



**AGENT-BASED
SUPPORT TOOL FOR
THE DEVELOPMENT
OF AGRICULTURE POLICIES**

D8.3 Report on clustering activities



Deliverable Number	D8.3
Lead Beneficiary	AUTH
Authors	AUTH
Work package	WP8
Delivery Date	M58
Dissemination Level	Public

www.agricore-project.eu



The Agricore project has received funding from the European Union's Horizon 2020 research and innovation programme under the Grant Agreement No. 816078





Document Information

Project title	Agent-based support tool for the development of agriculture policies
Project acronym	AGRICORE
Project call	H2020-RUR-04-2018-2019
Grant number	816078
Project duration	1.09.2019-31.8.2023 (48 months)

Version History

Version	Description	Organisation	Date
0.1	Table of Content	AUTH	11-dic-2023
0.2	First full draft	AUTH	13-jun-2024
0.3	First revision	IDE	17-jun-2024
0.4	Second full draft	AUTH	27-jun-2024
0.5	Final revision	IDE	16-jul-2024
1.0	Final version	AUTH	25-ago-2024

Disclaimer

All the contributors to this deliverable declare that they:

- Are aware that plagiarism and/or literal utilisation (copy) of materials and texts from other Projects, works and deliverables must be avoided and may be subject to disciplinary actions against the related partners and/or the Project consortium by the EU.
- Confirm that all their individual contributions to this deliverable are genuine and their own work or the work of their teams working in the Project, except where is explicitly indicated otherwise.
- Have followed the required conventions in referencing the thoughts, ideas and texts made outside the Project.

Executive Summary

On 31 October 2017, the European Commission opened a call for projects (RUR-04-2018) aiming to improve the modelling capabilities for agriculture, which would ultimately support evidence-based policymaking in the sector. In response to this call, three research consortia, namely AGRICORE, BESTMAP and MINDSTEP, proposed innovative approaches to increase modelling capabilities in the agriculture sector. These consortia coordinated together, forming the AGRIMODELS cluster to coordinate the potential synergies between them. The first discussions for the creation of the AGRIMODELS cluster were initiated during the Horizon 2020 Societal Challenge 2 (SC2) Coordinator’s Day Meeting organized by the European Research Executive Agency and DG-AGRI in Brussels on June 6th, 2019. On February 19th, 2020, the three sisters’ projects of the AGRIMODELS cluster, represented by their respective coordinators, signed a Memorandum of Understanding (MoU) committing to the establishment of the AGRIMODELS cluster as a coordinating entity between the three signed projects. Since then, thirty-eight distinctive clustering activities (meetings, events, publications, dissemination events, etc.) can be traced down, generating a positive impact on the three projects. Overall, the AGRIMODELS cluster fulfilled its aspirations laid down by the MoU: They succeeded at the development of a web page which provided unique access for the three projects; members of the three projects met on a regular basis to review the identified synergies and coordinate efforts within the projects; different public events were attended by all members; External Experts Advisory Boards were established with common membership; and data sources acquisition was forwarded.

This document presents all the AGRIMODELS cluster activities during the AGRICORE project execution.

Abbreviations

Abbreviation	Full name
AAAS	American Association for the Advancement of Science
ABM	Agent Based Model
AES	Agricultural Economics Society - AES
AKIS	Agricultural Knowledge and Innovation Systems
CAP	Common Agricultural Policy
CORDIS	Community Research and Development Information Service
CSs	Case Studies
DG-AGRI	Directorate-General for Agriculture and Rural Development
DG-CLIMA	Directorate-General for Climate Action
DG-ENERGY	Directorate-General for Energy
EAAE	European Association of Agricultural Economists
EC	European Commission
EIP-AGRI	European Innovation Partnership
ENRD	European Network for Rural Development
ESS	Evolutionarily Stable Strategies
EU	European Union
FADN	Farm Accountancy Data Network
FSS	Farm Structure Survey
ICT	Information and communications technology
ID	Identification
IDM	Individual Decision Making
IFM-CAP	Individual Farm Model for Common Agricultural Policy Analysis
IT	Information Technology
JRC	Joint Research Centre
MAGNET	Modular Applied GeNeral Equilibrium Tool
MIDAS	Meaningful Integration of Data Analytics and Services
MoU	Memorandum of Understanding
PIAM	Policy Impact Assessment Model
Q&A	Questions and Answers
REA	Research Executive Agency
SC2	Societal Challenge 2
SDGs	Sustainable Development Goals
UC	Use Case

Table of Contents

1	Introduction	6
2	Brief description of the AGRIMODELS cluster	7
2.1	Background	7
2.2	Participants (Sister Projects)	7
2.2.1	AGRICORE	7
2.2.2	BESTMAP	10
2.2.3	MIND STEP	11
3	Set up and launch of clustering activities	12
3.1	Initial communications	12
3.2	Memorandum of Understanding for the RUR-04 Cluster	12
4	Launch of AGRIMODELS cluster	13
5	Established clustering activities	14
5.1	Registry of actions	14
6	Conclusions	29
7	References	30
	Annex 1. Memorandum of Understanding for the RUR-04 Cluster of 19th February, 2020	31

1 Introduction

Clustering activities, within the context of scientific research projects, can be perceived as the research and scientific activities that surpass the level of a simple exchange of information and focus on the alignment of research activities so that both projects' results impact is more efficient [\[1\]](#). The formulation of clusters within research topics brings together a wide range of entities' stakeholders, ultimately offering opportunities for innovativeness. Overall, clustering fosters collaboration and synergy within targeted communities or domains, both playing essential roles in EU projects by facilitating collaboration, knowledge exchange, and innovation across different scales and objectives [\[2\]](#).

For AGRICORE, clustering activities played a crucial role in the evolvement of research activities and the design of the performed dissemination and communication actions. The formulation of the AGRIMODELS cluster facilitated better coordination among project team members, augmented collaboration, shared information, and enhanced common direction of research. Moreover, the initiation of the cluster eased the streamlining of workflow among the three projects, reducing inefficiencies and coordinating common needs, e.g. data acquisition. Overall, within the AGRIMODELS cluster, AGRICORE noted improved advancement of research activities, enhanced collaboration as well as more effective risk management, especially due to the impact of disruptions (e.g. COVID-19) that indicated a common threat for all three projects' advancement.

2 Brief description of the AGRIMODELS cluster

2.1 Background

On 31 October 2017, the European Commission opened a call for projects (RUR-04-2018) aiming to improve the modelling capabilities for agriculture, which would ultimately support evidence-based policymaking in the sector. The specific request from the EC was: Society assigns an increasing number of objectives to the policies influencing the agricultural sector and rural areas that it expects to see fulfilled. Therefore, justifications for policies extend well beyond mere food production. Evidence-based policymaking implies the development and maintenance of appropriate instruments for use in the design of these policies and for the monitoring of their effects, taking advantage of new socio-economic approaches and increased possibilities opened up by progress in the ICT area. Modelling policies dealing with agriculture and the related management of renewable resources at various geographic scales implies the development of a new architecture, taking advantage of progress in modelling approaches and ICT. Given the focus on local effects of global events and EU policies, new approaches should take into account the individual decision-making unit (e.g. agent-based or machine learning-based approaches). Modelling will include such aspects as the environmental and climatic impacts of farming, delivery of ecosystem services modelling of aspects ranging from product/sector to farming systems, structural change including the transfer of production factors such as land, the integration of agriculture in rural society and will allow the establishment of links with biophysical models and geo-referenced datasets. Proposals will develop modelling at various geographic scales – from regional to global. They will build a highly modular and customisable suite of tools which will allow flexible use and further improvements as needs arise.

