Intermediary analysis of role of advisors in MIPs and White Spot analysis

Deliverable 3.1

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List of Abbreviations

AS	Advisory Services
ASP	Advisory Service Provider
CS	Climate smart
CSA	Climate Smart Advisor
CSF	Climate Smart Farming
CoDIE	Co-Design Innovation Experiment
CoP	Community of Practice
MA	Multi-actor
MIPs	Multi-actor innovation projects
NC	National Coordinator
PDF	Pilot Demonstration Farm
TL	Thematic Leader
WP	Work Package

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Glossary

Advisory Services (AS): The activities that are performed by advisors to create knowledge and Know-how in individual and/or collective learning processes.

Advisory Service Provider (ASP): Organizational bodies engaged with advisory service.

Climate Farm Demo (CFD): Project granted under call topic HORIZON-CL6-2021-CLIMATE-01-04. Sister project of CSA.

Climate Smart Advisor (CSA): Advisors who take part in a 2-year CoP with their peers, meeting on min. 4 times per year and supported by the project with a number of CoP activities, including both training and peer learning activities.

Climate Smart Farming (CSF): An approach that helps guide actions to transform agri-food systems towards green and climate resilient practices.

Climate Smart Agricultural Knowledge and Innovation System (CS AKIS): System of actors, stakeholders and organisations at regional, national or EU level who interact in support of mutual learning, to generate, share, and use CS related knowledge and information.

Co-Design Innovation Experiment (CoDIEs): MA practice-oriented innovation experiments where CSAs play a central role as change and innovation agents in CSF multi-level transitions. CoDIES (8-10) fill in innovation gaps that have been identified in CSA activities in CSF MIPs across the EU.

Pilot demonstration farm (PDF): One of the demonstrations farms that is part of the European network built by ClimateFarmDemo project.

Multi-actor (MA): The co-creation and sharing of knowledge among different types of actors with complementary expertise.

Multi-actor innovation project (MIP): A project bringing together different types of actors (e.g., farmers, advisors, researchers, policymakers) with complementary types of knowledge and skills with the aim to innovate together.

National Coordinator (NC): The person that supervises and connects CoP related activities at national level, also ensuring connection with the PDF network in CFD, and responsible for national dissemination and communication.

Thematic Leader (TL): An outstanding European expert in one of the 12 selected adaptation & mitigation thematic areas for climate change. TLs will organise knowledge exchange between CoPs and CS AKIS actors at EU level and share new & innovative knowledge.

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1 Abstract

This report corresponding to Deliverable 3.1 (D3.1) summarises the results of the initial analysis of the Multi-Actor Innovation Projects (MIPs) portfolio (Milestone 22 of task 3.1), the white spots identified in these projects and the gaps or shortcomings of advisors and/or Advisory Service Providers (ASPs) on Climate Smart Farming (CSF) innovations. In order to carry out the analysis of the MIPs, a criteria matrix was designed through which 145 MIPs from 22 European countries were assessed. This criteria matrix included categories and variables that broadly cover the main aspects and/or characteristics of MIPs in terms of approaches, actors, thematic areas and other elements of this type of projects. Through frequency analysis, the main aspects and/or characteristics of the MIPs were identified, and a traffic light scale was used to identify and priorities the white spots according to the percentage of inclusion of the variables that were analysed for each category.

As a complementary assessment, the responses of the project partners (National Coordinators (NCs) and Thematic Leaders (TLs)) included in the MIPs survey (Milestone 22 of task 3.1) were analysed on the shortcomings detected in the activities of the advisors and/or ASPs in the MIPs and in general on the gaps of the advisors and/or ASPs on CSF innovations. The feedback received from the rest of the project partners on the preliminary results presented during the General Assembly #3 in April 2024 also contributed to the definition of criteria for the selection/prioritisation of white spots and served to complement the analyses and consolidate the results presented. These results are intended to serve as a basis for the selection of 4-5 Co-Design of Innovation Experiments (CoDIEs) of the first round.

Therefore, this deliverable summarises the main results of the evaluation carried out: 1. Feedback from project partners (kick-off, May 2023); 2. General analysis of the MIPs portfolio (frequency analysis); 3. General Criteria Matrix Summary; 4. White spot matrix results; and 5. Advisory gaps in CSF innovations.

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2 Introduction

The main aim of the ClimateSmartAdvisors Project is to boost the EU agricultural advisory community to accelerate the adoption of CSF practices by the wider farming community within and among EU Agricultural Knowledge and Innovation Systems (AKIS). In this project, advisors have a crucial role in the development and dissemination of CSF innovations and practices, which is why it includes different work packages (WPs) with activities focused on strengthening their capacity to provide advice on CSF through participation in innovation projects, initiatives and/or innovation experiments aimed at fostering the transition to climate-smart agriculture.

WP3 "Strengthening the role of advisors in CSF MIPs", in particular, has as its main objective to explore, understand and support the role of Climate Smart Advisors (CSAs) in CSF innovation processes and the transition to CSF practices, both by compiling and analysing ongoing CSA MIPs and by locating CSAs at the centre of CoDIEs, selected from project partners' proposals, based on a white spot analysis and a matrix of criteria. This will make it possible to analyse the role of CSAs in the different stages of transition to CSF throughout the innovation process and to provide tools and materials to better engage a wide range of CSAs types in CSF innovation activities.

The task 3.2 'Analysis of MIPs, lessons learned, and white spot analysis' to which this deliverable corresponds focuses specifically on the analysis of the MIPs portfolio (Milestone 22 of task 3.1) and identification of white spots in these projects and the gaps or shortcomings of advisors and/or ASPs on CSF innovations. In order to meet the objective of this task, a criteria matrix was designed and used for the analysis of the MIPs portfolio. This matrix included a large number of categories and variables related to the main aspects of the MIPs, such as approaches, thematic areas, agri-sectors, key actors, innovation-related aspects and advisors and/or advisory services.

For the identification of the white spots in each of the categories and variables, a traffic light scale was used and applied, which describes the different types of white spots according to defined percentage ranges and assigns colours according to the percentages of inclusion of the variables. The project partners were involved in this process of prioritising the identified white spots. Additionally, advisory gaps in CSF innovations were identified from the responses to the MIPs survey conducted by the project partners (NCs and TLs) and are presented in this deliverable.

These results will be the basis for the set-up/design of 4-5 first round CODIEs to be selected in month 18, in order to strengthen the approaches of the CSF MIPs and fill gaps and/or deficiencies in the role of advisors and/or ASPs in these projects. The aim is that advisors play a central role in the CODIEs as change and innovation agents in the multi-level CSF transitions.

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3 MIPs and White Spot analysis

3.1 Background, conceptual framework and approaches

3.1.1 MIPs in the ClimateSmartAdvisors (CSA) Project

Under the CSA approach, a MIP is a project that brings together different types of actors (farmers, farmers' associations, advisors, researchers, policy makers, citizens, NGOs, etc.(AKIS network)) with complementary types of knowledge and competencies with the aim of innovating together. Task 3.1 *"Connect to Multi-actor Innovation Projects (MIPs)"* has as its main objective to develop a comprehensive classification system and create a solid portfolio that shows the multifaceted landscape of MIPs related to the CSF and the role of advisors and/or ASPs in this type of projects. Both classification and portfolio building will be done in two rounds to support the selection of CoDIEs[1]. To meet this aim, a survey was designed (by BEC, UAL and ILVO) to ensure the inclusion of a diverse range of CSF MIPs within the portfolio in the first round and to address the limitations on the quantity and quality of information in existing European MIPs databases (Interreg, EIP Agri, CORDIS and national databases).

The survey was based on the results of the desk analysis from which all categories (question sections) and variables (response options) included in the questionnaire were obtained (see more details in section 3.2.1). These categories and variables served as the basis for the MIPs classification system. This allowed a broader and more adequate characterisation of the CSF MIPs and to obtain more information on the aspects related to the advisors and/or ASPs. The survey was addressed to NCs and TLs who were asked to provide information on at least 5 MIPs from their respective countries, following the inclusion/selection criteria indicated in Figure 1.

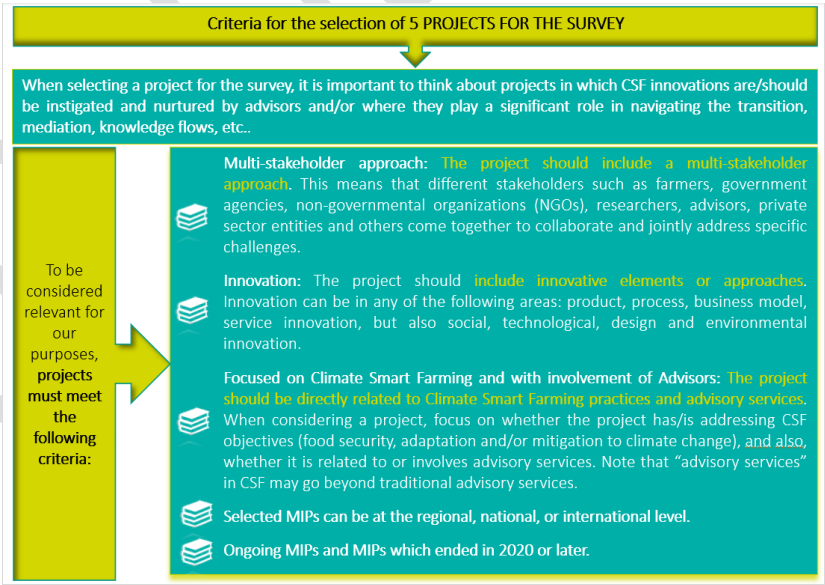

Figure 1 Criteria for the selection/inclusion of CSF MIPs in the survey

Between October and November 2023, the information was collected, and survey results were organised according to the predefined classification system, validated and complemented for the

[1] Task 3.3 Set up and support of CoDIEs (M12-M70). Milestone MS24 "Setting up first round of CoDIEs and methodology - 4-5 CoDIEs"

final construction of a portfolio with 146 CSF MIPs that was included in the Milestone MS22[2], delivered by BEC in March 2024 (document available for consultation on the project's SharePoint).

3.1.2 Criteria matrix for MIPs portfolio analysis

As indicated above, to fulfil the aim of task 3.2 "*Analysis of MIPs, lessons learned, and white spot analysis*", a criteria matrix was created and applied to analyse the CSF MIPs portfolio with the 146 projects. Therefore, this deliverable focuses on presenting the results of this analysis. Details on the design and other relevant aspects of this criteria matrix are described in the methodology section (3.2.2) and the results of the analysis are shown in section 4. For this criteria matrix, the classification system defined for the portfolio was used and its application allowed:

- Characterise the CSF MIPs and identify their main approaches, given the wide range of categories and variables analysed. These aspects can be seen in an integrated way and quickly located (visually) in the final matrix that was designed (Figure 21).
- Identify the white spots for each of the categories and their respective variables (Figure 22).

3.1.3 White Spot and gap analysis

White spot analysis is a widely used method to obtain information about the characteristics or trends of a product or service (Culotta & Duparc, 2022; Mehmet Özel et al., 2013) and/or to evaluate specific aspect(s) of a set of activities, plans and/or projects (Alicia Martinez de Yuso & Carolina Cipres, 2023; IPA & UAL, 2022). The latter definition best fit the objective under this Deliverable. The results of the white spot analysis make it possible to identify gaps, shortcomings and/or obtain essential baseline information to detect potential opportunities and/or needs. The white spot analysis can then be used as a basis for decision making and implementation, undertaking activities, or improvement actions.

Considering the above and as a complementary analysis of the general assessment of the 146 CSF MIPs, white spots for each of the categories and their respective variables were identified through the criteria matrix (see more details in section 3.2.3 and figure 22). In this analysis, white spots do not represent gaps. The different types of white spots identified (small, medium and large) using a traffic light scale (see table 1) are an indicator of the percentages of inclusion of these variables in the MIPs. Thus, the variables with the lowest percentage of inclusion/coverage in the MIPs were identified as " big white spots " (red colour). In this way, as the inclusion percentages increased, the type of white spot was defined for each variable up to those for which it was determined that there were no white spots given their high percentage of inclusion in the projects in relation to the rest of the variables in their category.

On the other hand, regarding the use of gaps“ in this Deliverable we use this term to refer to the analysis of the project partners’ answers with respect to the shortcomings identified in the activities of the advisors and/or ASPs in the MIPs they included in the survey and in general on the gaps and/or deficiencies in the advisory services related to the CSF in their country or at a broader level, as described in the methodology (section 3.2.4). Therefore, in this deliverable we focus on two key aspects; the “white spots“ (as indicators of the inclusion/coverage percentages of categories and variables of the CSF MIPs) and the “gaps“ or shortcomings of the advisors and/or ASPs in the innovations on CSF.

[2] Classification of MIPs and portfolio of MIPs - round 1

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3.2 Methodology

Figure 2 shows in detail the activities that were part of each stage of the process. Below, the steps are briefly summarised and further described in Section 4 Results.

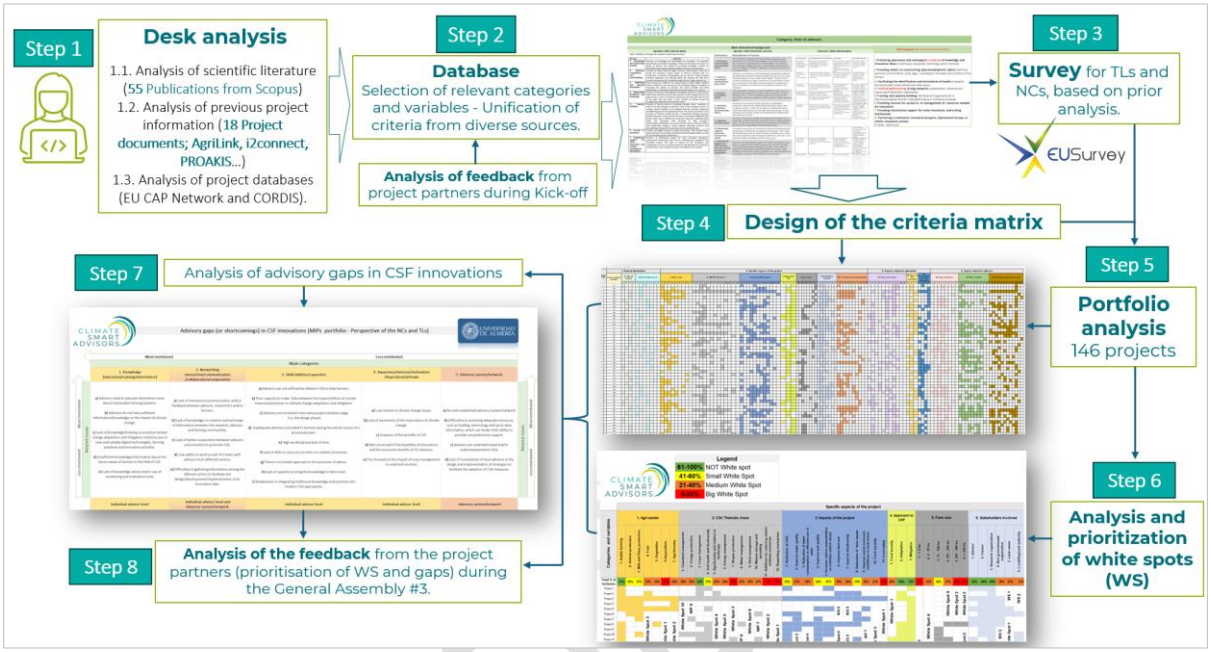

Figure 2 Stages of the implemented methodology

3.2.1 Desk analysis - Review and analysis of the scientific literature, projects and partners' feedback (Step 1 and Step 2)

Scopus database was used to gather the scientific publications. It is one of the largest scientific repositories, offering a broad and inclusive coverage of content (Pranckutė, 2021). A total of 55 publications were selected and analysed (articles, reviews, books, book chapters…). Information on EU multi-actor innovation projects was obtained from the CORDIS and EIP-AGRI (EU CAP Network) database[34]. A total of 18 documents, including reports, practice abstracts and publications, were selected and analysed. Inputs (definitions, theories and/or approaches) from the AgriLink, i2connect, AgriSpin, PRO AKIS projects were considered for the analysis and definition of the new approaches, especially concerning advisory services in innovation processes.

