



AGENT-BASED SUPPORT TOOL FOR THE DEVELOPMENT OF AGRICULTURE POLICIES

D7.1 - Use Case planning and set of involved stakeholders



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Executive Summary

This document presents the planning for the execution of the three use cases considered in the AGRICORE project and the list of relevant stakeholders involved in each use case. Each use case addresses different financial policy measures to support the agricultural sector in a different European Member State (Spain, Poland and Greece). This deliverable is part of 'WP7 - Use Case Demonstrations', which is devoted to the design, preparation, execution and analysis of three use cases, including the execution of any Participatory Research (PR) activity that might be necessary for their development. WP7 is closely related to 'WP1 – Data Sources and Participatory Research', and thus part of the content of 'D1.8 - Use case participatory research actions' is referred to or included in this deliverable.

AGRICORE is a research project funded by the European Commission as a result of the RUR-04-2018 call, part of the H2020 programme. AGRICORE proposes an innovative way to apply agent-based modelling to improve the capacity of policymakers to evaluate the impact of agricultural-related measurements under and outside the framework of the Common Agricultural Policy (CAP). The resulting AGRICORE tool will be tested in three use cases, each of them having a special focus on a specific type of impact assessment (IA): environmental IA, ecosystem services IA and socio-economic IA.

The first section introduces the deliverable in the whole project and puts in emphasis the importance of well-defined planning and schedule to execute the use cases successfully. This includes the need to establish collaboration agreements with involved stakeholders and the settling of a monitoring plan in order to avoid possible issues and delays. Furthermore, the content of D1.8 on which this deliverable is based is outlined: analysis of the assessed agricultural policy measures and their impact, identification of the agent's attributes and detection of information gaps, and definition of the Participatory Research activities.

Section 2 describes the context of the agricultural sector related to the assessed measures in each use case, i.e., M11 in the Andalusian region, M10.1 in Poland and M6.1 in Greece. These descriptions, supported by some data and statistics, are based on the analysis of the measures made in D1.8. Moreover, the requirements for the beneficiaries of the measures and the subsidy conditions are outlined in this section.

As mentioned above, the pillars of this deliverable are planning and schedule for the execution of the use cases, identifying the involved stakeholders in each use case and the definition of a risk assessment and mitigation strategy as part of the monitoring plan. These elements show both aspects that are generic, as three use cases share deadlines and milestones and have to be coordinated, and features that are specific to each of them. That's why the content is divided into a section with common aspects and another section for specific aspects, with individual subsections in order to consider the particularities of each UC.

The common part is addressed in Section 3, including i) a Gantt chart that illustrates the common planning of the use cases; ii) the description of the groups into which the stakeholders in each use case are classified; iii) the mitigation plan, together with a common risk assessment and mitigation strategy for the three use cases.

Section 4 covers the specific aspects of the aforementioned points on a use case by use case basis. Firstly, the information gaps and their filling are reviewed, explaining the results of finalised tasks, such as the adaptation of the Participatory Research execution and the conduction of the pilot survey. Secondly, a table with the local stakeholders and their collaborations is presented. Finally, the individual risk assessment and mitigation actions for each use case are listed in a table, highlighting the detected risks and ongoing mitigation actions in each use case.

Lastly, the Conclusions section summarises the outputs of this deliverable, underlining their importance to reach a precise organisation and coordination of the resources. Furthermore, it is also emphasised the necessity of correct execution of the use cases to develop the AGRICORE tool and carry out the ex-post and ex-ante analysis of the use cases.

Abbreviations

Abbreviation	Full name
ABM	Agent-Based Model
ANCs	Areas facing natural or specific constraints
AOI	Attributes Of Interest
ARMA	Agency for Restructuring and Modernisation of Agriculture (in Poland)
BN	Bayesian network
CAGPDS	Regional Ministry of Agriculture, Fisheries and Rural Development of Andalusian (by its Spanish acronym)
CAP	Common Agricultural Policy
EAB	External Advisory Board
EEEA	Andalusian Farm Structure Survey (by its Spanish acronym)
ESYRCE	Spanish Survey on crop surfaces and yields (by its Spanish acronym)
EU	European Union
FADN	Farm Accountancy Data Network
FEADER	European Agricultural Fund for Rural Development (by its Spanish acronym)
FEAGA	European Agricultural Guarantee Fund
GDP	Gross Domestic Product
GHG	Greenhouse gas
GVA	Gross Value-Added
IACS	Integrated Administration and Control System
IAM	Impact Assessment Module
ICT	Information and Communication Technologies
IFAPA	Institute for Agricultural and Fisheries Research and Training (by its Spanish acronym)
INE	National Statistical Institute (in Spain)
KPI	Key Performance Indicator
LFA	Less Favoured Areas
LSU	Livestock unit
NGO	Non-governmental Organization
NUTS	Nomenclature of Territorial Units for Statistics
NVZs	Nitrate Vulnerable Zones
OCA	Agricultural Region Office (by its Spanish acronym)
PR	Participatory Research
PTRE	Polish Society of Organic Farmers (by its Polish acronym)
RAMSAR	Convention on Wetlands of International Importance, especially as Waterfowl Habitats
RDP	Rural Development Program
SIGPAC	Geographical Information System for Agricultural Plots (by its Spanish acronym)
SIPEA	Information System on Organic Production in Andalusia (by its Spanish acronym)
TFM	Task Force Meeting