As a response to this call, three projects proposed innovative approaches to increase modelling capabilities in the agriculture sector. These projects have coordinated together forming the AGRIMODELS cluster in order to coordinate the potential synergies between them. The next section includes the description for each one of them.

2.2 Participants (Sister Projects)

2.2.1 AGRICORE

The AGRICORE project proposes a novel tool for improving the current capacity to model policies dealing with agriculture by taking advantage of the latest progress in modelling approaches and ICT. Specifically, the AGRICORE tool will be built as an agent-based approach where each farm is to be modelled as an autonomous decision-making entity which individually assesses its own context and makes decisions on the basis of its current situation and expectations. This modelling approach will allow simulation of the interaction between farms and their context (which will account for environment, rural integration, ecosystem services, land use and markets) at various geographic scales – from regional to global. To do so, advances in big data, artificial intelligence algorithms, mathematical solvers and cloud computing services will be applied. The objective will be to optimise the extremely long parameterisation and calibration phase required by current agent-based tools to better mimic the modelling of farmers' behaviour and interactions to credibly assess the local effects of global events and EU policies and, in general, to improve policy design, impact assessments and monitoring. The AGRICORE tool will be made as a highly modular and customisable suite, and it will be released as an **open-source** project so institutions can transparently update and improve the tool as needs arise.

2.2.1.1 Project Objectives

The main objective of the AGRICORE project is to develop a new generation of ABM tools taking advantage of the latest progress in computational science and ICT (including advances in big data, artificial intelligence algorithms, mathematical solvers and cloud computing services) as a means to overcome the challenges that are still hampering their capacity for improving new policies design and for performing the related socio-economic and environmental assessments at various geographic scales – from regional to global.

This main goal can be further split into the next list of specific objectives:

1. To develop a European data-sources index tool. The partners will perform a comprehensive survey which will include EU statistics datasets, geo-reference databases, national and regional information sources and previous research results for the modelling of land use, policy, and biophysical, social, economic and environmental aspects related to farming activities. The partners will identify synergies and analyse the integration of such information into the tools in AGRICORE.
2. To minimise the time and user efforts currently required for the parameterisation and calibration of ABM models. The partners will develop a state-of-the-art combination of big data extraction and fusion followed by a combinatorial optimisation step to construct synthetic populations mimicking the distribution and characteristics of the real populations of interest.
3. To develop an evolved agent-based model with improved capacity to model policies dealing with agriculture. The partners will elaborate on a dynamic quadratic model explicitly accounting for agent interactions and which computation is to be enabled by recent advancements in the capacities of mathematical solvers and ICT. This model structure will be a step ahead with respect to current ABM models to address the main policy modelling challenges of today.
4. To produce a behavioural model of farmers mimicking their decision-making rationale. The partners will collect direct feedback from target groups through participatory research involving farm representatives and associations. This will improve the understanding of factors acting on farmers and their possible responses to these factors. This work will imply the identification of key drivers and parameters likely to influence farmer decision-making and understanding of how policies could lead to the implementation of different options by farmers. Thanks to the collected information and complementary data extracted from the multiple databases considered, a behavioural model will be developed by means of the application of artificial intelligence algorithms.
5. To develop a flexible and integrated simulation suite. The partners will integrate all the modules composing the AGRICORE suite as a simulation environment ready for its use either for normative or positive purposes and which will have analysis capacity. Such an integrated suite will allow its connection with biophysical models and a large set of databases, including multiple data sources and geo-referenced datasets (interoperability).
6. To compile, analyse and show the produced information in an optimal way. The potential amount of information that influences the development of a policy at local, sectorial and global levels is huge. The proper visualisation of such an amount of information is challenging, and it is key to ensure an adequate decision-making process. Accordingly, the partners will rely on big data analysis and big data-oriented visualisation tools and libraries (such as visualisation maps and results from previous EU research projects on interactive visualisation charts and plots).
7. To provide social, economic and environmental impact assessments of agricultural policies at farm, sector and global levels. The partners will design the AGRICORE suite to

support the process of monitoring and assessing the impact of policies at farm, sector and global levels. Some of the impacts at the farm level will be related to farm structure, production costs and land balance, while at sector and global levels will include environmental and socio-economic factors. In addition, impacts will be assessed for the whole rural area with an emphasis on environment, development and jobs.

8. To effectively integrate stakeholders' knowledge and to cooperate with policymakers. The partners will cooperate with main stakeholders' groups (including policymakers, researchers, data analysts and farmers) and will gather their needs and requirements in order to guide and enrich the AGRICORE design.
9. To build a basis for the credibility of the policy modelling work. The partners will apply the AGRICORE suite to the policy assessment of three use cases (UC1, UC2 and UC3), which have been selected to test the tool at various geographic scales (UC1 corresponds to the regional level while UC2 and UC3 aim to the national level) and for different policy instruments (UC1 policy instrument relates to environmental impacts, UC2 relates to the delivery of ecosystem services and UC3 relates to the socioeconomic aspects of the integration of agriculture in rural society). The results to be obtained will offer opportunities to publish in good-level journals to keep researchers and policymakers at their institutions sufficiently motivated and to build a basis for the credibility of the policy modelling work.
10. To develop a highly modular and customisable tool to allow further improvements as needs arise. The AGRICORE suite will be implemented as a highly modular IT architecture composed of interchangeable and expandable modules so other researchers can contribute to its development as well. To facilitate this, AGRICORE will be released as an open-source project to be abundantly documented, communicated and disseminated (indeed, almost all deliverables will be made public). Additionally, the partners plan a set of dedicated actions towards clustering, coordination with policymakers and transfer of project results.

2.2.1.2 Project's Impact

- Improvement of policy design. The AGRICORE tool is tailored to be used for a positive purpose, that is, for representing or imitating the real system in response to a given policy as closely as possible. Moreover, it can also be used for a normative purpose to assist in the configuration of parameters defining a policy scheme based on the simulation results on the agent population (for instance, to choose the optimal value of a price support policy to maximise the survival of SMEs under a given market context).
- Monitoring and analysis of agent population. AGRICORE will allow to evaluate different policy schemes with heterogeneous populations of farmers, observing the impact of policy parameters and agents' behaviour. To this end, the AGRICORE tool generates the synthetic population of a population of interest and simulates the evolution of the farmers composing the population as the response to the given policy. This, along with the corresponding impact assessments, will allow the user to make an informed decision on which policy schemes are best to be promoted.
- Impact assessment. Based on the simulation results, the AGRICORE tool calculates some KPIs to assess the effect of different aspects of interest. These aspects are evaluated in most use cases, although some are more meaningful depending on the use case. KPIs are related to the environment and climate, society and economy, and ecosystem services. The AGRICORE tool allows the user to visualise the evolution of KPIs for a more user-friendly experience.

