge for policymakers at all levels. This will also increase the visibility of the work of the EJP SOIL Programme at an international level so that the EJP SOIL can become the leading source of scientific outputs and evidence based advice on optimising agricultural soil management.



2. Introduction

The science to policy interface is often a topic of much critical discussion by scientists and policymakers alike, and the importance of protocols and tools for collating scientific data, outputs and recommendations that meet the needs of both parties and allows for effective communication and exchange of key information is critical for transferring the knowledge being done by the EJP SOIL. Such a protocol will help to bridge the knowledge transfer gap between the scientific information and results generated from the projects within the EJP SOIL and the policymakers who consider such scientific evidence essential to the development, implementation, monitoring, verification and reporting cycles for new and existing soil related policy. This report describes the EJP SOIL protocol for collection of research results. The information collected using this protocol will contribute to a database of research findings and recommendations from research projects and reports from stocktaking exercises and stakeholder engagement. These research findings, collated over the duration of the EJP SOIL, will be made available to policymakers via an online portal on the EJP SOIL website and through policy maker forums and workshops.

This protocol describes a structured methodology for the collection of new knowledge, key outcomes and syntheses generated from work done within EJP SOIL WP 2-7 and funded projects. This protocol and the method of data collection and summary were chosen to enable dissemination of the key information sought by policy stakeholders by EJP SOIL WP9 “Dissemination” in subsequent tasks. A MS Excel data collection template was determined as the most efficient platform considering criteria such as the nature of data input types and the flexibility and customizability for data management and reporting. There is also a high degree of user familiarity with this program among the relevant parties.

When developing the protocol special consideration was given to the understanding and elucidation of those aspects of research most relevant to policy makers and linkages within the wider the EJP SOIL. As such, data is collected not only on the methods and results involved in the research but also on the potential relevant areas of policy, the potential stakeholders targeted by the research and the relevant EJP SOIL domains and impact areas.



3. Protocol Methodology

This protocol for the collection of research results relevant to policy makers has been designed for use by the EJP SOIL programme and its partners. An overview of the protocol is presented in this report, and the MS Excel tool developed and formatted for the collection of the data/results (shown in Annex 1, Appendix). The protocol consists of eight sections outlined here in detail. Prior to data collection an introduction including the aim of this protocol and general instructions for inputting research results is provided for the user. Following this, each section of the protocol is introduced. These sections are as follows:

1. Research Project Summary Overview
2. General Information
3. Background
4. Methods
5. Results
6. Implications
7. Relevance to the EJP SOIL
8. Relevance to Policymakers

Within each section the questions, the format of the responses required and in some cases standardised response options i.e. dropdown lists, are provided. Each question has a response in the format of one of the following:

1. An open-ended text box
2. A predetermined list of answers from which multiple options can be chosen
3. A predetermined list of answers from which only one option can be chosen

In all cases where there is a predetermined list of response options, those options are clearly stated within the relevant tables in this report.

The resulting protocol outline was then used to design the Excel file. Special attention was given to the formatting of the MS Excel template to help engagement with the users and allow for the easy completion of the relevant questions. A simple user interface, with innate visual prompts was used to ensure that the response completion flowed in a logical and natural order, limiting the tedium for end users. The initial draft protocol was developed by WP 8 in consultation with WP 9, following which the protocol was shared with the EJP SOIL partners to get feedback and further ideas to help optimise the template and protocol. It is suggested that EJP SOIL participants review their project load and complete this form bi-annually for any new projects for which the form has not been already completed.



3.1. Research Project Summary Overview

This section will provide basic information about the research project as a feedback to a possible initial search result. It aims to help end-users select projects that could be relevant to their search.

Table 1 Metadata required for the summary overview section of the protocol.

Input Category	Input Criteria	Input Options
Project Title	Open-ended response, text	
Abstract/ Summary	Open-ended response, text	
Key Takeaways	Open-ended response, text	Five text boxes to allow for a maximum of five main takeaway messages from the project
Keywords	Open-ended response, text	Text boxes to allow for key words which define the main focus/topics of the project



3.2. General Information

This section collects information on those involved and the aims of the research/ study.

Table 2 Metadata required for the general information section of the protocol

Input Category	Input Criteria	Input Options
Project coordinator/Lead partner	Open-ended response, text	
Contact person/ Reference email	Open-ended response, text	
Project partners	Open-ended response, text	
Project Objectives	Open-ended response, text	
Official project website	Open-ended response, text	
Project Status	Selection from drop down list	Ongoing, Completed
Duration of Project	Open-ended response, text	Start & End date DD/MM/YYYY
Source of Funding	Open-ended response, text	



3.3. Background

Information gathered in this section provides the context of the research/ study conducted as well as specific information that may be relevant.