List of Figures

Figure 1. Agent functional diagram representing a farm with its internal functioning and external interactions.....	8
Figure 2. Gantt chart of WP7 tasks.....	20
Figure 3. Agricultural labours calendar (Source: based on [44] and [45]).	24

List of Tables

Table 1. Amount of the subsidies of M11.	13
Table 2. Historical budget of M10.1 Payment for Agri-Environment-Climate Commitments.....	15
Table 3. Subsidy amounts of M10.1.	15
Table 4. Criteria for the level of available financial aid to young farmers.	17
Table 5. Common risk assessment and mitigation actions (L stands for low probability/impact, M for medium probability/impact and H for high probability/impact).....	22
Table 6. Summary of the features of sample population grouped by type of exploitation.....	26
Table 7. Stakeholders' table of the Andalusian Use Case.....	28
Table 8. Andalusian risk assessment and mitigation actions for the Andalusian Use Case (L stands for low probability/impact, M for medium probability/impact and H for high probability/impact).	32
Table 9. Stakeholders' table of the Polish Use Case.	36
Table 10. Risk assessment and mitigation actions for the Polish Use Case (L stands for low probability/impact, M for medium probability/impact and H for high probability/impact).	40
Table 11. Allocation of the population of beneficiaries among the 13 NUTS 2 Greek regions.....	42
Table 12. Average socio-economic profile of beneficiaries of M6.1.	43
Table 13. Stakeholders' table of the Greek Use Case.	44
Table 14. Risk assessment and mitigation actions for the Greek Use Case (L stands for low probability/impact, M for medium probability/impact and H for high probability/impact).	47

Table of Contents

1	Introduction.....	8
1.1	Context of the document.....	10
1.2	Objectives.....	10
1.3	Structure.....	11
1.4	Influence of the deliverable	11
2	Brief description of the use cases.....	12
2.1	UC1: Environmental impact assessment in the olive farming sector in Andalusia	12
2.2	UC2: Impact assessment on ecosystem services in Polish agriculture.....	14
2.3	UC3: Socio-economic impact assessment in Greek agriculture	16
3	Common planning and schedule.....	18
3.1	Detailed Planning and Schedule	18
3.2	Identification and contact of main stakeholders	21
3.3	General aspects of the monitoring plan.....	21
4	Specific Planning and Schedule for the Use Cases.....	23
4.1	UC1: Environmental impact assessment in the olive farming sector in Andalusia	23
4.1.1	Detailed Planning and Schedule.....	23
4.1.2	Identification and contact of main stakeholders	26
4.1.3	Monitoring Plan for the Use Case	32
4.2	UC2: Impact assessment on ecosystem services in Polish agriculture.....	33
4.2.1	Detailed Planning and Schedule.....	33
4.2.2	Identification and contact of main stakeholders	35
4.2.3	Monitoring Plan for the Use Case	40
4.3	UC3: Socio-economic impact assessment in Greek agriculture	41
4.3.1	Detailed Planning and Schedule.....	41
4.3.2	Identification and contact of main stakeholders	43
4.3.3	Monitoring Plan for the Use Case	47
5	Conclusions.....	48
6	References.....	49

1 Introduction.

The AGRICORE project proposes a novel tool for improving the current capacity to model the impact of policies dealing with agriculture by leveraging the latest progress in agent-based modelling [1] approaches. Each farm is represented by an agent, i.e. an autonomous decision-making entity which individually assesses its own context and makes decisions based on its current situation and expectations (see Figure 1).