2.2.2 BESTMAP

Sustainable and resilient agricultural systems are needed to feed and fuel Europe's population in the long term. However, climate change and land-use intensification are threatening the EU's agro-ecosystems. For instance, halting the loss of biodiversity and ecosystem services due to landscape simplification requires a concerted effort to fundamentally redesign agricultural landscapes and the policies that dictate them. The EU-funded BESTMAP project will develop a framework that links economic modelling with individual-farm agent-based models. It will quantitatively model, map and monitor the impact of policy scenarios on the environment, climate system, delivery of ecosystem services, biodiversity as well as socio-economic metrics such as employment. With the help of an online dashboard and workshops with policymakers at the EU, national and local levels, BESTMAP will support the European Green Deal and enable the transformation of the EU agricultural sector post-2020.

2.2.2.1 Project Objectives

Nearly 50% of the European Union (EU) land area is agricultural. However, the ecosystem services (ESS) provided by these agro-ecosystems – including food, bioenergy, water, carbon storage and biodiversity – are threatened by processes such as land-use intensification and changing climate. European, national and regional policymakers must hence rethink and redesign rural policy to enhance the sustainability of agricultural landscapes while ensuring farmers' livelihoods at the same time. However, the policy impact assessment models currently used by the European Commission (EC) ignore the complexity of farmers' decision-making, potentially leading to incorrect predictions of policy outcomes. Furthermore, existing models focus on narrow aspects of agricultural economics (e.g. income), ignoring policy impacts on rural natural, social and cultural assets. BESTMAP will develop a new modelling framework using insights from behavioural theory, linking existing economic modelling with individual-farm Agent-Based Models. Using these new modular and customisable tools BESTMAP will quantitatively model, map and monitor co-designed policy scenarios' impacts on the environment, climate system, delivery of ESS, as well as socio-economic metrics (e.g. jobs). BESTMAP outputs will improve and contribute to existing tools used by the EC, such as the Modular Applied GeNeral Equilibrium Tool (MAGNET) and the Common Agricultural Policy Regionalised Impact model (CAPRI). Finally, BESTMAP will use a range of external communication and dissemination methods, including an online policy dashboard, workshops and training, to help build capacity for EC staff and policymakers at EU institutions, national, regional and local decision-makers and expert personnel, as well as other researchers.

2.2.2.2 Project's Impact

BESTMAP will design and demonstrate a new suite of open-sourced, flexible, interoperable and customizable computer models overcoming two critical shortcomings in state-of-the-art PIAMs (lack of farmer's behaviour and impacts of ESS, biodiversity and socio-economic at farm level). With the planned dissemination activities, BESTMAP will build capacity for policymakers, stakeholders, experts and researchers to use the new BESTMAP-PIAM.

BESTMAP will develop the BESTMAP-PIAM, an innovative conceptual policy impact assessment modelling architecture scalable to European-wide PIAM. It will produce a roadmap to identify the research, capacity, regulatory and financing pathways to develop such a solution and attempt to scale up the CSs ESS models and ABMs into an EU-wide model hosted on an online Virtual Lab. The novel concept of FSAs, policy dashboard and the Virtual Lab will be further developed after the project ends to provide tools for policymakers that transform decision-making at the EU and national scale.

2.2.3 MIND STEP

MIND STEP addresses the Work Programme Topic RUR-04-2018-2019, contributing to the Rural Renaissance by further developing analytical tools and models to support policies related to agriculture and food. Developing new models supporting policies related to agriculture.

Agricultural policies like the EU CAP are widening the scope to contribute to the Paris Climate Agreement and the Sustainability Development Goals. From the Commission's legislative proposals (June 2018) it is expected that the European Union (EU) Common Agricultural Policy (CAP) will be redesigned in line with this. Consequences are, among others, a move of the CAP to farm-specific measures and an improved link to environment, climate change and ecosystem services. It is proposed that Member States and regions develop their own CAP strategic plan with more attention to the regional implementation of the CAP. This wider scope and measures with a focus on individual farmers ask for a new generation of impact assessment tools. Current state-of-the-art agricultural models are not able to deliver individual farm and local effects as they are specified at higher levels of aggregation.

2.2.3.1 Project Objectives

The overall ambition of MIND STEP is to support public decision-making in agricultural, rural, environmental, and climate policies, taking into account the behaviour of individual decision-making units in agriculture and rural society. The project's specific objectives are:

- to develop a highly modular and customisable suite of Individual Decision Making (IDM) models focussing on the behaviour of individual agents in the agricultural sector to better analyse the impacts of policies,
- to develop linkages between the new IDM models and current models used at the European Commission to improve the consistency and to broaden the scope of the analysis of policies,
- to develop an integrated data framework to support the analysis and monitoring of policies related to agriculture,
- to apply the MIND STEP model toolbox to analyse regional and national policies and selected EU CAP reform options and global events affecting the IDM farming unit, working together with policymakers, farmers and other stakeholders,
- to safeguard the governance and future exploitation of the MIND STEP model toolbox.

2.2.3.2 Project's Impact

- Improvement of the capacity to model policies dealing with agriculture and related natural resources, food and international trade
- Improvement of policy design, impact assessments and monitoring
- Strengthened transdisciplinary research and integrated scientific support for relevant EU policies and priorities.

3 Set up and launch of clustering activities

3.1 Initial communications

The first discussions for the creation of the AGRIMODELS cluster were initiated during the Horizon 2020 Societal Challenge 2 (SC2) Coordinator's Day Meeting organised by the European Research Executive Agency and DG-AGRI in Brussels. During the meeting, coordinators of SC2 projects presented their projects and explored opportunities for cooperation in the context of their respective call(s). The presence of policy officers from other services of the European Commission extended the scope of the discussions to the policy developments at the EU level in their respective areas, agriculture and food included. Within this context, the coordinators of AGRICORE, BESTMAP and MIND STEP projects discussed for the first time the opportunity for the initiation of the AGRIMODELS cluster in response to their common RUR-04-2018-2019 topic challenges. As the topic described, the aim of the projects should be the building of highly modular and customisable suites of tools to foster decision-making and support EU agriculture and food policies. The common ground of the discussions was that essential for the realisation of these objectives are the joint research efforts, cooperation and the development of synergies.

3.2 Memorandum of Understanding for the RUR-04 Cluster

On February 19th, 2020, the three sisters projects of the AGRIMODELS cluster, represented by their respective coordinators, signed a Memorandum of Understanding (MoU) committing to the establishment of the AGRIMODELS cluster as a coordinating entity between the three signed projects. The text of the final signed MoU consists of an introductory paragraph explaining the background of the cluster formulation, and the coordinated activities foreseen with the project and concludes with the signatures of the three coordinators. The full text of AGRIMODELS MoU is presented in this deliverable Annex 1.