Table 3 Metadata required for the background section of the protocol

Input Category	Input Criteria	Input Options
Target (or Beneficiary) Country (s)	Open-ended response, text	
EU Climatic Zone(s)	Open-ended response, text	
Scale of Project	Predetermined options, drop down list, searchable	Local, Regional, National, European, Global
Land Use Type	Predetermined options, multiple choices possible, drop down list, searchable	Arable land, Fallow, Forest, Permanent pasture, Permanent meadow, Other
If other please specify	Open-ended response, text	
Soil Type	Predetermined options, drop down list, searchable	Mineral, Organic
WRB Soil Great Group	Predetermined options, multiple choices possible, drop down list, searchable	Acrisols, Alisols, Andosols, Anthrosols, Arenosols, Calcisols, Cambisols, Chernozems, Cryosols, Durisols, Ferralsols, Fluvisols, Gleysols, Gypsisols, Histosols, Kastanozems, Leptosols, Lixisols, Luvisols, Nitisols, Phaeozems, Planosols, Plinthosols, Podzols, Solonchaks, Solonetz, Stagnosols, Technosols, Umbrisol, Vertisols
Please specify soil type	Open-ended response, text	
Soil Drainage Class	Predetermined options, drop down list, searchable	Excessively drained, Somewhat excessively drained, Well drained, Moderately well drained, Somewhat poorly drained, Poorly drained, Very poorly drained
Please specify local soil drainage class		



3.4. Methods

This section will provide information on the approach/methodology used to carry out the research, and the parameters measured and the indicators and the units used. For each category of parameters it is possible in the Excel sheet to enter multiple parameters and go on to define the value range, units and indicators related to each parameter (Fig. 4, Appendix).

Table 4 Metadata required for the methods section of the protocol

Input Category	Input Criteria	Input Options
Method of data collection	Predetermined options, drop down list, searchable	Empirical data, Secondary data
Source of empirical data	Predetermined options, multiple choices possible, drop down list, searchable	Field data, Plot data, Lab data, Microcosm, Farm, Catchment, Survey, Sampling Campaign, National database, Regional database, Glasshouse experiment
Soil related parameters measured	Open-ended response, text	
Environmental parameters measured	Open-ended response, text	
Agronomic related parameters measured	Open-ended response, text	
Parameter Value Range	Open-ended response, text	Three text boxes to obtain a Minimum Value, Mean Value, Maximum Value
Parameter Value Units	Open-ended response, text	
Indicators used if any	Open-ended response, text	
Units of Indicators	Open-ended response, text	
Indicators are statistically valid and robust	Single answer selection from drop down list	Yes/ No
Indicators are harmonised across EU	Single answer selection from drop down list	Yes/ No



3.5. Results/ Outputs from Projects

This section aims to collect the relevant information about the outputs of the study/ research.

Table 5 Metadata required for the results section of the protocol

Input Category	Input Criteria	Input Options
Format of project outputs	Predetermined options, multiple choices possible, drop down list	Publications, Scientific paper, Models, Decision support tool, Database, Maps,
Accessibility/ Availability of results	Predetermined options , drop down list	Public repository, Website, On request
If other, please specify	Open-ended response, text	
Location where results are stored	Open-ended response, text	
Links to supplementary outputs/ open data	Open-ended response, text	E.g. Videos, Tutorials, Images, Maps



3.6. Relevance to the EJP SOIL

The purpose of this section is to find the relevant links between the research/ study and the various aspects of the EJP SOIL program.

Table 6 Metadata required for the EJP SOIL section of the protocol

Input Category	Input Criteria	Input Options
Relevant EJP SOIL Domains	Predetermined responses, multiple choices possible, searchable	Climate Change Mitigation, Climate Change Adaptation, Food Security, Ecosystem Services, Avoiding Land Degradation
Relevant EJP SOIL Targets	Predetermined responses, multiple choices possible, searchable	Sustainable agricultural production, C sequestration, healthy soils, land and soil restoration, soil biodiversity, ecosystem services
Relevant EJP SOIL Impacts	Predetermined responses, multiple choices possible, searchable	Climate change mitigation, Climate change adaptation, Sustainable production, Sustainable environment, Networking & knowledge sharing, Harmonising, Adoption of sustainable management, Science to policy interface
Related EJP SOIL Projects	Predetermined responses, multiple choices possible, searchable	CarboSeq, SOMMIT, TRACE-Soils, INSURE, STEROPES, SensRes, SCALE, i-SomPE, SIREN, CLIMASOMA
Relevant EJP SOIL Knowledge Framework	Predetermined responses, multiple choices possible, searchable	1. Knowledge development, 2. Knowledge sharing and transfer, 3. Knowledge harmonisation, organisation and storage, 4. Knowledge application
Relevant SOIL Challenges	Predetermined responses, multiple choices possible, searchable	Maintain/ Increase soil SOC, Avoid N ₂ O, CH ₄ emissions from soil, Avoid peat degradation, Avoid soil erosion, Avoid soil sealing, Avoid salinization, Avoid acidification, Avoid contamination, Optimal soil structure, Enhance soil biodiversity, Enhance soil nutrient retention/ use efficiency, Enhance soil water storage capacity



Areas/ Topics for further research	Open-ended, text	
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3.7. Relevance to Policy

Here the aim is to collect information that will be most useful to policymakers about the research/study.