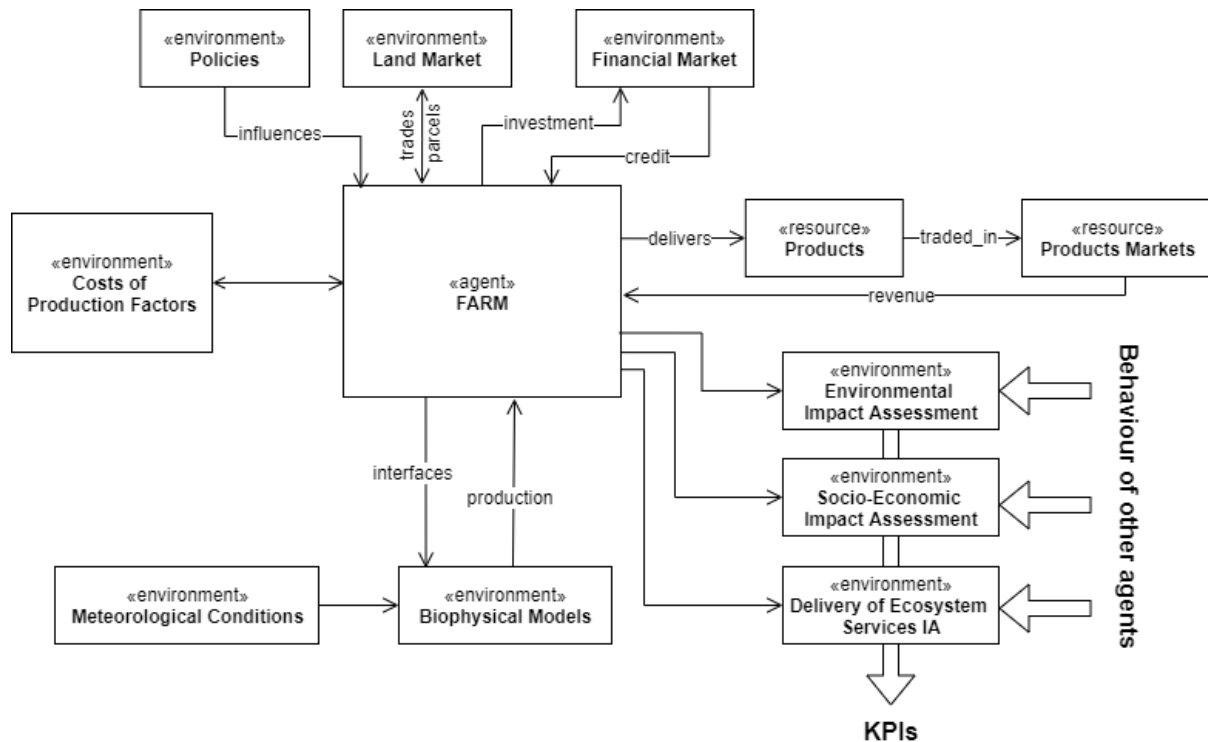


Figure 1. Agent functional diagram representing a farm with its internal functioning and external interactions.

This modelling approach will make it possible to simulate the interactions between each farm and its environment (environmental surroundings, level of rural integration, services provided by the ecosystem, permitted uses of the land, etc.), both in terms of the availability of resources and services and the impact on the aforementioned components of the environment. The model will also make it possible to simulate interactions between different farms through the establishment of land exchange markets and through imitation/diffusion sub-models to simulate the gradual adoption of technologies, exploitation schemes and policy instruments. The AGRICORE tool allows the construction of case studies at different geographical scales, from regional (NUTS2) to European (NUTS0).

The econometric-based macroeconomic agricultural models (e.g. AGLINK-COSIMO [2], CAPRI [3], AGMEMOD [4], AROPAj [5], MAGNET [4]) developed to model early Common Agricultural Policy (CAP) instruments, such as those included in the Pillar I, which are sometimes not capable of representing many of the new policy instruments, capturing farm heterogeneity and addressing a finer geographical scale than the regional level. In response to these needs, agent-based modelling has been applied in the last years to tackle these modelling challenges within the agricultural sector [6] [7] [8]. The main advantages of agent-based models of agricultural structures are its ability to capture farm heterogeneity, the explicit modelling of farm interactions and the consideration of agrarian activities' spatial dimension [9].