4 Launch of AGRIMODELS cluster

The initiation of the AGRIMODELS cluster can be traced to the Horizon 2020 Societal Challenge 2 (SC2) Coordinator’s Day meeting held in Brussels on June 6th, 2019. The meeting was organised by the European Research Executive Agency and DG-AGRI in order to foster cooperation and synergies between consortia. During the meeting, coordinators of SC2 projects presented their projects and explored opportunities for cooperation in the context of their respective call(s). The presence of policy officers from other services of the European Commission extended the scope of the discussions to the policy developments at the EU level in their respective areas. Within this context, the coordinators of AGRICORE, BESTMAP and MIND STEP discussed for the first time the opportunity for the development of research synergies and the formulation of a common cluster (AGRIMODELS) for the effective response to the RUR-04-2018-2019 topic challenges and the coordination on modelling activities and EU policy recommendations.

5 Established clustering activities

5.1 Registry of actions

No	Clustering activity	Where	When	AGRICORE / AGRIMODELS members involved	Content / Details
1	Horizon 2020 Societal Challenge 2 (SC2) Coordinator's Day	Brussels	06/06/2019	ALL	<p>A meeting was organised by the European Research Executive Agency and DG-AGRI to foster cooperation and synergies between consortia.</p> <p>During the meeting, coordinators of SC2 projects presented their projects and explored opportunities for cooperation in the context of their respective call(s). The presence of policy officers from other services of the European Commission extended the scope of the discussions to the policy developments at the EU level in their respective areas. Within this context, the coordinators of AGRICORE, BESTMAP and MIND STEP discussed for the first time the opportunity for the development of research synergies and the formulation of a common cluster (AGRIMODELS) for the effective response to the RUR-04-2018-2019 topic challenges and the coordination on modelling activities and EU policy recommendations.</p>
2	AGRIMODELS sister projects kick-off	Online	01/09/2019	ALL	Start date for AGRICORE, BESTMAP and MINDSTEP projects
3	DG-AGRI & REA RUR-04-2018 meeting	Brussels	26/09/2019	ALL	<p>Joint meeting with DG-AGRI, REA and other agencies in Brussels to discuss details and goals of the three projects. Representatives of AGRICORE, BESTMAP and MIND STEP projects, all funded under the RUR-04-2018 topic of the H2020 program, met with several stakeholders involved in policymaking and policy impact assessment in agriculture. Specifically, representatives of DG-AGRI, JRC-IPTS, DG-CLIMA, DG-ENERGY, the SUPREMA cluster, REA, MIDAS and FADN participated in it. The meeting allowed the project coordinators to present their plans as well as to receive valuable feedback on the specific needs of the different stakeholders, especially from DG-AGRI and JRC-IPTS points of view. At the same time, the meeting allowed the project coordinators to initiate the</p>

					discussions for the establishment of the AGRIMODELS cluster.
4	Cluster meeting	Online	10/10/2019	Project Coordinators	First cluster official online meeting, participated by John Helming, Guy Ziv and Carlos Leyva, Project Coordinators of MINSTEP, AGRICORE and BESTMAP, respectively,
5	Cluster meetings	Online / email exchanges	15/10 - 30/11/2019	ALL	Exchange of communications and online meetings for the definition of the Memorandum of Understanding of the AGRIMODELS cluster. Setup of the webpage of the cluster. Contact establishment between the C&D experts from the three projects.
6	EU Conference on Modelling for Policy Support	Brussels	26-27/11/2019	UNIPR, IDENER	EU Conference on Modelling for Policy support organised by the Competence Centre on Modelling and the Joint Research Centre of the European Commission. AGRICORE, representing the AGRIMODELS cluster, had the opportunity to participate in the EU Conference on Modelling for Policy Support. The conference brought together researchers and policymakers involved in modelling activities in order to identify common challenges and solutions in the use of models to support policymaking. AGRICORE was represented by UNIPR and IDENER, who had the chance to show off the aims and progress of the project so far, its structure and key activities, engage potential stakeholders, collect feedback & ideas from the audience as well as get in touch with relevant projects towards clustering.
7	AGRIMODELS cluster announcement	Online	03/12/2019	ALL	Common announcement on the formulation of the AGRIMODELS cluster. The synergies include coordinated activities such as the setup and configuration of the AGRIMODELS CLUSTER, the development of a web page and regular meetings between coordinators and communication and dissemination experts to identify synergies e.g. regarding the access to agriculture (or related) data. The projects agreed also to collaborate with the ongoing SUPREMA CSA.
8	AGRIMODELS SUPREMA Workshop	Brussels	11/02/2020	ALL	AGRICORE, MIND STEP and BESTMAP participated in the 3rd Stakeholder Workshop organised by the SUPREMA project. The interactive workshop was dedicated to the “Strategic prospects” towards the identification of the needs in the future model-based policy analysis of European Agriculture. This

					<p>event was also an opportunity for the AGRIMODELS clustering project coordinators (from left to right: Hans Van Meijl (MINDSTEP), Guy Ziv (BESTMAP), Carlos Leyva Guerrero (AGRICORE) and the host Floor Browser (SUPREMA) to meet and exchange best practices towards a common strategy in agricultural policy modelling.</p>
9	AGRIMODELS Cluster Meeting	Online	19/02/2020	John Helming, Carlos Leyva, Guy Ziv, Marc Muller	<p>AGRIMODELS Cluster Meeting. Key points of the discussions/activities: Signing of the AGRIMODELS MoU; Updates on each one of the projects; Data needs of all partners; Discussions on how to apply for the FADN database; Contribution to the SUPREMA roadmap</p>
10	AGRIMODELS cluster announcement	Online	22/4/2020	BESTMAP	<p>Announcement of AGRIMODELS cluster by BESTMAP project: AGRICORE, BESTMAP and MIND STEP build a strong cluster, which aims at developing a highly modular and customisable suite of tools to model capabilities in the agriculture sector. The projects act together forming the AGRIMODELS cluster to coordinate the potential synergies between them.</p>
11	AGRIMODELS Cluster Meeting	Online	15/05/2020	John Helming, Carlos Leyva, Guy Ziv, Pablo Báez	<p>AGRIMODELS online cluster meeting. Key points of the discussions/activities: COVID-19 pandemic situation; FADN application; involvement of research activities; exploration of joint/aligned activities.</p>
12	AGRIMODELS Online Workshop	Online	14-15/07/2020	ALL	<p>BESTMAP, representing AGRIMODELS, held a workshop entitled "Improving the environmental and social capacity of EC impact assessment tools". The event was divided into plenary sessions with three thematic breakout discussion groups, where the attendees were mainly from the European Commission's Directorate-General for Agriculture and Rural Development (DG AGRI) and the European Commission's Joint Research Centre (JRC). Additionally, the workshop has been participated by 37 external members. Some of the main topics covered during the discussion were related to the agricultural policy impact modelling, potential tools for implementation. The need for impact assessment on currently proposed policies by the Council and the European Parliament was also covered. In relation to this topic, the participants were engaged in a deliberation on the implementation of</p>