Table 7 Metadata required for the policy relevance section of the protocol

Input Category	Input Criteria	Input Options
Relevant/ Targeted Stakeholders	Predetermined responses, multiple choices possible, searchable	Scientific Researchers, Education, Local policymakers, National policymakers, EU policymakers, International policymakers, Interest groups, Advisory, Extension, Farmers, Other
Possible aspects of policy that can be informed	Predetermined responses, multiple choices possible	Data/Evidence for policy, Monitoring, Reporting (e.g. Input on GHG emissions into IPCC), Verification, Practices (e.g. EIP best practices for soil management), Laws, Recommendations, Tools(e.g. soil navigator, LANDMARK2020)
Potentially relevant policy areas	Open-ended response, text	E.g. Agricultural production, Education, Sustainability,
Possible instruments that can be informed	Predetermined responses, multiple choices possible	Market, Mandatory, voluntary, Incentives, AKIS, Regulatory, Information
Suggested policy recommendations	Open-ended response, text	E.g. To introduce new, and/or revise the existing legal framework, incentive and supporting systems
Target audience for recommendations	Open-ended response, text	E.g. National; Local; Regional; Category of enterprises



4. Conclusion

This protocol for collection of research results will capture the information generated from the core work within the EJP SOIL and the associated research projects that can be used by policymakers. It is a protocol, data collection and management tool that will strengthen the bridge between science and policy by facilitating the capture, exchange and communication of key information and findings. Working closely with WP 9 has ensured that the methods used in this protocol design complement the dissemination and knowledge transfer activities within the EJP SOIL and can be further exploited in the future. The sections and questions within the protocol cover a wide range of relevant information including the project description and background as well as possible recommendations for climate smart and sustainable soil policy development and support. The formatting was designed to maximise user friendliness and ensure the capture of a good quality of information. This, like many deliverables by WP8 continues to add to supports for policymakers and to better facilitate the transfer and sharing of knowledge between the science and policy across the EJP SOIL.



5. Appendix

EJP SOIL Research Results Collection Protocol

Project Title :	Enter title here						
Abstract :	Abstract Text (150 - 250 words)						
Key words:	e.g. soil	climate change					
Key Takeaways:							

Figure 1 Overview sheet of the protocol for the collection of results

EJP SOIL Research Results Collection Protocol	
Project Co-ordinator	Response
Contact person / email :	Response
Project partners:	List partners here
Project Objectives:	List objectives here
Project website:	
Project Status:	
Project Duration	START: Please use format DD/MM/YYYY END: Please use format DD/MM/YYYY
Source of Funding:	

Figure 2 General Information sheet of the protocol for the collection of results



 Research Results Collection Protocol	
Target Country (s):	
EU Climatic Zone (s):	
Project Scale:	
Land Use Type	<input type="text"/> <input type="text"/> <input type="text"/>
If other please specify	
Soil Type	
WRB Soil Type (Great Group)	<input type="text"/> <input type="text"/> <input type="text"/>
Please specify soil type	
USDA Soil Drainage Class	
Please specify local soil drainage class	

Figure 3 Background sheet of the protocol for the collection of results



EJP SOIL Research Results Collection Protocol												
Method of data collection:												
Source of empirical data:												
Soil related parameters measured:												
Parameter Value range:	Min.	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max
Parameter value units:												
Indicators used:												
Units of indicators:												
Environmental parameters measured:												
Parameter Value range:	Min.	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max
Parameter value units:												
Indicators used:												
Units of indicators:												
Agronomic related parameters measured:												
Parameter Value range:	Min.	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max
Parameter value units:												
Indicators used:												
Units of indicators:												
Are indicators are statistically valid and robust?												
Are indicators harmonised across the EU ?												

Figure 4 Methods sheet of the protocol for the collection of results




 Research Results Collection Protocol	
Format of project outcomes	<input type="text"/>
Accessibility / Availability of Results	<input type="text"/>
If other please specify:	<input type="text"/>
Location of results	<input type="text"/>
Links to supplementary outputs/ open data	<input type="text"/>
	<input type="text"/>

Figure 5 Results sheet of the protocol for the collection of results





Research Results Collection Protocol

Please note: Rows should be filled independantly of each other and only the domains, targets etc. relevant to the project should be selected as they apply to the project not each other.

Relevant EJP SOIL Domains:					
Relevant EJP SOIL Targets					
Relevant EJP SOIL Impacts					
Relevant EJP SOIL Projects					
Relevant EJP SOIL Challenges					
Relevant EJP SOIL Knowledge framework					
Areas /Topics requiring further research					

Figure 6 Relevance to the EJP SOIL sheet of the protocol for the collection of results



 Research Results Collection Protocol					
Relevant / Targeted stakeholders					
Possible aspects of policy that can be informed					
Potentially relevant policy areas	e.g. agricultural production				
Possible instruments that can be informed					
Suggested policy recommendations					
Target audience for recommendations					
Suggested policy recommendations					
Target audience for recommendations					
Suggested policy recommendations					
Target audience for recommendations					

Figure 7 Relevance to policymakers sheet of the protocol for the collection of results