The studies/documents used for the analysis (listed in Annex 1) permitted the authors to identify/recognise the main characteristic elements of CSF MIPs, as well as the role and other key aspects of the participation of advisors and/or ASPs in this type of projects. This was the basis for defining the questions and answer options (in cases of multiple-choice questions) that needed to be included in the MIPs survey. The review and inclusion of various sources of information allowed the triangulation of different approaches for a more comprehensive assessment, for example, on the types of advisors or ASPs, types of services provided and their roles in MIPs.

Annex 2 shows an example of how different sources (scientific publications and project deliverables) were used and unified for the definition of the variables included in the category 'Role of advisors' of

[3] https://eu-cap-network.ec.europa.eu/projects/search_en
[4] https://cordis.europa.eu/projects

the CSF MIPs portfolio classification system and the criteria matrix. In this way, respondents had a wide range of response options, as well as the option to include any other aspect not mentioned in the list of responses. Subsequently, all these issues included as questions and answer options in the survey were defined as the categories and variables of the CSF MIPs classification system and the criteria matrix. Additionally, the feedback received during the Kick-off Meeting of the project in May 2023 on relevant actors in AKIS, MIPs and gaps in advisory services on CSF were analysed and included as theoretical support.

3.2.2 Survey design and MIPs criteria matrix (Step 3 and Step 4)

The categories and variables identified in steps 1 and 2 were the basis for the design of the CSF MIPs survey addressed to NCs and TLs and carried out by BEC. The results of the survey were used to create the portfolio (Milestone MS22 - BEC), which was subsequently analysed using the criteria matrix (step 5). The criteria matrix was divided into 4 sections and included a total of 16 categories and 121 variables covering the main aspects/characteristics of MIPs in terms of approaches, actors, themes and all other elements proper to this type of projects (figure 3).

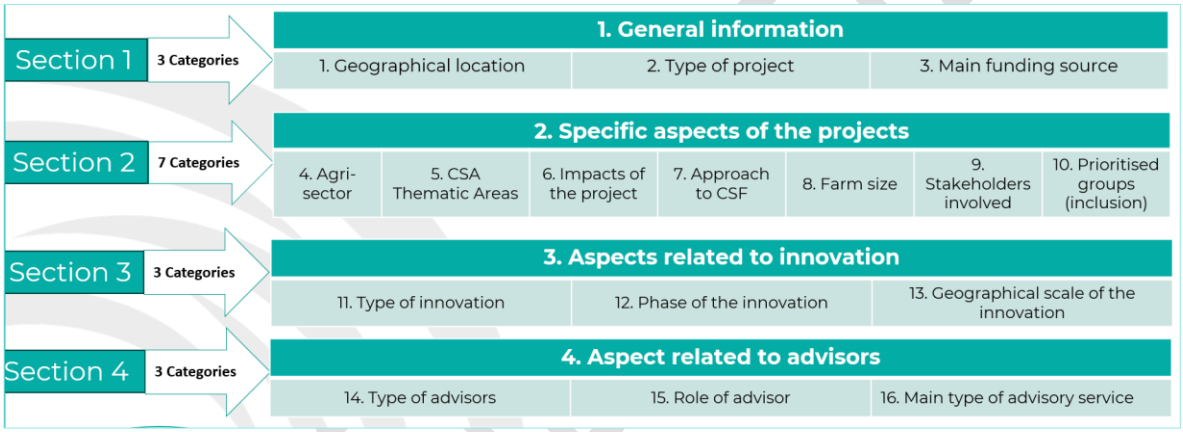

Figure 3 Main sections and categories of the criteria matrix.

3.2.3 Analysis of the MIPs portfolio and identification/prioritization of white spots (Step 5 and Step 6)

A total of 146 CSF MIPs were analysed using the criteria matrix (see annex 3). A frequency analysis was carried out for each of the categories and variables. A traffic light scale was used to identify/prioritise white spots according to the percentage of inclusion of each variable in the MIPs. Table 1 describes each of the types of white spots according to defined percentage ranges.

Table 1 Traffic-light scale for prioritisation of white spots

Percentages	Type of White Spot	Description
61-100%	NOT White spot	Very high level of inclusion of the variable in the projects in relation to the rest of the variables belonging to the category. It does not need to be included for the selection of CoDIEs.
41-60%	Small White Spot	High level of inclusion of the variable in the projects in relation to the rest of the variables belonging to the category. It could be evaluated for prioritisation in the CoDIEs, according to the relevance weighting.
21-40%	Medium White Spot	Medium level of inclusion of the variable in the projects in relation to the rest of the variables belonging to the category. It should be prioritised for CoDIEs.
0-20%	Big White Spot	Very low percentage of inclusion of the variable in the projects in relation to the rest of the variables belonging to the category. It should be prioritised for CoDIEs.

As shown in Table 2, the order of prioritisation of the white spots per category was defined from the lowest to the highest percentage of inclusion.

Table 2 Order of prioritisation of White Spot

Percentages	Order of prioritisation of White Spot	Description
0-20%	White Spot 1	The lower the percentage of inclusion of the variable, the higher the prioritisation of the White Spot.
	White Spot 2	
	White Spot 3	
21-40%	White Spot 4	

3.2.4 Analysis of advisory gaps in CSF innovations (Step 7)

As a complementary assessment, responses to two open-ended questions included in the MIPs survey were analysed; the first one on shortcomings identified in the activities of advisors in the described MIPs and the second more general one on gaps in advisory services related to the CSF. The answers were merged, and categories were defined for the main topics identified in the responses and the aspects associated with each category were ranked from most to least mentioned.

3.2.5 Analysis of the feedback from the project partners (Step 8)

During General Assembly #3 April 2024, an interactive session was carried out with the project partners to receive their feedback on the prioritisation of categories and variables for the white spots. Observations on the main gaps in advisory on CSF innovation were also collected. The information obtained was processed and analysed.

4 Results

4.1 Feedback from project partners (kick-off meeting, May 2023)

Relevant actors in the climate smart AKIS: There is a broad range of actors involved in climate-smart agriculture, all with different and important roles. Among the most relevant are farmers as main actors, advisors, associations/organisations and government institutions (municipalities/local authorities, policy decision-makers). Also, researchers, consumers, landowners, agronomists, retailers, input suppliers, cooperatives, NGOs, educational institutions, and media. Financial institutions (banks, insurance) although not usually considered among agricultural actors could also play a relevant role in the transition towards smart agriculture. Other actors related to carbon trading, CO2 inventory, and ammonia were also prioritised.

Multi-actor Innovation Projects on Climate Smart Farming: There are many mainly European projects (23 were listed) that focus on research and innovation to enhance climate smart agriculture and explore/encourage agroecological solutions. Climate Farm Demo is relevant as a sister project. Others such as Nefertiti, Laison, Agromix, Fairshare, DigitAF, ReMIX, among others, were mentioned. At national level the EIP-AGRI Operational Groups were highlighted. At regional level, in addition to specific projects, clusters in bioeconomy, technology platforms, working groups on climate adaptation in agriculture were emphasised. Some of these projects have training programmes as their main objective. Although most of these projects include interesting strategies, few of them have the main objective of promoting and/or changing policies. Although they are usually multi-stakeholder projects, a low percentage of them involve advisors.

Identifying gaps: Among the main gaps in MIPs related to climate-smart agriculture are the lack of specialists in water management, agroforestry (technical and legal aspects), biodiversity, precision farming, and manure management. In general, there is a lack of a holistic approach by advisors and a better understanding of farmers' needs. Language was identified as one of the barriers to proper interaction between farmers and advisors.

Figure 4 Pictures of the MIPs actors and role of advisors session – CSA kick-off meeting

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4.2 Analysis of MIPs portfolio - General information

A total of 146 MIPs were analysed in depth. Of these projects, 54% have been finished and 46% are still ongoing, some of them with execution periods until 2030. This section describes the main results for each of the categories and variables analysed.

4.2.1 Geographical location

Thirty-nine percent of the MIPs were developed or are being carried out at the EU level. The remaining 61% are distributed across 22 EU countries.

Figure 5 Geographical distribution of MIPs.

4.2.2 Type of project

Sixty-three MIPs are innovative actions, 42 are research projects and 28 are projects focused on operational groups.

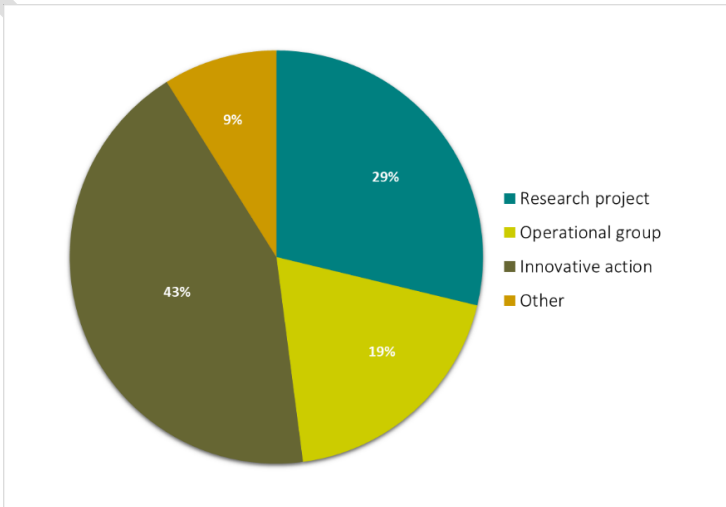

Figure 6 Project type

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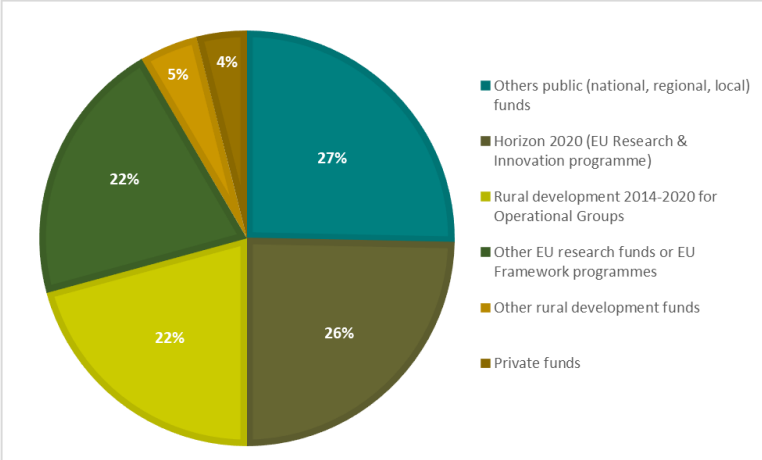
4.2.3 Main funding source



The main source of funding of the MIPs is public, with national, regional and local resources being the majority (27%), followed by resources from the Horizon 2020 Programme and the Rural Development Programme. Only 4% of the MIPs are/were funded by private resources.

Figure 7 Main funding source

4.3 Specific aspects of the MIPs

4.3.1 Agri-sector

The three agri-sectors with the highest percentage of inclusion in the MIPs are arable farming, milk and dairy production and animal production. Aquaculture and agroforestry are the sectors with the lowest percentage of inclusion in these MIPs.

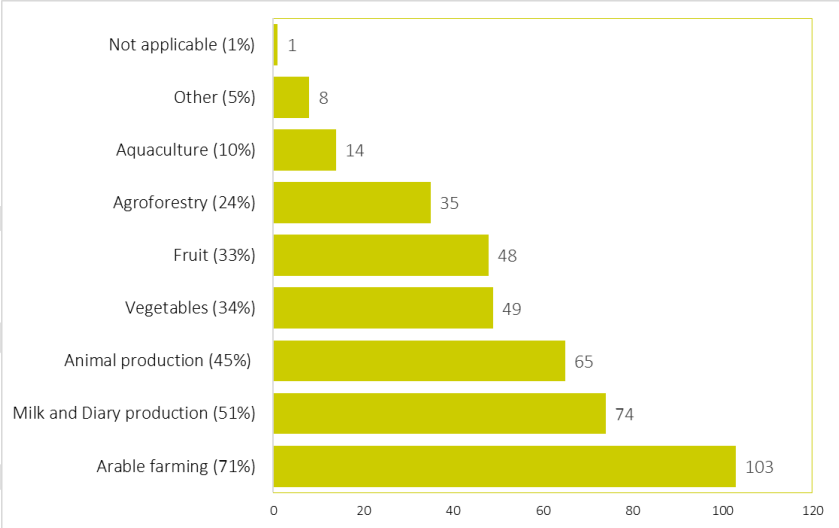


Figure 8 Main agri-sectors of the MIPs.

4.3.2 Thematic Areas

Most of the MIPs are focused on crop management (62%) followed by soil health and biodiversity (55%) and grassland management. The thematic areas with the lowest percentage of inclusion are rewarding mechanism with only 11% and additives for reducing enteric methane emissions and biogas production with similar percentages.

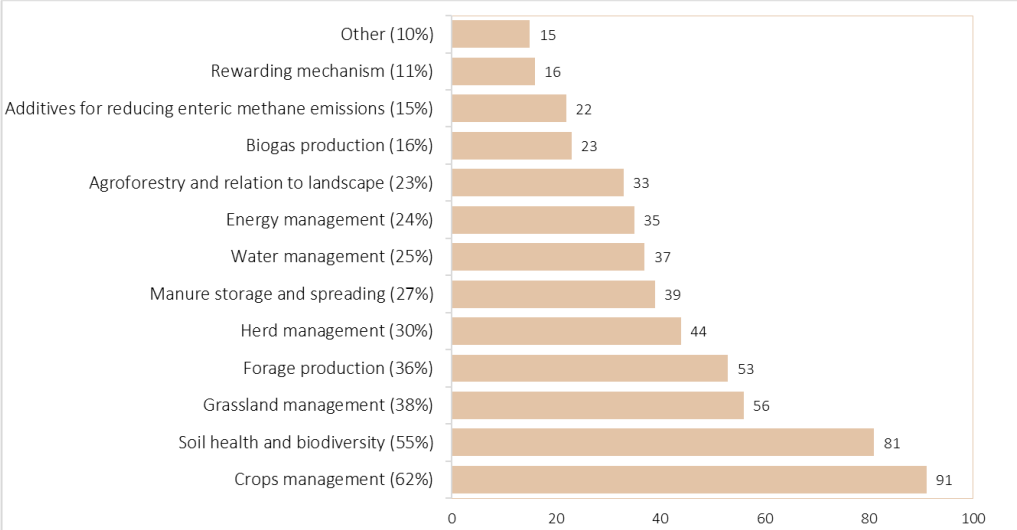


Figure 9 Main thematic areas of the MIPs.

4.3.3 Impacts of the projects

More than half of the MIPs have the reduction of greenhouse gases and the reduction of farm inputs as their main objective, followed by the improvement of soil quality. Food safety and quality as well as improving water quality are three of the impacts with the lowest percentage of inclusion in these projects.