					<p>changes to the impact assessment of modelling.</p> <p>During one of the breakout discussions, it has been touched upon the Post-2020 CAP and the sustainable development goals (SDGs) indicators. The group looked at which social or environmental indicators are currently missing. An essential topic for debate was which indicators are important for modelling tools already in use, together with the role of models in transferring from results indicators to impact indicators. Last but not least, the workshop engaged the attendees in a discussion on the Macroeconomic and ecosystem services model linkages. The importance of farmer decision-making was highlighted, and the limitations of current tools in capturing this, especially with regard to complex behaviour, were recognised.</p>
13	AGRIMODELS SUPREMA clusters synergies	Online	20/07/2020	ALL	<p>Joint AGRIMODELS Cluster Feedback to SUPREMA Project Roadmap. The SUPREMA model family includes 'core models' already used in support of key European impact assessments in agriculture, trade, climate and bioenergy policies. The SUPREMA meta-platform of the core models, the enhanced linking and some key applications melt down in a Roadmap for future directions for agricultural modelling in Europe.</p>
14	EIP-AGRI Seminar	Online	18/09/2020	ALL	<p>The EIP-AGRI Seminar 'CAP Strategic Plans: the key role of AKIS in Member States' was initially planned to take place in Warsaw, Poland, on 22-23 April, but it was postponed due to the pandemic caused by COVID-19. The seminar took place online. This event was by invitation only.</p>
15	AGRIMODELS Cluster Meeting	Online	01/10/2020	ALL	<p>Cluster Meeting on Common Dissemination Activities. Key points:</p> <ul style="list-style-type: none"> • Means of dissemination • Possible synergies, ideas and brainstorming • Clustering planning activities • Exploitation plan & strategy • Exploitation plans • Engagement of stakeholders, including events targeting the specific stakeholders (policymakers)
16	Webinar	Online	20/10/2020	MIND STEP	<p>MIND STEP, representing AGRIMODELS, participated in the Webinar: Pathways for advancing pesticide policies, co-hosted by the</p>

					<p>World Food System Center and the Agricultural Economics and Policy Group of ETH Zurich.</p> <p>The webinar discussed key challenges and present pathways for advancing European pesticide policies. Experts from an interdisciplinary consortium presented insights into selected areas such as best policy practices, new technological approaches, farmer behavior, and efficient policy designs suggesting key steps to achieve a reduction in pesticide risks.</p>
17	AGRIMODELS Cluster Meeting	Online	02/11/2020	ALL	<p>Cluster Meeting with special focus on data - “Towards a common data processing plan”. This meeting specially focussed on the data processing plans of every individual project. Data processing requires substantial resources and needs repetition and continuation, given the continuous availability of new, updated data. Agreement on a common data processing plan could share the burden of identifying and processing all relevant economic and biophysical data. It was also discussed the idea of a public available interface database for (more aggregated) farm data to encourage future collaboration and continuous research in that field and easy access to harmonised data for all ongoing projects. It was concluded that we should especially focus on overlapping issues e.g. tools to analyse different economic and biophysical databases. Examples of such tools were also discussed during the meeting.</p> <p>Key points:</p> <ul style="list-style-type: none"> • Selected issues related to data processing • Links to data management plan (FAIR data) • Links to IT infrastructure (repository, download facility) • Challenges for common data processing (confidentiality)
18	AGRIMODELS news release	Online	20/11/2020	ALL	<p>A news release of the AGRIMODELS Cluster was published in EurekAlert! of the American Association for the Advancement of Science (AAAS) and the European Commission’s news and events service CORDIS Wire. The announcement informs about the collaboration between the three EU research projects - AGRICORE, BESTMAP and MIND STEP in their common goal to design modelling</p>

					<p>capabilities in the agricultural sector, while at the same time contributing to the creation of a new agenda of the agricultural policies within the European Union.</p> <p>The news release further apprises about the threats posed to food and water security, carbon storage and biodiversity by the uprising issues of land-use intensification and climate change. As such, the three EU research projects have gathered to raise awareness towards those questions and are advocating for policymakers on various levels, from European to regional, to rethink and heighten agricultural sustainability. The project team members are determined to lead the collaboration to great success, providing impactful units for the agricultural sector.</p>
19	ENRD Workshop	Online	25/03/2021	MINDSTEP	<p>On invitation by the ENRD Evaluation Helpdesk, MIND STEP, representing by extension AGRIMODELS, was also presented at the Good Practice Workshop, 'Improving data management and information systems for the purpose of CAP evaluations'. The workshop was an opportunity to bring together evaluation practitioners like Managing Authorities, Paying Agencies, evaluators, researchers and other evaluation stakeholders in the Member States, as well as EU-level evaluation experts and researchers, to discuss, share concerns and exchange experiences.</p>
20	XVI European Association of Agricultural Economists (Virtual) Congress	Online	20-23/07/2021	ALL	<p>Joint participation at the XVI European Association of Agricultural Economists (Virtual) Congress. Organised Session - Use Of Individual Decision-Making Models To Support Policies.</p> <p>The AGRIMODELS Cluster, formed by the Horizon 2020 projects BESTMAP, AGRICORE and MIND STEP, participated at the sixteenth congress of the <u>European Association of Agricultural Economics (EAAE)</u> organising the online Agrimodels cluster session "Use Of Individual Decision Making Models To Support Policies".</p> <p>Organiser:</p> <ul style="list-style-type: none"> • John Helming, Wageningen University and Research <p>Chairpersons:</p> <ul style="list-style-type: none"> • John Helming, Wageningen University and Research

					<ul style="list-style-type: none"> • Paolo Sckokai, Catholic University of the Sacred Heart, Milan (UNICATT) • Hans van Meijl, Wageningen University and Research <p>Discussants:</p> <ul style="list-style-type: none"> • Ignacio Perez Dominguez, European Commission, Joint Research Centre • Prof. Simone Severini, DAFNE, Università della Tuscia, Viterbo, Italy <p>Contributions:</p> <p>MIND STEP: Modularity, transferability, and extendibility of models for individual decision-making at farm level / Authors: Wolfgang Britz (University Bonn), Alexander Gocht (vTI), Pavel Ciaian (JRC), Marc Mueller (WEcR)</p> <p>BESTMAP: Conceptual approach and initial results from qualitative and quantitative interviews with farmers across five case study areas / Author: Guy Ziv, University of Leeds</p> <p>AGRICORE: Using synthetic populations to produce representative and anonymous distributions of farm characteristics of the real farmers' population of interest from different data sources / Authors: Prof. Vangelis Tzouvelekas, University of Crete; Dr Pablo Baez, IDENER; Dr Michail Tsagris, University of Crete; Prof Konstantinos Mattas, Aristotle University of Thessaloniki; Mr Carlos Leyva Guerrero, IDENER; Prof. Filippo Arfini, Università di Parma; Dr Federico Antonioli, Università di Parma; Prof. Michele Donati; Prof. Marco Riani, Università di Parma; Dr Mario Veneziani, Università di Parma.</p> <p>MINDSTEP: Including behavioural economic elements in farm models. / Authors: Scarlett Wang, Frederic Ang and Alfons Oude Lansink, Business Economics Group, Wageningen University</p>	
21	179th Seminar	EAAE	Crete, Greece	09-10/11/2021	AGRICORE	<p>179th European Association of Agricultural Economists (EAAE) seminar: "Food Policy Modelling as an Effective and Expeditious Response to Today's Urgent Issues"</p> <p>The target of the seminar was to bring together scholars and researchers who exchanged ideas, practices and research initiatives that cover all relevant current modelling developments in the</p>