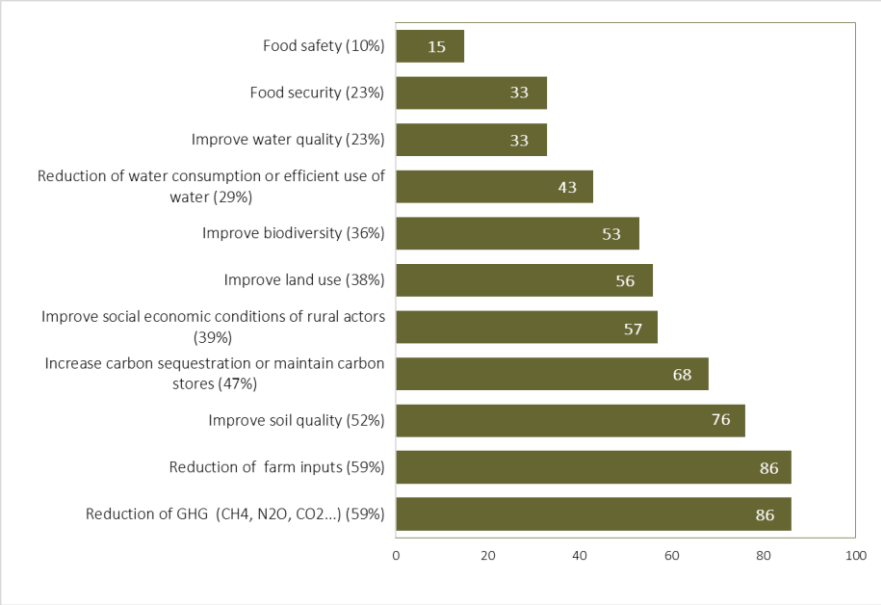


Figure 10 Impacts of the MIPs

4.3.4 Approach to Climate Smart Farming

Most of the MIPs are focused on mitigating environmental impacts, as well as implementing practices to improve the adaptation of farming systems. A lower percentage (29%) of the projects prioritised food security.

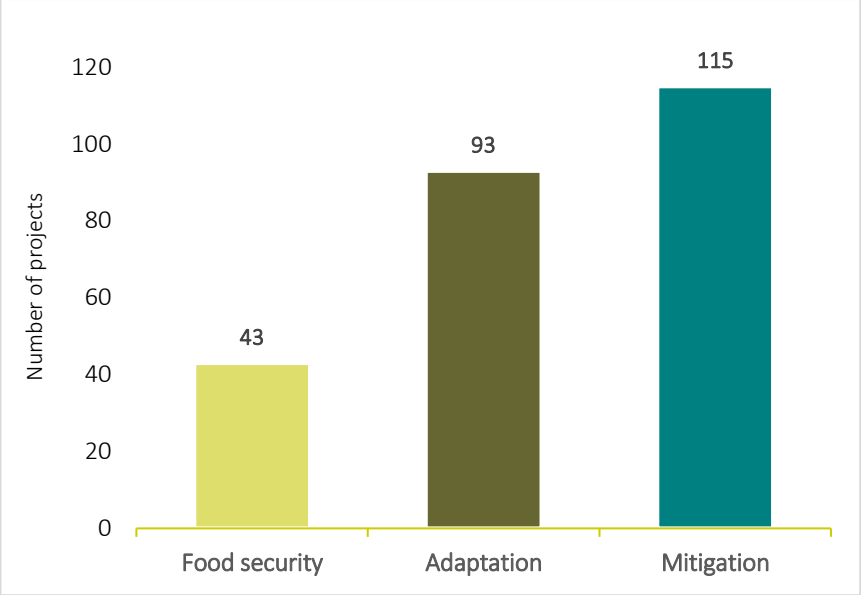


Figure 11 Approach to CSF of the MIPs

4.3.5 Farm size

Forty-two percent of the MIPs were carried out or are being implemented on farms with areas between 11 and 100 hectares, followed by farms with areas between 101 and 200 hectares. Only 5% of these projects prioritised smaller farms (less than 2 hectares).

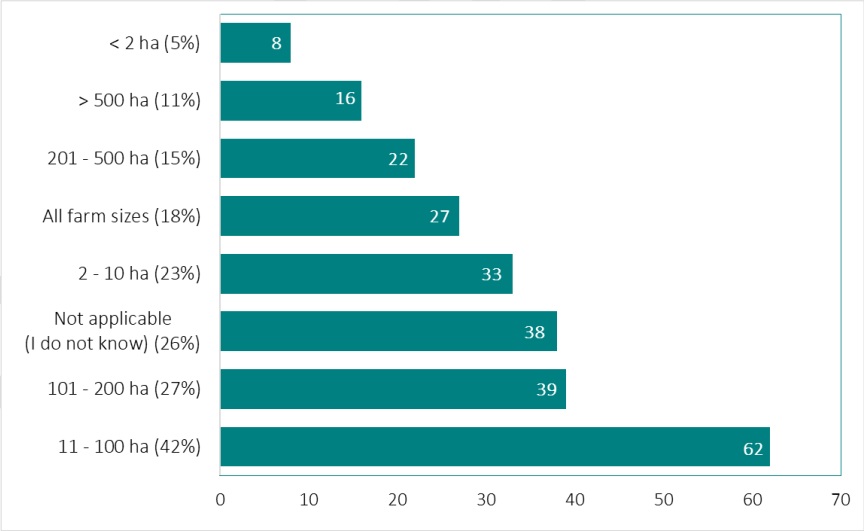


Figure 12 Farm size in MIPs

4.3.6 Stakeholders involved

Farmers, research organisations and advisors are the actors with the highest percentage of inclusion in these projects. Landowners (25%) and local and/or regional authorities (33%) were or have been less involved in these MIPs.

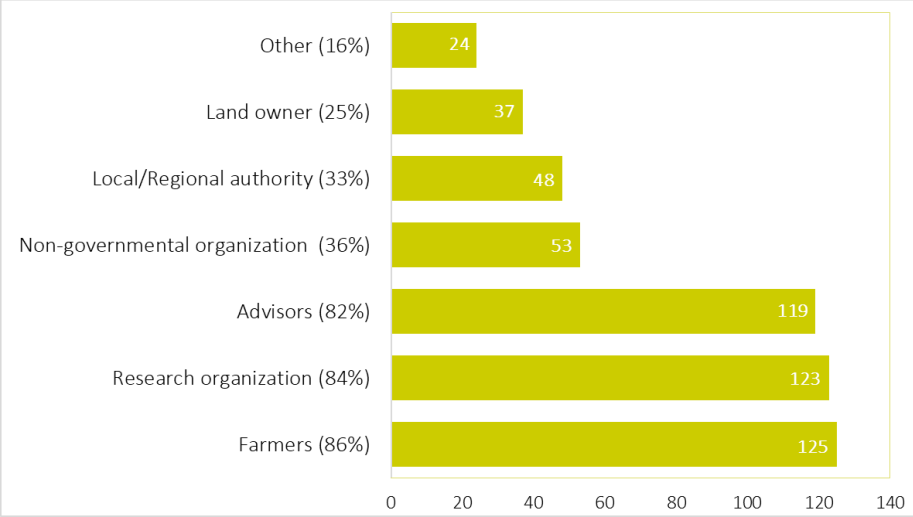


Figure 13 Stakeholders involved in the MIPs

4.3.7 Prioritised groups (inclusion)

Most of the MIPs analysed included small and young farmers. Almost 50% also involved women. The groups with the lowest percentage of participation in these projects were low-income farmers (16%) and remote farmers (17%). Of special interest to the future of agriculture is new entrant farmers, which placed at only 27%, behind that of part-time farmers.

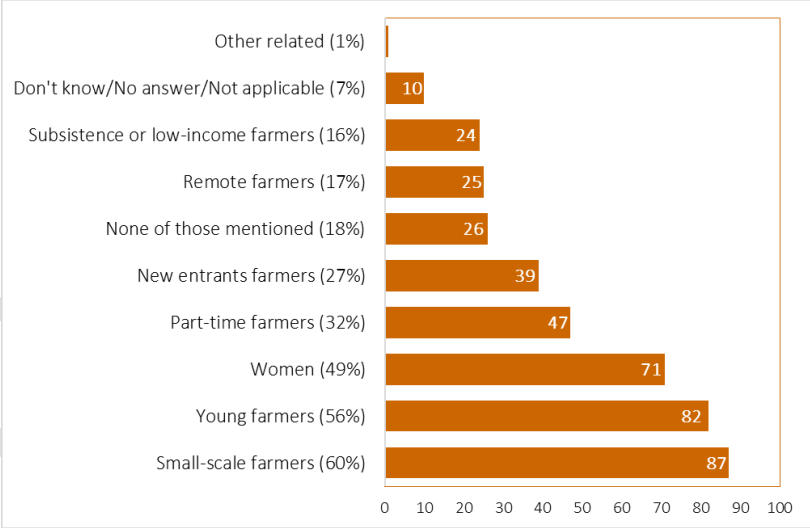


Figure 14 Prioritised groups in the MIPs

4.4 Aspects related to innovation

4.4.1 Type of innovation

Sixty percent of the projects focused on innovations for the improvement of processes, as well as on those related to the improvement of technical and/or technological aspects. With almost the same percentage these MIPs prioritised innovations for the improvement of environmental aspects. Innovations associated with design and social aspects had a lower percentage of implementation.

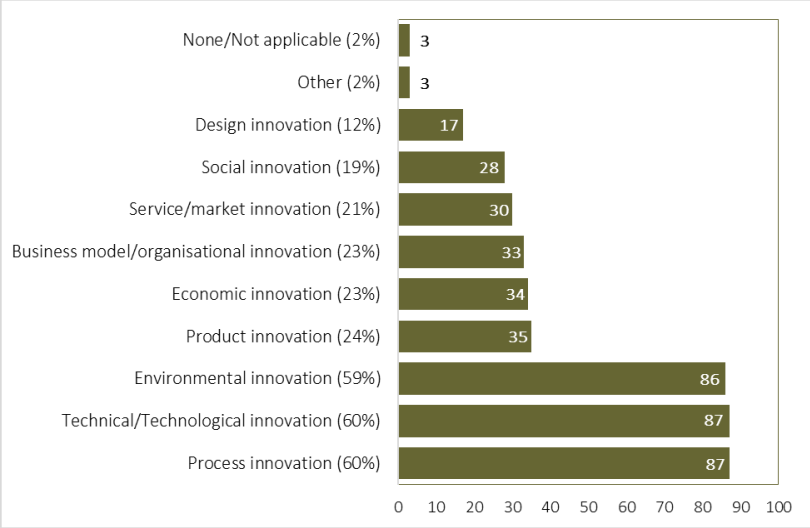


Figure 15 Type of innovation of the MIPs

4.4.2 Phase of the innovation

More than 80% of the MIPs analysed developed some type of innovation. Almost 60% of these projects focused more on the dissemination and/or embedding of an already developed innovation (final phase). A minor percentage of these MIPs (33%) were aimed at the promotion/encouragement of new ideas and the planning of these innovation initiatives (first phase).

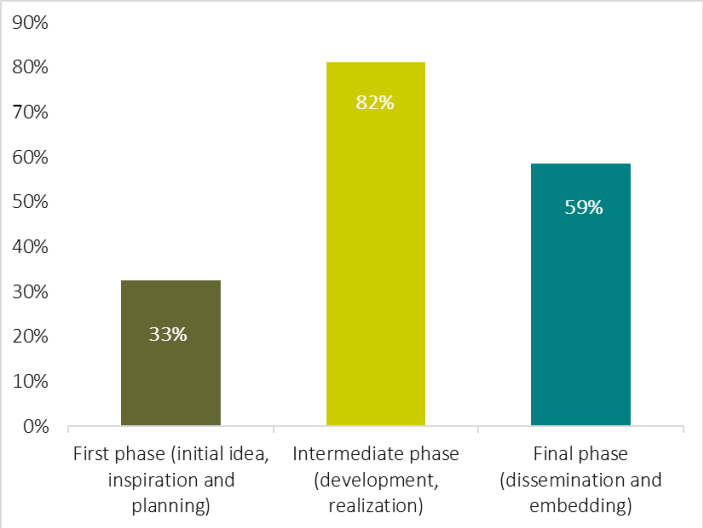


Figure 16 Innovation phase in the MIPs

4.4.3 Geographical scale of the innovation

More than 50% of the innovations were or will be implemented at farm level and at local and/or regional level. Almost 50% are innovation initiatives with impact at national level and 28% have or will have impact at EU level.

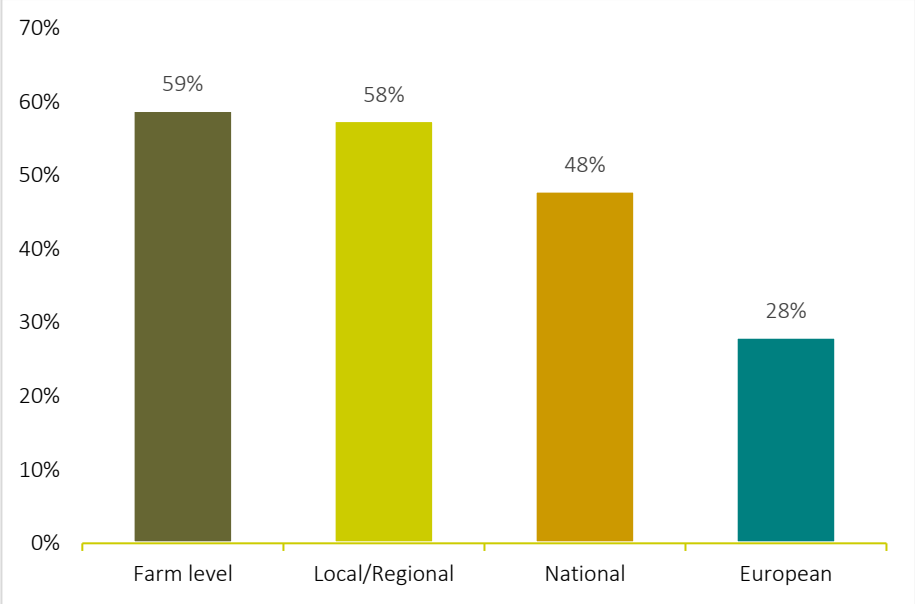


Figure 17 Geographical scale of the innovation

4.5 Aspects related to advisors and/or advisory service

4.5.1 Type of advisors

Public and/or semi-public advisory services had or have had a higher participation in these MIPs (62%). Advisors who are part of cooperative organisations or producer organisations also play a relevant role in these projects. To a lesser extent private advisory firms or advisors working for these firms were or are involved in these projects. In some of these projects, the researchers provided some advice during the implementation of the project and in other cases, advisors were not key actors in the project but were involved.

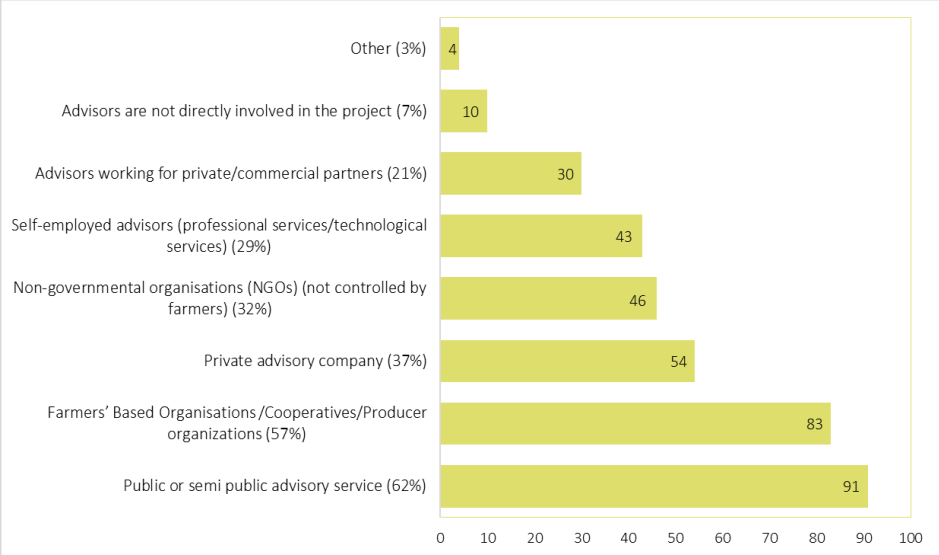


Figure 18 Main type of advisors in the MIPs

In the MIPs, other actors such as researchers can assume the role of advisors.

4.5.2 Typology of advisory services

In more than half of the MIPs the advisors mainly provided services related to environmental issues (63%), integrated farm management (54%) and the development of field techniques (50%). A smaller percentage of these MIPs (19%) included advisory services on economic resources, such as tax payments, access to incentives, subsidies or credits. Advisory services on organisational and/or administrative aspects as well as those related to rural development and diversification also had a low percentage of inclusion in these projects.

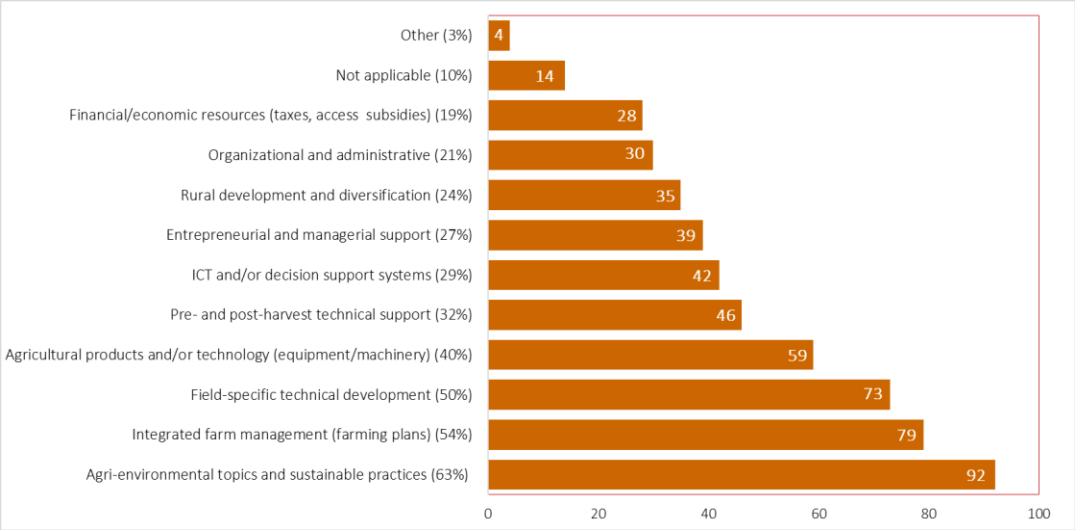


Figure 19 Main type of advisory service

In the MIPs, public or semi-public advisory services and those that are part of farmers' organisations play a key role in the promotion and implementation of sustainable environmental practices.

4.5.3 Role of advisors

In the MIPs analysed, advisors have or have played a key role in raising awareness and in the exchange and co-creation of knowledge and innovative ideas. Likewise, the role of the advisors has also been very important in providing advice and supporting the co-construction of solutions according to the needs and/or demands of farmers, as well as in the creation and/or strengthening of networks to improve relationships between key actors and foster collaboration and collective action (Table 3).

As shown in Table 3, in these MIPs projects, advisors have been less involved in aspects related to institutional support for innovation (regulations, certifications, funding mechanisms...) and scaling up/dissemination of the innovation process. The support of advisors in activities aimed at improving access to resources needed for innovation processes has also not been a high priority in these MIPs.

Table 3 Role of advisor in the MIPs

Role of advisor	Frequency in MIPs	% of inclusion in the MIPs
Promoting awareness and exchange/co-creation of knowledge and innovative ideas: Sharing and creating innovative farming techniques, equipment, technology, and/or practices.	98	67%
Providing and/or co-constructing specialised/specific advice: Offering farmers advice tailored to their technical, economic, environmental, social, or legal needs.	78	53%
Building networks and collaborations: Facilitating strong connections and partnerships among various stakeholders to improve relationships	70	48%
Facilitating the identification and articulation of needs: Assisting in finding and expressing what farmers require from research, service providers, government agencies, and others.	60	41%
Training and capacity building: Providing training and support, both for individuals and organizations, to enhance farmers' roles and performance in innovation processes.	56	38%
Participating in innovative projects: Partnering in multi-actor innovation projects, Operational Groups, or similar initiatives	54	37%
Providing institutional support for innovation: Helping and encouraging new and unique ideas to grow and become more widespread among farmers.	48	33%
Providing services for access to, or management of, resources: Offering services to help farmers access and manage the resources they need for innovation.	42	29%
Not applicable (10%)	14	10%
Other	1	1%

In the MIPs, advisors are key actors in raising awareness, co-creating knowledge about innovative processes and creating or strengthening networks.

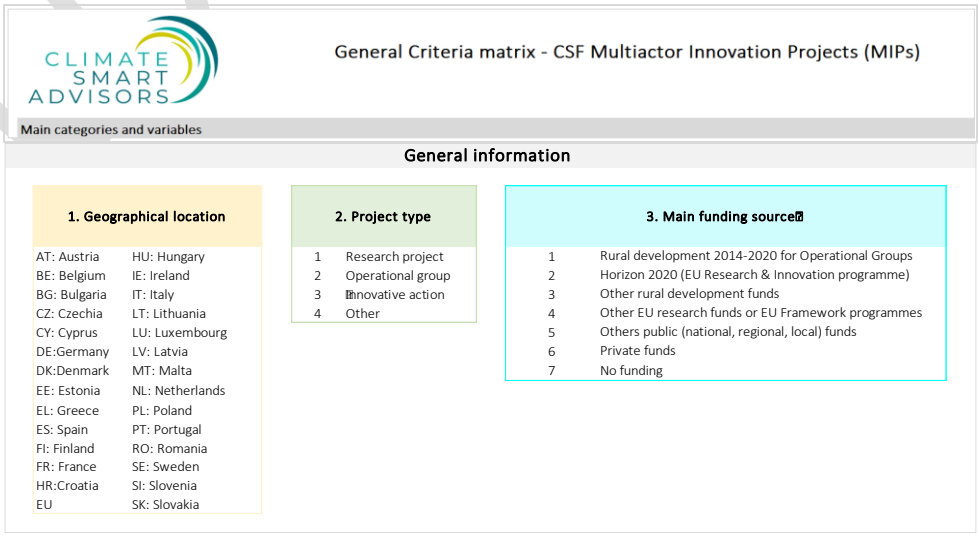
4.6 White Spot analysis in MIPs

4.6.1 General Criteria Matrix

The general criteria matrix includes the analysis for all categories (16) and variables (121). This matrix consists of three sections:

1. Readme: Contains and describes the coding of the variables by category.

Figure 20 Information included in the Readme


General Criteria matrix - CSF Multiactor Innovation Projects (MIPs)

Main categories and variables

General information

1. Geographical location	
AT: Austria	HU: Hungary
BE: Belgium	IE: Ireland
BG: Bulgaria	IT: Italy
CZ: Czechia	LT: Lithuania
CY: Cyprus	LU: Luxembourg
DE:Germany	LV: Latvia
DK:Denmark	MT: Malta
EE: Estonia	NL: Netherlands
EL: Greece	PL: Poland
ES: Spain	PT: Portugal
FI: Finland	RO: Romania
FR: France	SE: Sweden
HR:Croatia	SI: Slovenia
EU	SK: Slovakia

2. Project type	
1	Research project
2	Operational group
3	Innovative action
4	Other

3. Main funding source	
1	Rural development 2014-2020 for Operational Groups
2	Horizon 2020 (EU Research & Innovation programme)
3	Other rural development funds
4	Other EU research funds or EU Framework programmes
5	Others public (national, regional, local) funds
6	Private funds
7	No funding

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Specific aspects of the project

4. Agri sector	
1	Arable farming
2	Animal production (meat, egg, wool, etc.)
3	Milk and Diary production
4	Fruit
5	Vegetables
6	Aquaculture
7	Agroforestry
8	Other
9	Not applicable

5. CSA Thematic Areas	
1	Grassland management
2	Forage production
3	Crops management
4	Soil health and biodiversity
5	Agroforestry and relation to landscape
6	Energy management
7	Biogas production
8	Water management
9	Herd management
10	Manure storage and spreading
11	Additives for reducing enteric methane emissions
12	Rewarding mechanism
13	Other

6. Impacts	
1	Reduction of GHG (CH_4, N_2O, CO_2...)
2	Improve water quality
3	Reduction of water consumption or efficient use of water
4	Improve soil quality
5	Increase carbon sequestration or maintain carbon stores
6	Improve land use
7	Improve biodiversity
8	Reduction of farm inputs (fuels, energy, pesticides, mineral fertilisers)
9	Improve social economic conditions of rural actors
10	Food security
11	Food safety
12	Other

Specific aspects of the project

7. Approach to CSF	
1	Food security
2	Adaptation
3	Mitigation

8. Farm size	
1	< 2 ha
2	2 - 10 ha
3	11 - 100 ha
4	101 - 200 ha
5	201 - 500 ha
6	> 500 ha
7	All different farm sizes
8	Not applicable (I do not know)

9. Stakeholders involved	
1	Advisor
2	Farmer
3	Research organization
4	Non-governmental organization (NGO)
5	Land owner
6	Local/Regional authority
7	Other

10. Groups for inclusion	
1	Small-scale farmers
2	Young farmers
3	Women
4	Part-time farmers
5	Remote farmers
6	New entrants farmers
7	Subsistence or low-income farmers
8	None of those mentioned
9	Don't know/No answer/Not applicable
10	Other related

Aspects related to innovation

11. Type of innovation	
1	Product innovation
2	Process innovation
3	Design innovation
4	Service/market innovation
5	Social innovation
6	Technical/Technological innovation
7	Business model/organisational innovation
8	Environmental innovation
9	Economic innovation
10	Other
11	None/Not applicable

12. Phase of the innovation	
1	First phase (initial idea, inspiration and planning)
2	Intermediate phase (development, realization)
3	Final phase (dissemination and embedding)

13. Geographical scale of the innovation	
1	Farm level
2	Local/Regional
3	National
4	European

Aspect related to advisors

14. Type of adviser	
1	Self-employed advisors (professional services/technological services)
2	Private advisory company
3	Public or semi public advisory service
4	Farmers' Based Organisations/Cooperatives/Producer organizations
5	Non-governmental organisations (NGOs) (not controlled by farmers)
6	Advisors working for private/commercial partners
7	Advisors are not directly involved in the project
8	Other

15. Type of advisory service	
1	Pre- and post-harvest technical support
2	Integrated farm management (farming plans)
3	Entrepreneurial and managerial support
4	Field-specific technical development
5	Rural development and diversification
6	Agricultural products and/or technology (equipment/machinery)
7	ICT and/or decision support systems
8	Financial/economic resources (taxes, access/application to incentives, subsidies, credit...)
9	Organizational and administrative
10	Agri-environmental topics and sustainable practices
11	Not applicable
12	Other

Aspect related to advisors

16. Role of advisors	
1	Promoting awareness and exchange/co-creation of knowledge and innovative ideas: Sharing and creating innovative farming techniques, equipment, technology, and/or practices
2	Providing and/or co-constructing specialised/specific advice: Offering farmers advice tailored to their technical, economic, environmental, social, or legal needs
3	Facilitating the identification and articulation of needs: Assisting in finding and expressing what farmers require from research, service providers, government agencies, and others.
4	Building networks and collaborations: Facilitating strong connections and partnerships among various stakeholders to improve relationships.
5	Training and capacity building: Providing training and support, both for individuals and organizations, to enhance farmers' roles and performance in innovation processes.
6	Providing services for access to, or management of, resources: Offering services to help farmers access and manage the resources they need for innovation.
7	Providing institutional support for innovation: Helping and encouraging new and unique ideas to grow and become more widespread among farmers.
8	Participating in innovative projects: Partnering in multi-actor innovation projects, Operational Groups, or similar initiatives
9	Not applicable
10	Other

2. Coding of projects: Contains and describes the codes used for the projects, name and acronym (See Annex 3).
3. Matrix (see figure 21)

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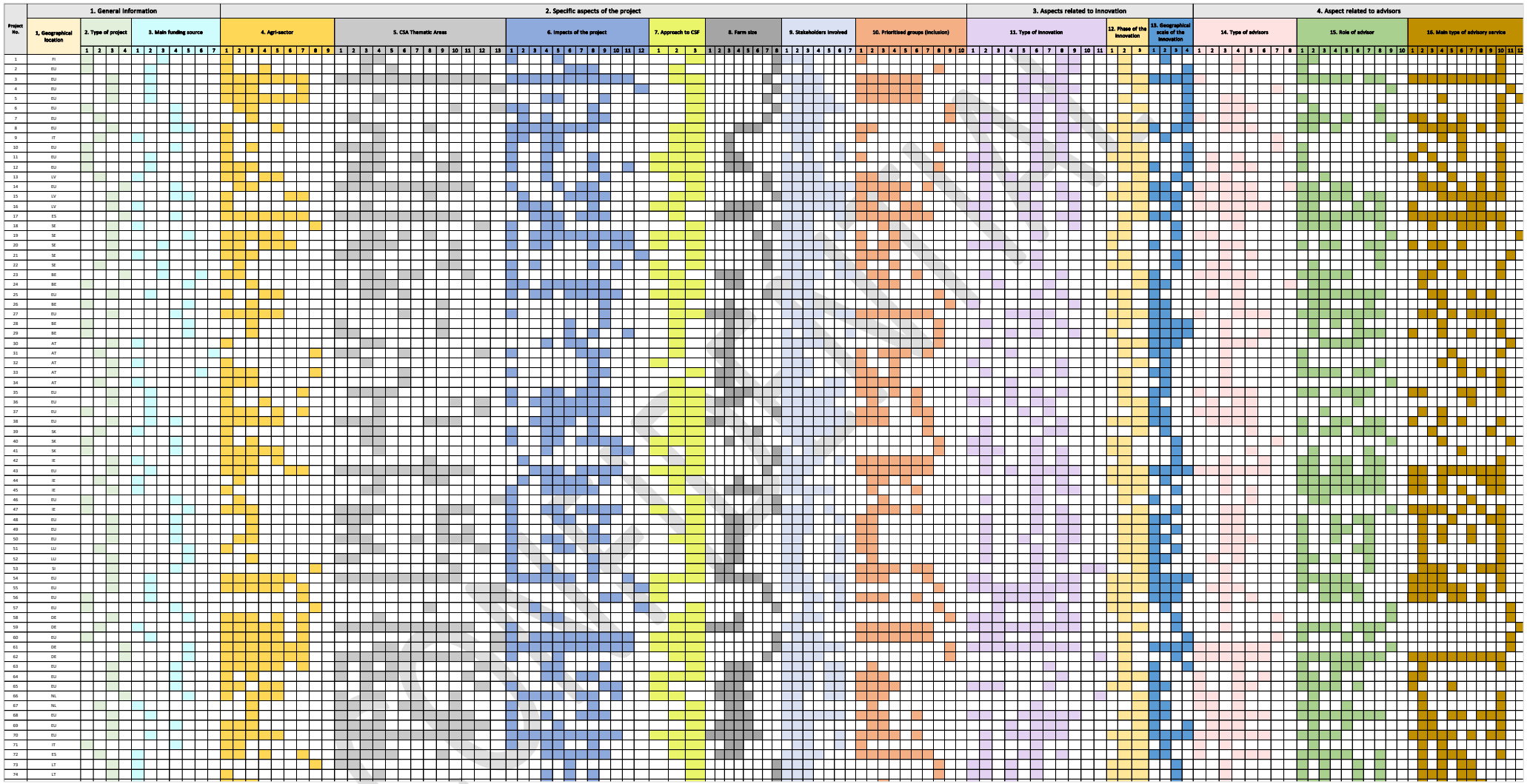
Figure 21 General Criteria Matrix



4.6.2 White spots matrix

In this matrix (figure 22), the three categories of the 'General information' section (geographical location, project type and main funding source) were excluded as they are not relevant for the analysis of the white spots. This means that these are very general variables that do not need to be specifically addressed in the CoDIEs. In total this matrix included 13 categories and 95 variables. It also contains the inclusion percentages of each variable and the traffic light scale (see top of figure 22) that allows to identify types of white spots according to the defined ranges.