					<p>field of policy making relevant to agriculture and the agri-food industry. The AGRICORE project took actively part, presenting some interesting insights of the research efforts done by our partners AUTH and AKD. AUTH had the opportunity to present their work through their presentations about:</p> <ul style="list-style-type: none"> • Assessing the role of Measure 6.1 Start-up aid for young farmers in export orientation: Evidence from Greek agricultural sector (Staboulis Christos – Natos Dimitrios – Tsakiridou Efthimia – Gkatsikos Alexandros -Mattas Konstadinos) • Is CAP's Young Farmers Scheme an effective policy tool for regional growth? (Gkatsikos Alexandros – Natos Dimitrios – Staboulis Christos – Mattas Konstadinos – Psaltopoulos Demetrios – Polymeros Apostolos) • Young farmers scheme in Greece: Geographic inequality and policy implications (Natos Dimitrios – Mattas Konstadinos – Tsakiridou Efthimia – Tsagris Michail – Markopoulos Theodoros) <p>AKD had the opportunity to present the work related to:</p> <ul style="list-style-type: none"> • A Synthesis on Agent-Based Impact Assessment Models from the Perspective of the EU Rural Development Policy (RDP) Measures (Koç Ahmet Ali – Çağatay Selim – Veneziani Mario – Báez-González Pablo – Leyva-Guerrero Carlos – Uysal Peyman – Filippini Rosalia) <p>Additionally, during the poster sessions of the seminar, AXIA Innovation in collaboration with EXELISIS presented the official AGRICORE poster “Agent-based support tool for the development of agriculture policies”.</p>	
22	2021	EU	Online	22-26/11/2021	BESTMAP	<p>The European Commission's Competence Centre on Modelling (CC-MOD) organised this conference, which aims to bring together researchers and policymakers from European and international institutions, Member States, universities, research institutes and consultancies to identify common challenges and solutions when using models to support policy-making across all policy domains.</p>

					<p>The key objective of this event is to tackle policy challenges, which require political choices and must be transparently informed by evidence. Models are often utilised to assess the environmental, economic, and social consequences of actions. The European Commission develops models throughout the policy cycle and is dedicated to using evidence in a sound and transparent manner within the scope of the Better Regulation policy and the Open Science principles.</p> <p>BESTMAP participated with a presentation titled "Agricultural policy behavioural, ecological and socio-economic modelling from case studies to European scale". BESTMAP was represented by the project coordinator - Prof. Guy Ziv (University of Leeds), along with other partners, amongst whom are Dr Arjan Gosal (University of Leeds), Prof. Anna Cord, Dr Stephanie Roilo (Technical University Dresden), Dr Michael Beckmann, Dr Birgit Mueller (Helmholtz-Zentrum Umweltforschung) & Dr Tomás Václavík, Dr Fanny Langerwisch (Palacky University Olomouc).</p>
23	AGRIMODELS cluster meeting	Online	01/12/2021	ALL	<p>Cluster Meeting to explore the organisation of a Joint Meeting with DG-AGRI.</p> <p>Attendees: Guy Ziv (GZ), Jodi Gunning (JG), Pablo Baez Gonzalez (PB), Carlos Leyva Guerrero (CL), John Helming (JH).</p>
24	AGRIMODELS cluster meeting	Online	21/01/2022	ALL	<p>Cluster Meeting - Follow up on the Organisation of Joint Meeting with DG-AGRI</p>
25	AGRIMODELS BESTMAP Workshop	Basel	12/05/2022	ALL	<p>Joint participation in BESTMAP's Workshop in Basel - Linking CGE/PE models and ABM models</p> <p>AGRIMODELS Cluster workshop organised at Basel at the Biozentrum, University of Basel in the framework of BESTMAP. The one-day event was aimed to present the progress of different AGRIMODELS Cluster projects (BESTMAP, AGRICORE and MIND STEP).</p> <p>There were thematic parallel sessions on modelling, and Alexander Gocht from Thünen-Institut, MIND STEP project partner, gave a presentation on modelling approaches. This technical presentation showed protocols, linkages, and methodology within MIND STEP. Some of the conclusions</p>

					from this presentation were that the MIND STEP modelling toolbox would consist of several new (risk, farm structural change) and improved established IDM (individual decision making) approaches across different regional and product scales instead of one big interlinked model. Also, the toolbox will be tested using two scenarios applied across the models (climate change /re-coupling of the First Pillar Payments to public goods and ecosystem, mandatory reduction of input use).
26	DG AGRI workshop	Brussels	23/05/2022	ALL	<p>AGRIMODELS Cluster / DG AGRI workshop</p> <p>Attendees:</p> <p>BESTMAP: Prof Guy Ziv (GZ), Jodi Gunning, Dr Tomás Václavík, Dr Cristina Domingo</p> <p>MIND STEP: Dr John Helming (JH), Marc Muller (MM)</p> <p>AGRICORE: Carlos Leyva (CL), Pablo Baez</p> <p>JRC: Ignacio Perez Dominguez (IPD)</p> <p>REA: Céline Choquer</p> <p>DG-AGRI: Tassos Haniotis (TH), Andreas Kolodziejak (AK), Paolo Bolsi (PB), Florence Buchholzer (FB), Laura Aguglia (LA), Andrea Furlan (AF), Piotr Bajek (PBa), Vincent Cordonnier (VC), Marc Duponcel (MD), Benjamin Doorslaer (BD)</p>
27	182nd EAAE Seminar: Sustainability via biodiverse agri-food value chains	Chania, Greece	14-15/09/2022	AUTH	<p>On the 14-15th of September 2022, AGRICORE was present at the 182 EAAE Seminar organized in Chania, Crete. The objective of the 182 EAAE Seminar was to bring together scholars and researchers who will exchange ideas, practices and research initiatives that cover the current developments in biodiversity, sustainability and the agri-food supply chain. The ultimate goal of these objectives is to assist in policy-making decisions in agriculture and the agri-food industry of the global economy.</p>
28	AGRIMODELS cluster meeting	Halle, Germany	5-7/10/2022	UNIPR	<p>The 181st EAAE seminar in Berlin on “Greenhouse gas emissions in the EU agriculture and food sector – potential limits of climate mitigation policies and pricing instruments” has been an opportunity to share the state of play on the three projects of the AGRIMODELS cluster and to assess future possible interactions and synergies.</p> <p>With just under a year to go for the AGRICORE, BESTMAP and MIND STEP</p>

					<p>projects, a lot of work has been done and first preliminary results were showed and compared at the preconference in Berlin.</p> <p>The meeting was very constructive, it served as platform for the consortium’s members to identify possible collaboration and interaction among projects, and it allowed a deeper understanding of the issues typically faced while developing and simulating agricultural policies at different scales.</p>
29	IAERE Annual Conference	Naples, Italy	23-24/3/2023	UNIPR	<p>On February 23rd, at the IAERE annual conference in Naples, Lisa Baldi and Sara Calzolari presented one of the AGRICORE modules: the short-term period Agent-Based Model (ABM) developed to evaluate the efficiency of the new Communitarian Agricultural Policy (CAP 2023-2027) measures through the simulation of farmers’ behaviour. The objective of this module is to stimulate farmers exchanging production factors, such as land and rights to pollute, to optimise their production functions while reducing environmental drawbacks. The simulation of the ex-ante impact of CAP scenarios allows for assessing not only the level of convenience in introducing the proposed voluntary measures but also the impact on the farms’ structure, greenhouse gas emissions and water consumption. This ABM is based on Positive Mathematical Programming (PMP) and relies on the ability to capture the interactions between farmers in the use of scarce resources under the assumption of non-full rationality in production preferences.</p>
30	AGRIMODELS cluster meeting	Online	27/2/2023	ALL	<p>The Agrimodels Cluster online meeting on 22 February 2023 served to discuss essential items of the three projects’ agendas. The first point raised was the finalisation of each project; MIND STEP will be at the end of December this year, BESTMAP end of February 2024 and AGRICORE will finish at the end of March 2024.</p> <p>Common activities, such as the participation of project partners and a joint session at the EAAE Congress in Rennes, were discussed. This Congress will happen between 29 August and 1 September 2023. Also, all attendees to the meeting raised the issue of the organisation of the final dissemination event and the possibility of jointly</p>

					<p>organising one at the end of 2023; the location is to be defined later.</p> <p>Among other topics, a paper on data availability was discussed, as well as the collaboration on modeling work, which is an issue that has to be consulted separately between each consortium. Attendees agreed on the need for a meeting in May 2023 to advance in organising the final event.</p>
31	AES Annual Congress	Warwick, UK	27-29/3/2023	UNIPR	<p>Agricultural Economics Society - AES, 97th Annual Conference, March 27-29, 2023, Warwick University, Coventry, UK</p> <p>Lisa Baldi & Arfini, Filippo & Calzolari, Sara & Donati, Michele, 2023. "CAP reform and GHG emissions: policy assessment using a PMP agent-based model," 97th Annual Conference, March 27-29, 2023, Warwick University, Coventry, UK 334520, Agricultural Economics Society - AES.</p>
32	Newsletters Coordination	Online	6-7/2023	ALL	<p>Shedding light on recent and upcoming advancements within the project, MIND STEP has featured BESTMAP, along with AGRICORE, with which the three projects form the AGRIMODELS Cluster.</p>
33	Meeting	Athens, Greece	10/7/2023	AUTH, Prof. K. Mattas	<p>Ministry of Rural Development and Food. Directory General for Agriculture. Networking with Ministry policy officials as it regards AGRICORE and AGRIMODELS research activities. Dissemination of projects' results and foreseen impact.</p>
34	EAAE Congress	Rennes, France	1/9/2023	ALL	<p>Our partners from the University of Parma represented us at the XVII EAAE Congress in Rennes, France, from August 29 to September 1, 2023.</p> <p>The congress aimed to stimulate discussions on effective policies, innovative strategies, investment priorities, and future-focused educational programs in agricultural economics. The theme "Connecting science and society" highlighted the importance of pushing the boundaries of research for societal impact.</p> <p>From AGRICORE's side, it was presented a poster titled "Assessment of CAP Generational Renewal subsidies with ABM." The goal was to assess the effectiveness of Generational Renewal subsidies in motivating young farmers to enter the agricultural sector by measuring their economic viability as well as to investigate whether the current Pillar 1 and 2 subsidies are sufficient to overcome the financial</p>

					<p>and/or economic barriers preventing young farmers from starting an independent agricultural activity. Furthermore, AGRICORE partners were able to connect with the sister project, MINDSTEP, proceeding, thus, with our clustering activities and research efforts.</p> <p>This event provided a valuable opportunity to connect with fellow researchers and experts, exchange experiences, and gain valuable insights to bring back home.</p>
35	AGRICORE event	Lublin, Poland	6/10/2023	IAPAS, UTP	<p>On October 6, 2023, a seminar was held by UTP/PBS in Poland, presenting the concept, goals, methodologies and research results of AGRICORE against the background of contemporary challenges facing agriculture. The meeting was attended by representatives of agricultural practice: representatives of agricultural organisations, including agricultural advisory services, as well as agricultural entrepreneurs and farmers.</p>
36	DG-AGRI H2020 Clustering event	Brussels, Belgium	25/10/2023	ALL	<p>DG AGRI organised a workshop titled “Models and tools supporting agricultural policies: a Horizon update”, where finishing, ongoing, and recently started projects had the opportunity to present their achievements and ambitions. The stated objectives of this workshop were to ensure feedback from policymakers and foster networking and collaboration. AGRIMODELS was represented by BESTMAP, MINDSTEP and AGRICORE projects.</p>
37	MINDSTEP event	Brussels, Belgium	26/10/2023	IDE	<p>MINDSTEP final stakeholder meeting Engagement in the coordination of AGRIMODELS' next activities.</p>
38	BESTMAP final event	Brussels, Belgium	07/02/2024	ALL	<p>BESTMAP marked the end of the four-year project with a significant Final Dissemination Event in Brussels, Belgium. Titled "Research Lessons to Inform Future CAP Reform," the event was coordinated by project partners - <u>RISE Foundation</u> in collaboration with BESTMAP's sister projects within the <u>AGRIMODELS</u> cluster, all under the <u>Forum for the Future of Agriculture</u> initiative.</p> <p>The event addressed concerns about the ongoing decline of biodiversity in Europe and the unmet environmental goals despite annual spending of €12.1 billion on environmentally oriented</p>

				<p>measures within the CAP. The Common Agricultural Policy (CAP) plays a crucial role in aiming to transition to and maintain sustainable practices while addressing biodiversity loss and the challenges of climate change.</p> <p>The event drew a diverse audience, including key stakeholders, representatives from different EU organisations and institutions, as well as other interested parties. The overarching goal of the event was to formulate recommendations based on the comprehensive research conducted throughout the project, ultimately influencing the future of the Common Agricultural Policy (CAP).</p> <p>Tassos Haniotis, an advisor for sustainable productivity at the Forum for the Future of Agriculture and a senior guest research scholar at the International Institute for Applied Systems Analysis, welcomed the attendees with a speech focusing on the pivotal role of analytical tools in the CAP policy debate.</p> <p>Tomáš Václavík from <u>Palacký University Olomouc</u> then presented on BESTMAP's four-year journey, providing detailed insights into the processes involved in crafting case studies across Humber, Mulde, South Moravia, Catalonia, and Bačka. James Bullock, from the <u>UK Centre for Ecology and Hydrology</u>, followed with a discussion on BESTMAP's transition from regional case studies to European policy-making. Bullock outlined the steps, showcased possible new case study areas, addressed faced challenges, and proposed an agile adaptive policy cycle.</p> <p>John Helming, the spokesperson for the <u>MIND STEP</u> project within the AGRIMODELS cluster, highlighted the Mind Step Model Toolbox and introduced their policy recommendations. Lisa Baldi, representing the <u>AGRICORE</u> project, also part of the AGRIMODELS cluster, outlined the project's approaches and highlighted the final steps toward project completion.</p> <p>The event's interactive nature allowed stakeholders, policymakers, and representatives to engage with each speaker through Q&A sessions. The proceedings concluded with a panel</p>
--	--	--	--	--