Figure 22 White spots matrix

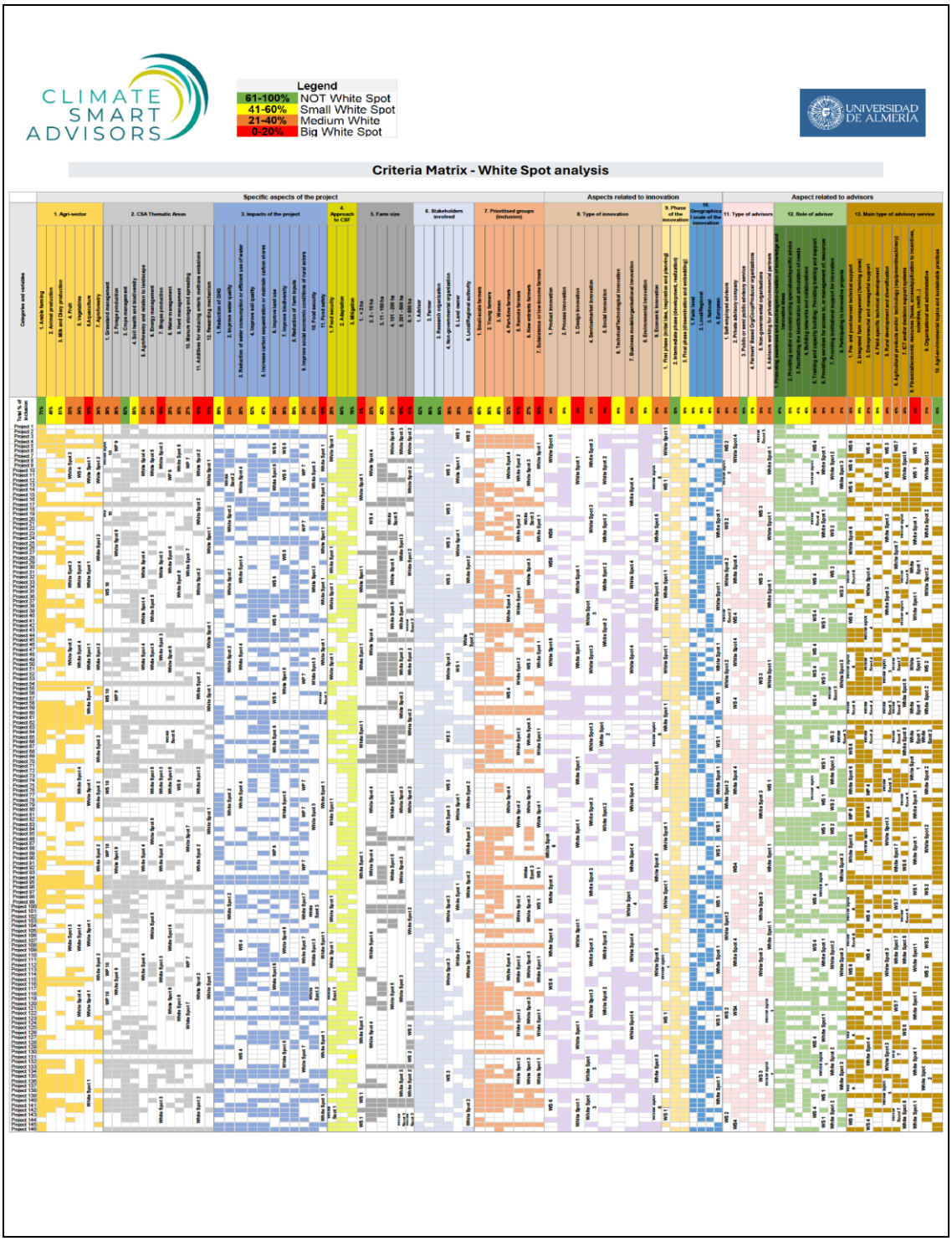


Table 4 shows the 11 variables with the highest percentage of inclusion in the MIPs that are part of the first range of the traffic light scale 'Green - NOT White Spot'.

Table 4 Variables "NOT White Spot"

Green range 61-100% - NOT White Spot = 11		
Category	**Variable**	**% of inclusion in MIPs**
Agri-sector	Arable farming	71%
CSA Thematic Areas	Crops management	62%
Approach to CSF	Adaptation	64%
	Mitigation	79%
Stakeholders involved	Advisor	82%
	Farmer	86%
	Research organization	84%
Phase of the innovation	Intermediate phase (development, realization)	82%
Type of advisors	Public or semi-public advisory service	62%
Role of advisor	Promoting awareness and exchange/co-creation of knowledge and innovative ideas	67%
Main type of advisory service	Agri-environmental topics and sustainable practices	63%

Table 5 contains the 24 variables with inclusion percentages in the MIPs between 41 and 60% that were categorised as 'Small White Spots' (SWS).

Table 5 Variables with Small White Spots

Yellow range 41-60% - Small White Spots = 24		
Category	**Variable**	**% of inclusion in MIPs**
Agri-sector	Animal production	45%
	Milk and Diary production	51%
CSA Thematic Areas	Soil health and biodiversity	55%
Impacts of the project	Reduction of GHG	59%
	Improve soil quality	52%
	Increase carbon sequestration or maintain carbon stores	47%
	Reduction of farm inputs	59%
Farm size	11 - 100 ha	42%
Prioritised groups (inclusion)	Small-scale farmers	60%
	Young farmers	56%
	Women	49%
Type of innovation	Process innovation	60%
	Technical/Technological innovation	60%
	Environmental innovation	59%
Phase of the innovation	Final phase (dissemination and embedding)	59%
Geographical scale of the innovation	Farm level	59%
	Local/Regional	58%

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Yellow range 41-60% - Small White Spots = 24		
Category	**Variable**	**% of inclusion in MIPs**
	National	48%
Type of advisors	Farmers' Based Org/Coop/Producer organizations	57%
Role of advisor	Providing and/or co-constructing specialised/specific advice	53%
	Facilitating the identification and articulation of needs	41%
	Building networks and collaborations	48%
Main type of advisory service	Integrated farm management (farming plans)	54%
	Field-specific technical development	50%

4.6.3 Prioritised white spots

The variables prioritised for analysis (possibly to be addressed through CoDIEs) were those with inclusion percentages between 0-20%, categorised as Big White Spots (BWS) (the red ones) and variables between 21-40%, identified as Medium White Spots (MWS) (the orange ones) (Table 6).

Table 6 Traffic-light prioritisation scale

Legend	
61-100%	NOT White spot
41-60%	Small White Spot
21-40%	Medium White Spot
0-20%	Big White Spot

Thirteen variables were identified with inclusion percentages below 20% (Table 7) and are therefore considered as BWS, i.e. the most relevant for inclusion analyses in CoDIEs. The order of prioritisation of the BWS (WS1, WS2, WS3...) was defined according to the inclusion percentages of the variables for each category. That is why each category has WSs from WS1 to WS4...WS7. For example, in the case of the category "Agri-sector" WS1 "Aquaculture" has the lowest % of inclusion of that category (10%), the following WS2 "Agroforestry" has a % of inclusion of 24% that is why it appears in table 8 (variables between 21-40%, identified as Medium White Spots (MWS) (the orange ones) and so on for each category.

Table 7 Variables with Big White Spots

Red range 0-20% - Big White Spot = 13				
Category	**Variable**	**% of inclusion in MIPs**	**Order of prioritisation of WS***	**Total BWS per category**
Agri-sector	Aquaculture	10%	WS1	1
CSA Thematic Areas	Rewarding mechanism	11%	WS1	3
	Additives for reducing enteric methane emissions	15%	WS2	
	Biogas production	16%	WS3	
Impact of the project	Food safety	10%	WS1	1

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Red range 0-20% - Big White Spot = 13				
Category	**Variable**	**% of inclusion in MIPs**	**Order of prioritisation of WS***	**Total BWS per category**
Farm size	< 2 ha (5%)	5%	WS1	3
	> 500 ha (11%)	11%	WS2	
	201 - 500 ha	15%	WS3	
Prioritised groups (inclusion)	Subsistence or low-income farmers	16%	WS1	2
	Remote farmers	17%	WS2	
Type of innovation	Design innovation	12%	WS1	2
	Social innovation	19%	WS2	
Main type of advisory service	Financial/economic resources (taxes, access/application to incentives, subsidies, credit…)	19%	WS1	1

*According to % from lowest to highest

Table 8 summarises the 44 variables that are identified as MWS (variables with % inclusion between 21-40%).

Table 8 Variables with Medium White Spots

Orange range 21-40% - Medium White Spot = 44				
Category	**Variable**	**% of inclusion in MIPs**	**Order of prioritisation of WS***	**Total MWS per category**
Agri-sector	Agroforestry	24%	WS2	3
	Fruit	33%	WS3	
	Vegetables	34%	WS4	
CSA Thematic Areas	Agroforestry and relation to landscape	23%	WS4	7
	Energy management	24%	WS5	
	Water management	25%	WS6	
	Manure storage and spreading	27%	WS7	
	Herd management	30%	WS8	
	Forage production	36%	WS9	
	Grassland management	38%	WS10	
Impacts of the project	Food security	23%	WS2	6
	Improve water quality	23%	WS3	
	Reduction of water consumption or efficient use of water	29%	WS4	
	Improve biodiversity	36%	WS5	
	Improve land use	38%	WS6	
	Improve social economic conditions of rural actors	39%	WS7	
Approach to CSF	Food security	29%	WS1	1
Farm size	2 - 10 ha	23%	WS4	2
	101 - 200 ha	27%	WS5	
Stakeholders involved	Land owner	25%	WS1	3
	Local/Regional authority	33%	WS2	
	Non-governmental organization	36%	WS3	
Prioritised groups (inclusion)	New entrants farmers	27%	WS3	2
	Part-time farmers	32%	WS3	
Type of innovation	Service/market innovation	21%	WS3	4
	Business model/organisational innovation	23%	WS4	
	Economic innovation	23%	WS5	
	Product innovation	24%	WS6	
Phase of the innovation	First phase (initial idea, inspiration and planning)	33%	WS1	1
Geographical scale of the innovation	European	28%	WS1	1

Orange range 21-40% - Medium White Spot = 44				
Category	**Variable**	**% of inclusion in MIPs**	**Order of prioritisation of WS***	**Total MWS per category**
Type of advisors	Advisors working for private/commercial partners	21%	WS1	4
	Self-employed advisors	29%	WS2	
	Non-governmental organisations	32%	WS3	
	Private advisory company	37%	WS4	
Role of advisor	Providing services for access to, or management of, resources	29%	WS1	4
	Providing institutional support for innovation	33%	WS2	
	Participating in innovative projects	37%	WS3	
	Training and capacity building: Providing training and support	38%	WS4	
Main type of advisory service	Organizational and administrative	21%	WS2	6
	Rural development and diversification	24%	WS3	
	Entrepreneurial and managerial support	27%	WS4	
	ICT and/or decision support systems	29%	WS5	
	Pre- and post-harvest technical support	32%	WS6	
	Agricultural products and/or technology (equipment/machinery)	40%	WS7	

*According to % from lowest to highest.

4.6.4 Selection of prioritised white spots for CoDIEs

As mentioned above, the criteria for selecting the white spots to be covered by the CoDIEs are those identified as BWS and MWS, however given the number of prioritised white spots (57 in total), each of the categories and variables were analysed in detail to determine their relevance and/or impact for the CoDIEs.

Given the importance of some categories and variables because of their direct connection to the subject matter of, and approach to, the project certain categories and variables (agri-sector, CSA thematic areas, approach to CSF, phase of the innovation, type of advisors, role of advisors) were selected directly by the WP3 partners. However, others were discussed by the project partners during a session at the General Assembly #3 (4 categories: Impacts of the project, prioritised groups (inclusion), type of innovation, main type of advisory services and the 24 associated variables) (see figure 24).

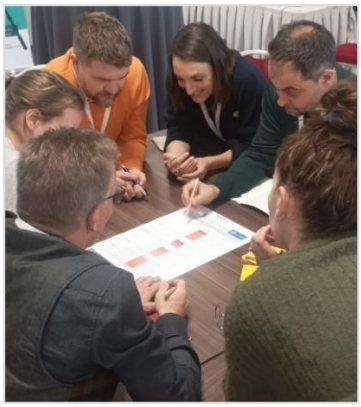

Figure 23 Photos of the session to prioritise categories and variables for CoDIEs– General Assembly #3 April 2024
Figure 24 Categories and variables analysed by project partners

SUMMARY

CLIMATE SMART ADVISORS

Prioritisation of identified White Spots

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Categories	Variables			Relevance of the category	Total	
1. IMPACT	Do you think this category should be ranked for selecting CoDIEs? (Each person please tick ☑ a circle)		YES	8 8 7 7 7 6 7 6 8	58	1
			NO	1 0 1 0 0 2 0 0 0	4	
1. Impact of the project (Variables)		% of inclusion	White Spot	Relevance of the White Spot (WS) (If yes, please tick up to 3 WS)		
	1. Food safety	10%	WS1	0 0 2 5 0 0 2 3 2	14	
	2. Food security	23%	WS2	3 1 1 2 0 5 2 3 1	18	
	3. Improve water quality	23%	WS3	5 3 2 2 4 4 0 4 1	25	
	4. Reduction of water consumption or efficient use of water	29%	WS4	4 5 5 0 2 4 5 2 3	30	
	5. Improve biodiversity	36%	WS5	7 4 3 5 7 2 5 4 6	43	
	6. Improve land use	38%	WS6	4 6 1 5 4 0 5 2 4	31	
	7. Improve social economic conditions of rural actors	39%	WS7	6 2 7 2 4 3 5 0 7	36	
2. GROUPS	Do you think this category should be ranked for selecting CoDIEs? (Each person please tick ☑ a circle)		YES	1 2 8 5 0 5 2 0 7	30	2
			NO	7 6 0 1 7 1 3 6 1	32	-
2. Prioritised groups (inclusion)		% of inclusion	White Spot	Relevance of the White Spot (WS) (If yes, please tick up to 3 WS) *		* All farmers should be included
	1. Subsistence or low-income farmers	16%	WS1	7 1 5 4 0 5 3 0 7	32	
	2. Remote farmers	17%	WS2	1 1 1 1 0 0 0 0 7	11	
	3. New entrants farmers	27%	WS3	6 1 4 6 0 4 2 0 8	31	
	4. Part-time farmers	32%	WS4	2 0 3 1 0 3 1 0 3	13	
3. TYPE OF INNOVATION	Do you think this category should be ranked for selecting CoDIEs? (Each person please tick ☑ a circle)		YES	3 8 8 4 7 2 2 3 4	41	3
			NO	5 0 0 2 0 4 6 3 4	24	
3. Type of innovation (Variables)		% of inclusion	White Spot	Relevance of the White Spot (WS) (If yes, please tick up to 3 WS)		
	1. Design innovation	12%	WS1	0 0 0 0 3 0 1 0 1	5	
	2. Social innovation	19%	WS2	2 6 4 1 2 0 2 0 1	18	
	3. Service/market innovation	21%	WS3	3 0 2 2 5 1 1 3 3	20	
	4. Business model/organisational innovation	23%	WS4	3 5 5 1 4 2 1 1 0	22	
	5. Economic innovation	23%	WS5	1 7 4 2 6 1 1 3 0	25	
	6. Product innovation	24%	WS6	2 3 1 3 1 1 0 2 0	13	
4. ADVISORY SERVICE	Do you think this category should be ranked for selecting CoDIEs? (Each person please tick ☑ a circle)		YES	8 6 8 7 7 4 7 6 0	53	2
			NO	0 0 0 0 1 1 0 0 8	10	
4. Main type of advisory service (Variables)		% of inclusion	White Spot	Relevance of the White Spot (WS) (If yes, please tick up to 3 WS) *		* All should be included
	1. Financial/economic resources (taxes, access/application to incentives, subsidies, credit...)	19%	WS1	5 2 5 5 6 2 7 3 0	35	
	2. Organizational and administrative	21%	WS2	0 0 5 4 0 0 1 0 0	10	
	3. Rural development and diversification	24%	WS3	6 5 3 2 6 4 3 1 0	30	
	4. Entrepreneurial and managerial support	27%	WS4	3 1 4 2 1 2 2 1 0	16	
	5. ICT and/or decision support systems	29%	WS5	3 3 4 2 0 0 3 2 0	17	
	6. Pre- and post-harvest technical support	32%	WS6	4 1 0 1 1 1 0 5 0	13	
	7. Agricultural products and/or technology (equipment/machinery)	40%	WS7	6 6 2 3 7 3 3 6 0	36	

During the coffee break, please put your comments and/or questions on post-its and stick them on the poster on the wall.