				<p>discussion led by RISE and ForumforAg. The panel featured members of the Joint Research Centre at the European Commission, political analysts, scientists, DG AGRI members, and the Director of EU's Agri & Forestry-Related Policies at the European Landowners' Organization.</p> <p>During the panel discussion and dialogue, experts emphasised the need for effective integration of knowledge into policy recommendations for agricultural sustainability. Suggestions included leveraging data-driven tools, adopting bottom-up approaches, and ensuring clearer communication to farmers. The importance of involving member states at the policy level, addressing time-related issues in policy cycles, and refining agri-environmental schemes was underscored. Discussions also touched on the significance of indicators, particularly focusing on soil organic matter and the potential for improvement in the Common Agricultural Policy (CAP) reform. Furthermore, there was a call for enhanced data accessibility respecting privacy, to facilitate bottom-up schemes and best practices sharing. The dialogue concluded with reflections on the balance between economic and environmental sustainability, urging a comprehensive debate on policies affecting farmers, such as climate laws, pesticides, and animal welfare legislation. The output from the discussion has set the stage for the upcoming Forum for the Future of Agriculture Annual Meeting in March 2024.</p>
--	--	--	--	---

6 Conclusions

The three RUR-04-2018 H2020 projects, namely AGRICORE, BESTMAP and MIND STEP, succeeded fully at initiating a common cluster of their scientific research activities. The AGRIMODELS cluster fulfilled its aspirations laid down by the MoU: They succeeded at the development of a web page which provided unique access for the three projects; members of the three projects met on a regular basis to review the identified synergies and coordinate efforts within the projects; different public events were attended by all members; External Experts Advisory Boards were established with common membership; and data sources acquisition was forwarded. Therefore, it may be concluded that the ultimate goal of the AGRIMODELS cluster was achieved, generating a positive impact on the three projects.

7 References

1. L. M. Camarinha-Matos, R. Fornasiero, J. Ramezani, and F. Ferrada, “Collaborative Networks: A Pillar of Digital Transformation,” *Applied Sciences*, vol. 9, no. 24, 2019, doi: 10.3390/app9245431.
2. T. Benissa and A. Patil, “Drivers for Clustering and Inter-Project Collaboration—A Case of Horizon Europe Projects,” *Administrative Sciences*, vol. 14, no. 5, 2024, doi: 10.3390/admsci14050104.

For preparing this report, the following deliverables have been taken into consideration:

Deliverable Number	Deliverable Title	Lead beneficiary	Type	Dissemination Level	Due date
D8.5	Report on collaboration with policy makers	UNIPR	Report	Public	M48
D9.1	Plan for the Exploitation and Dissemination of Results – PEDR	AXIA	Report	Public	M06
D9.5	AGRICORE project website	IDE	Report	Public	M04

Annex 1. Memorandum of Understanding for the RUR-04 Cluster of 19th February, 2020

Background

*In the framework of the RUR-04-2018 published by the European Commission as part of the H2020 programme, three projects (**AGRICORE** - Grant agreement ID: 816078, **BESTMAP** - Grant agreement ID: 817501, **MIND STEP** - Grant agreement ID: 817566) received funding to address the challenges posed in this topic. As part of the Grant Agreement signed with the EC, at least for some of these projects, the participating consortia agreed to form a cluster with the other projects funded within the same topic. In addition, during the meetings held between the projects' coordinators and DG-AGRI, it was suggested to boost this collaboration to ensure the proper development of the three projects.*

AGRIMODELS Cluster

As a result, with the present document, the project coordinators of the above-mentioned projects commit to establish the AGRIMODELS cluster, which will serve as the coordinating entity between the projects. The present document presents the memorandum of understanding agreed between the projects, detailing the coordination activities that will be done between them.

This document is subscribed and signed by the next three persons, as corresponding representatives of the participating projects in the cluster:

- **Carlos Leyva** - IDENER - Project Coordinator of AGRICORE project
- **Guy Ziv** - University of Leeds - Project coordinator of BESTMAP project
- **John Helming** - Wageningen University & Research - Project manager of MIND STEP project

Coordinated activities within the project

The following points describe the topics for which the three projects have agreed on collaborating:

- *Setup and configuration of the AGRIMODELS CLUSTER which currently includes AGRICORE, BESTMAP and MIND STEP project consortia.*
- *Development of a [web page](#) which will provide a unique access for the three projects. This website will describe the topic where the projects were funded. It will also include a calendar for events related to agriculture policy modelling and impact assessment as well as social media summaries for the publications done by the three projects.*
- *To meet on a regular basis to review the identified synergies and coordinate efforts within the projects. During the first year of the project's execution, their representatives will meet (either online or face to face) at least once every two month, and even more frequently should it be required. During the rest of the project timeline, the representatives will meet at least once every quarter.*
- *The Communication and Dissemination experts from each one of the projects will regularly analyse in detail the different public events that were planned in their Grant Agreements, identifying potential synergies and aiming to optimise the communication with external stakeholders.*

- *One person from each project (potentially the signatories of this document) will become a member of the External Experts Advisory Boards (in the BESTMAP, this group is called the Science Advisory Board) established in the other projects. This will enhance keeping track of the developments done by each project, fostering also the collaboration not only between the coordinators but also with the other consortium members. As a consequence, the members of the corresponding EEABs will be invited to attend the general meetings held by the other projects.*
- *All the projects will share some needs regarding access to agriculture (or related) data, which could be available from different agencies at the EU or national levels. This includes, among others, FADN and FSS data sources. Moreover, the three projects might also be interested in results from previous research initiatives (e.g. IFM-CAP data and algorithms). In order to promote better and more coordinated access to these sources, the project representatives will coordinate the requests to the owners of the information. This does not mean that single access requests will be done combining the three projects as the needs might be slightly different in each case, but it will ensure that the participants learn from the request access process from the others and that they avoid requesting the same information twice (unless required by the provider of such data).*
- *The projects also agreed to collaborate with the ongoing SUPREMA CSA. This fact will be further enabled as Wageningen University & Research, coordinator of MIND STEP, is also coordinating the SUPREMA project.*

Communication of the MoU

This document will be distributed not only across the consortia forming the cluster but also across the DG-AGRI and the REA representatives linked to the project. This includes:

- *Marc Duponcel - DG-AGRI - Policy officer for*
- *Benjamin Van-Doorslaer - DG-AGRI - Policy officer for*
- *Arantza Uriarte - REA - Project Officer for AGRICORE*
- *Cristina Hernandez de la Poza- REA - Project Officer for BESTMAP and MIND STEP*

Registry of the actions done by the cluster

In order to keep track of the actions done within the cluster, the participants will keep an online record of them. This information will be available to DG-AGRI and REA representatives upon request.

Signatures

Carlos Leyva, AGRICORE / Guy Ziv, BESTMAP / John Helming, MIND STEP