Project partners prioritised 3 out of the 4 categories. For the category "prioritised groups (inclusion)" very similar results were obtained, 32 partners consider that it should not be included for the CoDIEs, and 30 partners think it should. Table 9 summarises the results obtained, the categories and variables are presented in order of priority according to the number of votes of the partners, for example for the most voted category (58 votes) "Impact of the project" the most voted variable was "Improve biodiversity" with 43 votes, that is why it is the WS1. The second most voted variable was

"Improve social economic conditions of rural actors" with 36 votes, that is why it is WS2 and so on (see figure 24 for all votes).

Table 9 Summary of categories and variables prioritised by project partners

Category	Category prioritised for inclusion in CoDIEs?	Variables	WS priority according to votes
1.Impact of the project	YES (Total votes: 58)	1. Improve biodiversity	WS1
		2. Improve social economic conditions of rural actors	WS2
		3. Improve land use	WS3
		4. Reduction of water consumption or efficient use of water	WS4
		5. Improve water quality	WS5
		6. Food security	WS6
		7. Food safety	WS7
2. Main type of advisory service	YES (Total votes: 53)	1. Agricultural products and/or technology (equipment/machinery)	WS1
		2. Financial/economic resources (taxes, access/application to incentives, subsidies, credit…)	WS2
		3. Rural development and diversification	WS3
		4. ICT and/or decision support systems	WS4
		5. Entrepreneurial and managerial support	WS5
		6. Pre- and post-harvest technical support	WS6
		7. Organizational and administrative	WS7
3. Type of innovation	YES (Total votes: 41)	1. Economic innovation	WS1
		2. Business model/organisational innovation	WS2
		3. Service/market innovation	WS3
		4. Social innovation	WS4
		5. Product innovation	WS5
		6. Design innovation	WS6
4. Prioritised groups (inclusion)	YES=30 NO=32	1. Subsistence or low-income farmers	WS1
		2. New entrants farmers	WS2
		3. Part-time farmers	WS3
		4. Remote farmers	WS4

Considering all the above mentioned criteria (results of the MIPs analysis (traffic light scale), assessment of the WP3 team and prioritisation of the other project partners) the most relevant categories and variables, i.e. the white spots suggested to be filled in by the CoDIEs, were defined. Table 10 lists the 45 white spots that were prioritised. For each of the categories, the white spots are described in order of relevance according to the traffic light scale and according to the prioritisation of the partners.

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Table 10 Prioritised White Spots for CoDIEs

Category	Variable	Order of prioritisation of WS according to the traffic light scale	Order of prioritisation of WS according to partner prioritisation	Total WS per category
Agri-sector	Aquaculture	WS1		4
	Agroforestry	WS2		
	Fruit	WS3		
	Vegetables	WS4		
CSA Thematic Areas	Rewarding mechanism	WS1		10
	Additives for reducing enteric methane emissions	WS2		
	Biogas production	WS3		
	Agroforestry and relation to landscape	WS4		
	Energy management	WS5		
	Water management	WS6		
	Manure storage and spreading	WS7		
	Herd management	WS8		
	Forage production	WS9		
	Grassland management	WS10		
Impacts of the project	Food safety	WS1	WS7	7
	Food security	WS2	WS6	
	Improve water quality	WS3	WS5	
	Reduction of water consumption or efficient use of water	WS4	WS4	
	Improve biodiversity	WS5	WS1	
	Improve land use	WS6	WS3	
	Improve social economic conditions of rural actors	WS7	WS2	
Stakeholders involved	Land owner	WS1		3
	Local/Regional authority	WS2		
	Non-governmental organization	WS3		
Prioritised groups (inclusion)	Subsistence or low-income farmers	WS1	WS1	4
	Remote farmers	WS2	WS4	
	New entrants farmers	WS3	WS2	
	Part-time farmers	WS4	WS3	
Type of innovation	Design innovation	WS1	WS6	6
	Social innovation	WS2	WS4	
	Service/market innovation	WS3	WS3	
	Business model/organisational innovation	WS4	WS2	
	Economic innovation	WS5	WS1	
	Product innovation	WS6	WS5	
Phase of the innovation	First phase (initial idea, inspiration and planning)	WS1		1
Role of advisor	Providing services for access to, or management of, resources	WS1		4
	Providing institutional support for innovation	WS2		
	Participating in innovative projects	WS3		
	Training and capacity building: Providing training and support	WS4		
Main type of advisory service	Financial/economic resources (taxes, access/application to incentives, subsidies, credit…)	WS1	WS2	6
	Organizational and administrative	WS2	WS7	
	Rural development and diversification	WS3	WS3	
	Entrepreneurial and managerial support	WS4	WS5	
	ICT and/or decision support systems	WS5	WS4	
	Pre- and post-harvest technical support	WS6	WS6	
	Agricultural products and/or technology (equipment/machinery)	WS7	WS1	

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4.7 Advisory gaps in CSF innovations

Table 11 summarises the main aspects mentioned by the project partners (NCs and TLs) on the gaps of the advisors in the MIPs and in general on the shortcomings of advisory services in CSF. The main topics were ordered as categories from the most to the least mentioned. The most relevant observations associated with each category are also shown. Of the five categories identified, three relate to or depend on individual aspects of advisors (Knowledge; Skills/abilities/capacities; Awareness/interest/motivation/disposition/attitude) and two depend on factors inherent in the advisory systems (Networking and structure; and/or Functioning of advisory systems). During General Assembly #3, the rest of the consortium partners voted on the relevance of the aspects identified for each category (Figure 25).

The main category identified is related to **knowledge**. In general, project partners consider that advisors do not have the necessary information and training to understand climate change issues and especially the best practices and/or innovation techniques to implement for adaptation and mitigation according to the contexts and needs of farmers.

The second category identified is **Networking.** Partners acknowledge the difficulties of advisors to cooperate and/or work together with advisors from other thematic areas or other sectors. They especially highlight the lack of co-creation of knowledge and interaction and communication between advisors and other actors in the agricultural knowledge and innovation systems, including farming communities, researchers/scientists and public administration, among others.

Regarding the third category **(Skills/abilities/capacities),** there is a particular emphasis on the lack of skills of advisors to assist farmers in implementing climate-smart practices. On this aspect, partners also highlight the limitations of the advisors to promote or carry out co-creation processes with farmers, to apply their knowledge at the scale required by farmers and to maintain a holistic approach in the advisory processes. The high workload and lack of time of advisors was also prioritised as a shortcoming.

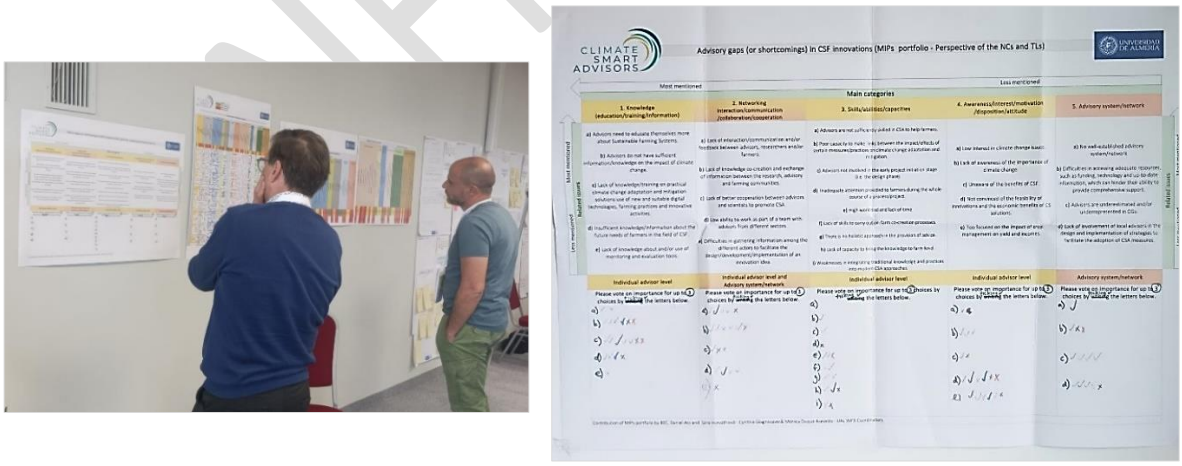

Figure 25 Pictures of the activity during General Assembly #3

Lack of awareness or interest of advisors in climate change was identified as the fourth category. On this aspect the partners highlight that advisors are more focused on the impact of crop management on yield and income and are not sufficiently convinced of the feasibility of innovations and the economic benefits of climate-smart solutions.

Regarding the last category (topic), partners mentioned that in some countries **there is no well-established advisory system or network**, which represents difficulties in accessing adequate

resources (financial, technological, knowledge) and therefore advisors are not able to provide comprehensive support. Similarly, on this aspect it is highlighted that advisors are underestimated and/or underrepresented in the operational groups and that especially local advisors are not involved in the design and implementation of strategies and/or innovation measures on CSF.

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Table 11 Advisory gaps (or shortcomings) in CSF innovations

Advisory gaps (or shortcomings) in CSF innovations (MIPs portfolio - Perspective of the NCs and TLs)

Most mentioned ← → Less mentioned

Main categories

1. Knowledge (education/training/information)	2. Networking Interaction/communication /collaboration/cooperation	3. Skills/abilities/capacities	4. Awareness/interest/motivation /disposition/attitude	5. Advisory system/network
a) Advisors need to educate themselves more about Sustainable Farming Systems. b) Advisors do not have sufficient information/knowledge on the impact of climate change. c) Lack of knowledge/training on practical climate change adaptation and mitigation solutions:use of new and suitable digital technologies, farming practices and innovative activities. d) Insufficient knowledge/information about the future needs of farmers in the field of CSF. e) Lack of knowledge about and/or use of monitoring and evaluation tools.	a) Lack of interaction/communication and/or feedback between advisors, researchers and/or farmers. b) Lack of knowledge co-creation and exchange of information between the research, advisory and farming communities. c) Lack of better cooperation between advisors and scientists to promote CSA. d) Low ability to work as part of a team with advisors from different sectors. e) Difficulties in gathering information among the different actors to facilitate the design/development/implementation of an innovation idea.	a) Advisors are not sufficiently skilled in CSA to help farmers. b) Poor capacity to make links between the impact/effects of certain measures/practices on climate change adaptation and mitigation. c) Advisors not involved in the early project initiation stage (i.e. the design phase) d) Inadequate attention provided to farmers during the whole course of a process/project. e) High workload and lack of time f) Lack of skills to carry out on-farm co-creation processes. g) There is no holistic approach in the provision of advice. h) Lack of capacity to bring the knowledge to farm level. i) Weaknesses in integrating traditional knowledge and practices into modern CSA approaches.	a) Low interest in climate change issues. b) Lack of awareness of the importance of climate change. c) Unaware of the benefits of CSF. d) Not convinced of the feasibility of innovations and the economic benefits of CS solutions. e) Too focused on the impact of crop management on yield and incomes.	a) No well-established advisory system/network b) Difficulties in accessing adequate resources, such as funding, technology and up-to-date information, which can hinder their ability to provide comprehensive support. c) Advisers are underestimated and/or underrepresented in OGs. d) Lack of involvement of local advisors in the design and implementation of strategies to facilitate the adoption of CSA measures.
Individual advisor level	Individual advisor level and Advisory system/network	Individual advisor level	Individual advisor level	Advisory system/network

Related issues: Most mentioned ↑ Less mentioned

5 Main insights and conclusions

The classification system of CSF MIPs and the criteria matrix used for their analysis included a wide variety of categories and variables based on an extensive and solid theoretical basis, which allowed for a more accurate and comprehensive analysis of CSF MIPs in 22 European countries, something that to the authors' knowledge did not exist before. Most of the consulted databases on MIPs (mainly EIP-AGRI Project Database) include very general and incomplete information on this type of projects (title, project objective, geographical location, start and end date, keywords, main funding source, project status, website, context description and URL). As can be seen, from this source of information it would not be possible to carry out the in-depth analysis presented in this Deliverable. The input provided by the NCs and TLs through the survey is very valuable as they are mostly experts in innovation and/or sustainability of agricultural systems, many of them with specific knowledge on climate change and agricultural issues and/or experience as farm advisors. In addition, they are knowledgeable about the conditions and/or realities of CSF in their countries. All this, together with the feedback obtained from the rest of the project partners (as a complementary method of analysis), gives an idea of the type and quality of the information analysed and adds value to the results by providing a novel and interesting overview of CSF MIPs and the role of advisors and/or ASPs activities in this type of project.

We are aware that the type and number of projects included by the NCs and TLs in the survey may influence the results obtained, however, it is important to highlight as shown above that all the CSF MIPs met the previously established inclusion criteria (Multi-stakeholder approach, Innovation: Projects should exhibit innovative elements or approaches, Focus on climate smart farming and advisor/s involvement). We consider that although the sample analysed does not represent the totality of MIPs at EU level, it is an initial representative sample that provides the most complete information available so far on CSF MIPs. The results of this analysis provide an initial overview of CSF MIPs approaches. In other words, they are a starting point, they may not represent the reality in all countries as there are many factors that need to be taken into account and analysed in more detail at the national level, but they provide valuable information for use at the project level and for decision-making.

Although the main objective is for the results of this analysis to be the basis for the selection of the first 4-5 CoDIEs[5], these results represent a valuable input to improve and/or strengthen certain aspects of the MIPs according to the findings and the contexts and/or needs of each country. In this sense, it is important that the MIPs portfolio continues to be fed with more projects[6] (that meet the above criteria) so that in the future analyses can be carried out at the national level to provide more specific insights adjusted to the reality of each country. In addition, this updated CSF MIPs portfolio will be the main input for the update of the present analysis - Deliverable D3.2 'Updated analysis of role of advisors in MIPs and White Spot analysis' to be delivered in month 43.

For now, this document provides a baseline for improvement actions in relation to some aspects of MIPs, especially with regard to strengthening the activities and/or role of advisors and/or ASPs in CSF. The most relevant aspects of the analysis are summarised below.

- Most of the MIPs analysed are focused on arable crops, animal production and milk and dairy production. Their main objective has been the development/realization (intermediate phase) of initiatives and/or innovation actions (technical/technological innovation, process innovation and

[5] Milestone MS24 "Setting up first round of CoDIEs and methodology - 4-5 CoDIEs" to be delivered at M18.
[6] Milestone MS23 - Classification of MIPs and portfolio of MIPs - round 2 to be delivered at M40.

environmental innovation) aimed at crop management, soil health and biodiversity, especially to improve soil quality, reduce agricultural inputs, reduce greenhouse gases and increase carbon sequestration or maintain carbon stocks. The main actors in these projects are farmers, research organisations and advisors.

- In these MIPs, advisors and/or public and/or semi-public advisory services and those who are part of farmer/producer organisations have been key in raising awareness and exchanging and/or co-creating knowledge and innovative ideas on sustainable practices. They have also played a relevant role in co-constructing solutions according to farmers' needs and/or demands, as well as in creating and/or strengthening networks to improve relationships between key actors and foster collaboration and collective action.

- Identified in the MIPs were 13 big white spots (BWS), 44 medium white spots (MWS) and 24 small white spots (SWS) and 11 variables with a high percentage of inclusion (coverage) in these projects, more than 60% (NO white spots). A total of 57 white spots were selected (BWS and MWS) for analysis and 45 of them were selected for prioritisation or to be addressed by the Co-Design Innovation Experiments (CoDIEs).

- Regarding the main white spots identified and prioritised, it was found that MIPs included in a low percentage the aquaculture and agroforestry sectors. The least present thematic areas are rewarding mechanisms, additives to reduce enteric methane emissions, and biogas production. Food security, improvement of water quality and reduction of water consumption or efficient water use were the impacts with the lowest percentages in these MIPs. In terms of expected impacts, the project partners prioritised the improvement of biodiversity, the improvement of socio-economic conditions of rural actors, and the improvement of land use as the most relevant white spots for the CoDIEs. The actors least involved in the MIPs were landowners, local/regional authorities and NGOs.

- Concerning the white spots of the innovation category it was found that the MIPs were less focused on the inspiration, exploration of ideas and/or planning (first phase) of innovative actions related to design, social, economic, organisational and business models. Regarding these types of innovation, the project partners consider that economic, business model, organisational and service/market innovations should be considered as priorities for the CoDIEs.

- In relation to the white spots for advisory services, it was evident that in the MIPs, advisors working for private/commercial partners and self-employed advisors had a lower participation in the provision of advisory services. In terms of services offered by advisors, there was a lower percentage of those related to economic/financial resources, such as tax payments, access to incentives, subsidies, as well as organisational, administrative, rural development and diversification aspects. The project partners consider that advisory services on agricultural products and/or technology (equipment/machinery), on financial resource management, and on rural development and diversification should be prioritised in the CoDIEs.

- With respect to the role of advisors, the white spots indicate that they have been less involved in institutional support and activities aimed at improving access to resources needed for innovation processes or diffusion/scaling up. This means that they have a low participation/involvement in the design and/or implementation of standards, certifications and financing mechanisms; tax management and incentive or subsidy schemes. This is connected to the low percentage of inclusion of rewarding mechanisms as a thematic area and the low percentage of services they offer on financial aspects. These observations are very relevant for the considerations of the role of advisors and the multi-level perspective in CoDIEs.

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- The main gaps and/or shortcomings of advisors in MIPs and in general in advisory services on CSF innovations are mainly associated with individual aspects; knowledge, skills and awareness of advisors and with external aspects of the dynamics of advisory systems (networks and functioning/operation of these systems).

- The project partners consider that advisors need to enhance their learning and information acquisition process in order to improve their understanding of climate change related issues and especially on the implementation of suitable adaptation and mitigation practices according to the contexts and needs of the farmers.

- Although in these MIPs the role of the advisors in the creation of networks has been relevant, it is very important to work on strengthening their skills for teamwork and interaction and co-creation of knowledge with other actors in the AKIS network, under holistic approaches and adjusted to local contexts. This is one of the key aspects to be addressed through the CoDIEs.

- The consolidation, creation and/or improvement of advisory systems/networks in some countries is key to ensuring that advisors have the necessary resources and support to improve their skills/capacities to provide farmers with comprehensive assistance in implementing innovations on CSF.

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7 Annexes

Annex 1 - Theoretical background

Table 12 Documents used as a theoretical background

Type of document	Title	Reference
Scientific publications (articles, reviews, books, book chapters)	How to Strengthen Innovation Support Services in Agriculture with Regard to Multi-Stakeholder Approaches	(Faure et al., 2019)
	Governance's effects on innovation processes: the experience of EIP AGRI's Operational Groups (OGs) in Italy	(Giare & Vagnozzi, 2021)
	Pluralism of agricultural advisory service providers e Facts and insights from Europe	(Knierim et al., 2017)
	Privatization of agricultural extension services in the EU: Towards a lack of adequate knowledge for small-scale farms?	(Labarthe & Laurent, 2013)
	Relevance of extension advisory services in climate smart agriculture : A review	(KUMAR et al., 2022)
	Extension and Advisory Services for Climate-Smart Agriculture	(Raj & Garlapati, 2020)
	Advancing AKIS with assemblage thinking	(Sutherland et al., 2023)
	Innovation support services: an evidence-based exploration of their strategic roles in the Italian AKIS	(Proietti & Cristiano, 2023)
	Institutional continuity and hidden changes in farm advisory services provision: evidence from farmers' microAKIS observations in France	(Laurent et al., 2022)
	Farmers' networks and the quest for reliable advice: innovating in Greece	(Koutsouris & Zarokosta, 2022)
	Combinations of bonding, bridging, and linking social capital for farm innovation: How farmers configure different support networks	(Cofré-Bravo et al., 2019)
	Generating space for innovations in agriculture: The AgriSpin project	(Wielinga et al., 2017)
	Increasing Knowledge Flows between the Agricultural Research and Advisory System in Italy: Combining Virtual and Non-virtual Interaction in Communities of Practice	(Materia et al., 2015)
	(Dis)continuity and advisory challenges in farmer-led retro-innovation: biological pest control and direct marketing in Latvia	(Kilis et al., 2022)
	Situating demonstrations within contemporary agricultural advisory contexts: analysis of demonstration programmes in Europe	(Ingram et al., 2021)
	Examining the reach of public and private agricultural advisory services and farmers' perceptions of their quality: the case of county Laois in Ireland	(Dunne et al., 2019)
	Criteria for a system level evaluation of farm advisory services	(Prager et al., 2017)
	Achieving best-fit configurations through advisory subsystems in AKIS: case studies of advisory service provisioning for diverse types of farmers in Norway	(Klerkx et al., 2017)
	Beyond fragmentation and disconnect: Networks for knowledge exchange in the English land management advisory system	(Klerkx & Proctor, 2013)
	Social integration mechanisms to strengthen absorptive capacity in agricultural advisory service organisations	(Stræte et al., 2023)
	Are advisory services "fit for purpose" to support sustainable soil management? An assessment of advice in Europe	(Ingram & Mills, 2019)
Reports, practice abstracts, discussion papers and other documents from related projects and/or public institutions	Upscaling Climate Smart Agriculture Lessons for Extension and Advisory Services	(Food and Agriculture Organization of the United Nations, 2018)
	Enabling advisory services for climate-smart agriculture Key elements to foster farmers' adoption of CSA practices	(Rasheed Sulaiman V, 2017)
	Adaptation under the "new normal" of climate change: the future of agricultural extension and advisory services	(Simpson & Burpee, 2014)
	Preparing Smallholder Farm Families to Adapt to Climate Change. Pocket Guide 1 Extension Practice for Agricultural Adaptation	(Simpson, 2016)
	Multi-level conceptual framework of the research and innovation project AgriLink.	(Lee-Ann Sutherland et al., 2018)
	Deliverable 1.4. AgriSpin: Typology of innovation support services	(Mathé et al., 2016)
	Deliverable 1.4. i2Connect. Repository of required competencies of an innovation advisor	(Lies Debruyne & Charlotte Lybaert, 2020)
	AKIS in the EU: The inventory – Final Report Vol. II. "PRO AKIS – Prospects for Farmers' Support: 'Advisory Services in the European AKIS".	(Kania et al., 2014)
	Challenges for European advisory services Key findings from PRO AKIS case studies	(Madureira et al., 2015)

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Annex 2 Example of using publications for the definition of categories and variables

Table 13 Theoretical basis used for the category role of advisors and/or ASPs and the corresponding variables (unified identified roles) Continued table 13

ISS types	Definition
1. Knowledge and technology transfer	Provision of knowledge and technologies for innovation. For example, dissemination of scientific knowledge or technical information for farmers or groups of farmers. The method for providing knowledge is based on information dissemination (website, leaflets), training or demonstration.
2. Advisory, consultancy and backstopping	Provision of advice (technical, legal, economic, environmental, social etc.) during the innovation process based on farmers' demands and co-construction of solutions. Backstopping can be used for solving complex problems regarding a new farming system (for example, the shift from conventional agriculture to conservation agriculture or organic agriculture).
3. Marketing and demand articulation	These services are related to the support given to better target markets. Various methods can be used such as vision building, diagnosis, foresight or improving the outlook of products. The service provider may help stakeholders to understand market demands and to adapt to this demand.
4. Networking facilitation and brokerage	Provision of services to help organize or strengthen networks, to improve the relationships between key actors (for example, conflict management) and to align services in order to be able to complement each other (the right service at the right time and place). It also includes all activities aimed at strengthening collaborative and collective action.
5. Capacity building	Provision of services aimed at increasing innovation actors' capacities in order to be fully equipped to play their roles in the innovation process. It includes capacity building at the individual level (for example, leadership strengthening) and at the organizational level. The services are based on the provision of classical training but also in experiential learning processes. Another dimension is the provision of services concerning the difficulties that farmers often have in defining their production objectives, identifying their needs and expressing clear demands to R&D providers. Trainers/advisors/facilitators use several methods that can help them define their problematic situations, choose between alternative solutions and articulate their demand for the provision of more specific services.
6. Access to resources	Provision of tangible services to support the process. This could be inputs (seeds, fertilizers etc.), facilities and equipment (technological platforms, labs etc.) and funding (credit, subsidies etc.).
7. Institutional support for niche innovation and scaling mechanisms stimulation	Provision of institutional support for niche innovation (incubators, experimental infrastructures etc.) and for outscaling and upscaling of the innovation process. This refers to support for the emergence and sustainability of norms or funding mechanisms that facilitate the involvement of other actors in the innovation process or the diffusion of innovation.

Scientific publication (Faure et al., 2019)

ISS functions	Brief definition of function
1. Awareness and exchange of knowledge (ISS1)	*All activities contributing to knowledge awareness, dissemination of scientific knowledge or technical information for actors, hybridization of knowledge. For instance, providing knowledge based on information dissemination forums (website, leaflets), meetings or demonstrations and exchange visits.*
2. Advisory, consultancy and backstopping (ISS2)	*Advisory, consultancy and backstopping-targeted supportive activities aimed at solving complex issues such as a new farming system or new value chain design. The provision of advice (technical, legal, economic, environmental, social etc.) during the innovation process based on demands of actors and the co-construction of solutions all fall in this category.*
3. Demand articulation (ISS3)	*This especially involves services targeted to help actors to express clear demands to other actors (research, service providers, etc.). This is targeted support to enhance the innovator's ability to express his/her needs to other relevant actors.*
4. Networks, facilitation and brokerage (ISS4)	*Provision of services to help organize or strengthen networks; improve the relationships between actors and to align services in order to be able to complement each other (the right service at the right time and place). It also includes all activities aimed at strengthening collaborative and collective action.*
5. Capacity building (ISS5)	*Provision of services aimed at increasing innovation actors' capacities at the individual, collective and/or organizational level. The services may comprise the provision of classical training and of experiential learning processes.*
6. Enhancing/ supporting access to resources (ISS6)	*Provision of services for innovators aimed at enhancing the acquisition of resources to support the process. This could be facilitating access to inputs (seeds, fertilizers etc.), facilities and equipment (technological platforms, labs etc.), and funding (credit, subsidies, grants, loans, etc.).*
7. Institutional support for niche innovation and scaling mechanisms stimulation (ISS7)	*Provision of institutional support for niche innovation (incubators, experimental infrastructures, etc.) and for scaling out and scaling up the innovation process. This refers to support for the design and enforcement of norms, rules, funding mechanisms, taxes, subsidies, etc. that facilitate the innovation process or the diffusion of innovation.*

AgriSpin Project (Deliverable 1.4) (Mathé et al., 2016)

ISS activities	Brief description/ of activities	Examples	Conceptual basis
Creating awareness and facilitating exchange of knowledge	Activities contributing to knowledge awareness, dissemination of scientific knowledge or technical information	Use of posters, official documents, databases, brochures, banners, fairs, field visits, policy briefs, guidelines, technical reports, thesis report etc.	(Leeuwis & Van den Ban, 2004)(C. W. Kilelu, Klerkx, Leeuwis, & Hall, 2011)
Advisory, consultancy and backstopping	Activities aiming at solving problems on actors' demands and at the co-construction of solutions	A case of visiting and advising, guidance on the job, support to problem-solving	(Leeuwis & Van den Ban, 2004) (Edquist, 2011) (Heemskerk, Klerkx, & Sitima, 2011)
Demand articulation	Services targeted to help actors to express clear needs to research, service providers, other actors	Price organized to award specific product, support to establishing project exposé	(C. Kilelu, Klerkx, & Leeuwis, 2013) (Oakley, 1991) (C. W. Kilelu, Klerkx, & Leeuwis, 2014)
Networking, facilitation and brokerage	Services to organize networks; improve relationships between actors, to align services, all activities aimed at strengthening collaborative and collective action.	Round table discussions, establishing contacts, Maintaining platforms and social media devices, acting as a mediator to solve a conflict/solve problem	(Albert, 2000)(C. Kilelu et al., 2013) (Oakley, 1991) (Heemskerk et al., 2011) (Auvine, Densmore, Extrom, Poole, & Shanklin, 2002) (Koutsouris, 2012) (Roth, 2003)
Capacity building	The services comprise the provision of classical training and of experiential learning processes.	Training on leadership, on management and planning, on how to manage a cooperative, how to work collectively, technical training etc.	(Leeuwis & Van den Ban, 2004) (Albert, 2000) (P. Labarthe, Caggiano, Laurent, Faure, & Ceft, 2013)(Allebone-Webb, Douthwaite, Hoffecker, Mathé,
Enhancing access to resources	Services enhancing the acquisition of needed resources for the innovation process.	Inputs (fertilizers, seeds, facilities, equipment), funds, access to market and acquisition of certification status	(Albert, 2000) (P. Labarthe et al., 2013)(Hekkert, Suurs, Negro, Kuhlmann, & Smits, 2007) revisited in (Klerkx & Leeuwis, 2009)(Hekkert et al., 2007)
Institutional support for niche innovation, and scaling mechanisms	Institutional support (incubators, experimental infrastructures, etc.), support for the design and enforcement of norms, rules, funding mechanisms, taxes, and subsidies, etc.	A survey to check if laws are followed, support actors to comply with the procedures, deliver certification, provide new authorization to implement new activities that were forbidden before	(Faure, Gasselin, Triomphe, Temple, & Hocdé, 2014) (Gadrey, 1994)(C. Kilelu et al., 2013)(Heemskerk et al., 2011) (Edquist, 2011)

i2Connect project (Deliverable 1.4) (Lies Debruyne & Charlotte Lybaert, 2020)

Variables defined for the CSF MIPs portfolio classification system (CSF MIPs survey response options) and assessed with the criteria matrix.

It is the result of the unification of the approaches of the 3 sources indicated in this table 13*

1. Promoting awareness and exchange/co-creation of knowledge and innovative ideas: Sharing and creating innovative farming techniques, equipment, technology, and/or practices.
2. Providing and/or co-constructing specialised/specific advice: Offering farmers advice tailored to their technical, economic, environmental, social, or legal needs.
3. Facilitating the identification and articulation of needs: Assisting in finding and expressing what farmers require from research, service providers, government agencies, and others.
4. Building networks and collaborations: Facilitating strong connections and partnerships among various stakeholders to improve relationships.
5. Training and capacity building: Providing training and support, both for individuals and organizations, to enhance farmers' roles and performance in innovation processes.
6. Providing services for access to, or management of, resources: Offering services to help farmers access and manage the resources they need for innovation.
7. Providing institutional support for innovation: Helping and encouraging new and unique ideas to grow and become more widespread among farmers.
8. Participating in innovative projects: Partnering in multi-actor innovation projects, Operational Groups, or similar initiatives.

* Partners (NCs and TLs) had the option to include another type of role in the MIPs survey (not included in the list).

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Annex 3 - List of MIPs analysed

Table 14 Full list of MIPs analysed

Portfolio of MIPs					
Project No.	**Project name + Acronym**	**Project No.**	**Project name + Acronym**	**Project No.**	**Project name + Acronym**
1	Ilmastosoturit /Climate Warriors	50	ResiCow	99	Projet REFLEX Climat-culteur/REFLEX Climate-cultivator project
2	EcoStack	51	Let's balance C	100	Transition et durabilité des systèmes de productions végétales face aux changements climatiques - CLIMATVEG/ Transition and sustainability of plant production systems in the face of climate change - CLIMATVEG
3	Climate Farm Demo (CFD) - A European-wide Network of Pilot Farmers Implementing and Demonstrating Climate Smart Solutions for a Carbon Neutral Europe	52	E-Feed	101	Fermes Bas Carbone/ Low Carbon Farms
4	EU-FarmBook: supporting knowledge exchange between all AKIS actors in the European Union Acronym: EU-FarmBook	53	Farming for climate: An experiment in engaging farmers in innovative group learning	102	Optimising the Governance and Management of the Natura 2000 Protected Areas Network in Latvia (LIFE-IP LatViaNature)
5	INNOVATIVE BUSINESS MODELS FOR SOIL HEALTH Project acronym: NOVASOIL	54	Networking European Farms to Enhance Cross Fertilisation and Innovation Uptake through Demonstration (NEFERTITI)	103	Soil-Equipment-Quality - "REDUCTION OF NEGATIVE IMPACTS OF TECHNOGENIC SOIL COMPACTION USING PRECISE CONTROL TRAFFIC FARMING (CTF) TECHNOLOGY.
6	Sustainable Manure and Nutrient Management for reduction of nutrient loss in the Baltic Sea Region Project acronym: SuMaNu	55	Connecting advisers to boost interactive innovation in agriculture and forestry (i2connect)	104	The establishment of nucleic herds of dairy cows with a requirement for a high health status through the use of genomic selection, innovative biotechnological methods, and optimal herd management (NUKLEUS)
7	Sustainable Silage	56	Digitisation: Economic and Social Impacts in Rural Areas (DESIRA)	105	IWMPRAISE Integrated Weed Management: Practical Implementation and Solutions for Europe
8	Climate Responsible Agriculture for Latvia LIFE CRAFT	57	Central European Toolbox for Mitigating Combined Consequences of Drought, Heatwave, and Fire Weather through Regionally-Tuned Forecasting (Clim4Cast)	106	Adaptation of dairy cow rearing systems to climate change conditions by reducing the carbon footprint - demonstrative experimental model – ADER 8.1.1.

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Portfolio of MIPs					
Project No.	**Project name + Acronym**	**Project No.**	**Project name + Acronym**	**Project No.**	**Project name + Acronym**
9	Nitrati Ferrara/Agronomic techniques for the prevention of nitrate pollution and the conservation of organic matter - Ferrara Nitrates	58	HumusKlimaNetz	107	Research on the reduction of GHG emissions / carbon footprint of ruminant farms in Romania, without significantly reducing profitability and animal numbers - ADER 8.1.3.
10	Forage4climate	59	Klima Farm Bilanz	108	The development of agricultural technologies for the main crop plants for the intensification of carbon sequestration in the soil in accordance with the 4‰ initiative - ADER 19.1.3.
11	Circular agronomics	60	Holistic Resource Management for Climate Resilience of Farming - Climate Farming	109	Online platform for the implementation of the "CARBON CREDITS" concept at the level of agricultural entities - ADER 19.1.1.
12	BovINE. Beef Innovation Network Europe	61	Farm Food Climate	110	Mainio Maito/Great Milk
13	Development of electronic farm management system	62	THeKLa Experten-Netzwerk/ THeKLa expert network	111	Viljellään viisaasti/Grow wisely
14	Demonstration and dissemination actions to reduce the carbon footprint in sheep farming (LIFE GREENSHEEP)	63	Carbon Farming	112	Tulevaisuuden ilmastoviisas maataloustuotanto Etelä-Pohjanmaalla (TIME)/ Future climate-wise agricultural production in South Ostrobothnia (TIME)
15	Implementation of River Basin Management Plans of Latvia towards good surface water status LIFE GOODWATER IP	64	Fabulous Farmers	113	Innovative Smart Farming services supporting Circular Economy in Agriculture, LIFE GAIA Sense
16	The development of the decision-making support system for restriction of the disease, affecting leaves and ears of winter wheat	65	Food Heroes	114	Data-driven sustainable agri-food value chains, Ploutos
17	Integrated Strategy for Climate Change Adaptation in Navarra LIFE-IP NAdapta-CC	66	BodemUp	115	Assessing the impact of digital technology solutions in agriculture in real-life conditions, QuantiFarm
18	Kolsänksrätter med biokol/Carbon credits by biochar	67	MELK!	116	reSilienT fARminG by Adaptive microclimaTe management, STARGATE
19	Jordbruk och AI i klimatets tjänst / Agriculture and AI in the service of the climate	68	Resilience for Dairy, Transnational cooperation to increase the sustainability of the dairy sector - R4D	117	The role of industrial hemp in adaptation to climate change and in protection of agricultural resources EIP Konoplja
20	Tävling Lantbruksteknik/Agtech Challenge	69	Life Carbon Farming	118	Using digital DiAgTech4Climate - Confronting climate changes in support of digital technologies
21	Agrosfär/ Agrosphere	70	Co-creating Behavioural Change Towards Climate-Smart Food Systems BEATLES	119	Smart Agro Grape / Digital platform for winegrowers SAG
22	Effektivare resurshantering på gård / More efficient resource management at farm level	71	LIFE HELPSOIL	120	Koruzni oklasek kot obnovljivi vir energije / Koruzni oklasek Corn cobs as Renewable Source of Energy / Corn cobs

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Portfolio of MIPs					
Project No.	**Project name + Acronym**	**Project No.**	**Project name + Acronym**	**Project No.**	**Project name + Acronym**
23	Klimrek - KLImaatMaatRegelen mét Economische Kansen op het landbouwbedrijf (in English: Climate measures with on-Farm Economic Opportunities)	72	An innovation project in the regeneration of degraded soils, 4 Returns	121	Improved Forage Production and Conservation - Protein Rich legumes and Legume/grass Mixtures for Adaptation to Climate Changes
24	Innovative Dairy Farming Concepts (IVC - Dutch acronym)	73	Management of Base of Lithuanian Forage Grasses Using Satellite Data and Agricultural Innovations (LIPIN)	122	Development of an IT and business concept for an energy management platform addressing the dairy value chain ("DairyChainEnergy")
25	HyPErFarm - Hydrogen and Photovoltaic Electrification on Farm	74	Development of Service "Aero Remote Soil Analysis and Consultations" (InoDAT)	123	Aufbau eines Forschungszentrums für Landwirtschaft in Trockenlagen in Nordbayern
26	Mise au point de stratégies alimentaires permettant de minimiser les effets du stress thermique en élevage laitier. Qstresscow/Development of dietary strategies to minimize the effects of heat stress in dairy farming. Qstresscow	75	Independent Application of Good Agricultural Practices on a Farm - a Virtual Assistant for Farmers (GZPK)	124	LeguNet - Network for leguminous plants
27	ECCO - creates new local energy community co-operatives	76	Impact of Measures Applied in No-Till Farming Technologies on Increase of Soil Yield, Saving of Moisture and Availability of Nutrients (BEAP)	125	Landwirtschaftliches Gründerzentrum NEU.LAND.(NEW.LAND.)
28	Roadstep: Réseau d'outils d'Aide à la Décision – Surveillance des troupeaux en prairie/Roadstep: Network of Decision Support Tools – Monitoring of herds in meadows	77	The Influence of the Newest Symbiotics on Health and Productivity of Dairy Cattle, Reduction of Consumption of Antibiotics, and Increase of Competitiveness of a Farm (SIMB)	126	AGFOSY
29	Mise au point d'un système d'acquisition et de traitement de l'information pour la gestion des prairies pâturées: Rob'herb/Development of an information acquisition and processing system for the management of grazed meadows: Rob'herb	78	Climate Neutral Farms - ClieNFarms	127	DIGItal Tools to help AgroForestry meet climate, biodiversity and farming sustainability goals: linking field and cloud (DigitAF)
30	Boden.Biodiversität - Entwicklung neuer Anbauverfahren zur Sicherung der mikrobiellen Diversität im Boden und ihrer Funktionen für einen klimafitten und ressourceneffizienten Ackerbau. EN: Soil.biodiversity - Development of new cultivation methods to safeguard microbial diversity in the soil and its functions for climate-friendly and resource-efficient arable farming.	79	Echanger et utiliser transfrontalièrement les innovations scientifiques pour améliorer l'efficience de l'alimentation azotée et la rentabilité des exploitations laitières - PROTECOW/Exchange and use scientific innovations cross-border to improve the efficiency of nitrogen feeding and the profitability of dairy farms - PROTECOW	128	Soil protection technologies in the area of the Vysokomýt synclinal
31	Is your farm climate-proof?	80	Des algues pour réduire les émissions de méthane entérique chez la vache laitière - METH'ALGUES/ Algae to reduce enteric methane emissions in dairy cows - METH'ALGUES.	129	Implementation of new and innovative precision farming technologies in cropping systems

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Portfolio of MIPs					
Project No.	**Project name + Acronym**	**Project No.**	**Project name + Acronym**	**Project No.**	**Project name + Acronym**
32	Geographic Information Systems for Site-Specific Management Aimed at Increasing Efficiency and Greening in Austrian Agriculture (GIS-ELA)	81	Precision Livestock Farming (PLF) technologies to reduce Greenhouse Gas (GHG) emissions intensity of pasture-based cattle systems - GrASTech/Precision Livestock Farming (PLF) technologies to reduce Greenhouse Gas (GHG) emissions intensity of pasture-based livestock systems - GrASTech	130	Agricultural Knowledge: Linking farmers, advisors and researchers to boost Innovation (AgriLink)
33	Electricity storage technologies in agriculture and forestry	82	Accroître la production de protéines en élevage grâce à des prairies à base de légumineuses, des légumineuses pures et des mélanges céréales-protéagineux - CAP PROTEINES/Increasing protein production in livestock farming using legume-based pastures, pure legumes and cereal-protein mixtures - CAP PROTEINES	131	Modernisation of Agriculture through more efficient and effective Agricultural Knowledge and Innovation Systems (modernAKIS)
34	Poolproject Energy efficient agriculture: climate friendly and future-proof	83	HIBA- HUB IBERIA AGROTECH: CREACION DE UN ECOSISTEMA PLURIRREGIONAL PARA LA AGRODIGITALIZACIÓN A TRAVÉS DE LOS DIGITAL INNOVATION HUB (DIH)/HIBA- HUB IBERIA AGROTECH: CREATION OF A MULTI-REGIONAL ECOSYSTEM FOR AGRODIGITALIZATION THROUGH THE DIGITAL INNOVATION HUB (DIH)	132	Pilot project to test AKIS - Transfer of knowledge and practices to implement agricultural and forestry measures to reduce the impacts of climate change and drought
35	Developing EO-powered services to promote soil carbon sequestration through regenerative agriculture – AgriCapture	84	SPIN - Solução de Pulverização de Precisão Inteligente (Smart Precision Spraying Solution)	133	Sustainable Manure and Nutrient Management for reduction of nutrient loss in the Baltic Sea Region + SUMANU
36	Implementing Smart Farming Applications using EO Data, Soil Sensors & Robotics – SQAT	85	OLEOCOLZA: VALIDAR A CAPACIDADE PRODUTIVA DA COLZA (Brassica napus)/OLEOCOLZA: VALIDATE THE PRODUCTIVE CAPACITY OF RAPSE (Brassica napus)	134	ReMIX
37	Improving policies and business strategies for sustainable farming systems - ENFASYS	86	Grazing4AgroEcology	135	Conservation of biodiversity in rural areas
38	Strengthening disaster resilience in agriculture	87	Water Management Demo Network	136	Democratizing digital farming through smart solutions for small farms, Farmtopia
39	Healthy Soil	88	Winter feeding of organic sows WIFI	137	Ploutos: A Sustainable Innovation Framework to rebalance agri-food value chains
40	Sustainable smart farming systems taking into account the future challenges - SMARTFARM	89	Optimizing climate and production services of cover crops in organic arable rotations (CCRotate)	138	RASE Farm of the Future
41	Sustainable and innovative food - Drive4SIFood	90	Farmers' climate calculator	139	YEN ZERO
42	WATER European Innovation Partnership project (EIP WATER)	91	SmartAgriHubs	140	Farming for a Better Climate (FFBC)

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Portfolio of MIPs					
Project No.	**Project name + Acronym**	**Project No.**	**Project name + Acronym**	**Project No.**	**Project name + Acronym**
43	FAIRshare. Farm Advisory digital Innovation tools Realised and Shared	92	LIFE19 ENV/IT/000035 the DRIVE LIFE project	141	Farming and Water Scotland (FWS)
44	Comeragh Uplands and Communities EIP Project	93	Biovitamin	142	Agroecology Trans-disciplinary Approaches for Systemic economic, Ecological and Climate change Transitions - Agroecology TRANSECT
45	Enable Conservation Tillage (ECT)	94	trans4num - Transformation for sustainable nutrient supply and management	143	Innovative Decision Support System (DSS) in field crops and conservation tillage
46	Strategies to mitigate GHG emissions from pasture-based sheep systems; GrasstoGas	95	Maximizing the CO-benefits of agricultural Digitalisation through conducive digital ECoSystems (CODECS)	144	Testing of selected hybrids and implementation of innovative fruit varieties created by the Institute of Agriculture - Kyustendil
47	Signpost Farms Programme	96	Attractiss - Empowering Innovation support services	145	Building momentum and trust to achieve credible soil carbon farming in the EU - CREDIBLE
48	AUTOPROT	97	Det selvforsynende kvægbrug - via den innovative multiafgrøde. Fulædfoder i et hug. (The self sufficent milk production).	146	BIOEAST
49	HoliCow	98	FERMADAPT Adaptation des systèmes agricoles vis-à-vis du changement climatique/FERMADAPT Adaptation of agricultural systems to climate change		

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