However, the most developed and frequently used ABMs face some relevant drawbacks not effectively overcome yet and which have hindered their application for large-scale policy

assessment so far. For instance, current ABMs are extremely time-consuming in terms of parameterisation and calibration; generally, the agents' models still lack some significant modelling features (such as accounting for risk and uncertainty, considering a long-term dynamic investment or integrating ecosystem services modelling). Therefore, the main objective of the AGRICORE Project is to develop a new generation of ABM tools to overcome the challenges that are still hampering their capacity for improving the design of new policies and for performing the associated socio-economic and environmental impact assessments at various geographical and demographical scales.

This is in line with the Pillar II of the current CAP (2000-2020), which introduces increasingly targeted and more farm-specific components (e.g., fostering of knowledge transfer, enhancing farm viability and competitiveness, restore of ecosystems, promotion of resources efficiencies and promotion of social inclusion). As can be seen from the different aspects on which the modules in Figure 1 focus, the AGRICORE tool aims at simulating all of them for each agent, also considering the interactions between the different farms. This will allow a complete assessment of the implemented agricultural policy (ex-post analysis) and simulate modifications of the policy or other policies in its design phase (ex-ante analysis) in order to measure their impact and predict whether the policy objectives are achieved. The tool will be able to simulate policy impact assessment through the outputs of the impact assessment modules (IAMs) according to their KPIs. In this project, three use cases that use the AGRICORE tool in its entirety are presented, but each of them focuses mainly on one type of policy impact assessment: the Andalusian Use Case deals with the environmental impact, the Polish Use Case handles the environmental impact and delivery of ecosystem services, and the Greek Use Case focuses on the socio-economic impact.

One of the main bases of AGRICORE is to build an agent model with a common mathematical structure so that the tool can be (re)used to perform policy impact analyses for both generic (cross-cutting in terms of farm type and geographical location) and particularised (for holdings with a specific techno-economic orientation and size or in specific geographical areas) scenarios. For this purpose, the agents have a high-dimensional structure of attributes of interest (AOIs). Each of these attributes has to be initialised so that the resulting probability distribution in the generated synthetic population is similar to the probability distribution of the values of that attribute in the real population. In AGRICORE, this is achieved by pseudo-randomly assigning values based on the probability distribution of the value of the particular attribute in the real target population(s). A Bayesian Network (BN), previously extracted using the FEDHC-BN learning algorithm [10], is used to determine the order in which the attributes are initialised and the interdependencies (correlations) between them.

Understandably, this algorithm needs a large amount of micro-data from the real population for each of the attributes to be generated. These data usually come from different data sources, both in terms of their typology (socio-economic, geo-referenced, etc.), their curators (public administrations, research institutions, environmental associations, cooperative federations, etc.), and their accessibility (public or private).

In addition, there may also be a situation where there are no data sources for some of the necessary attributes, which in the framework of this project are called 'information gaps'. In this latter case, it may be necessary to carry out a series of Participatory Research actions on the target population(s) in order to obtain that needed micro-data.

In any case, it is clear that in order to use the AGRICORE tool in a specific use case, it is necessary to analyse the availability of information and, if necessary, to carry out actions aimed at obtaining it. All this leads to the need to plan a priori the implementation of each use case, analysing plausible risks and possibly including the involvement of the stakeholders surrounding the agricultural and livestock sector and the policy instrument whose impact is to be measured. This document describes such planning for the three use cases covered by the Grant Agreement.

1.1 Context of the document

This deliverable, which is the first one of WP7, aims to establish planning for the execution of the three use cases of the AGRICORE project and specify the stakeholders involved in each one. This is the first step to successfully execute the uses cases and Participatory Research (PR) and to test and validate the resulting AGRICORE tool in each scenario contemplated in this project. Since the partner institutions responsible for each use case are in charge of carrying out its associated Participatory Research, work on this deliverable D7.1 began once D1.8 was submitted. D1.8 explains the design of the Participatory Research activities and their execution plan.

As can be noted, WP1 and WP7 are closely related to each other. Indeed, some tasks whose results were presented in D1.8 [\[11\]](#) have been included in the planning expounded in D7.1. The tasks carried out for that deliverable that must be considered are listed below:

1. Analysis of the agricultural policy measures of each use case. This consisted of studying the current situation of the national agricultural sector to which the measures are addressed and assessing their impact regarding the objectives set by the different measures. For the latter, it is necessary to have a methodology to measure the impact based on some KPIs. In D1.8, those methodologies were analysed, the KPIs used by the administrations in charge of monitoring the agricultural policy measures were extracted, and the evolution of the agricultural aspects considered in the measures was described based on those KPIs. However, it should be noted that in some cases, the administrations do not have yet defined KPIs to measure the impact of the agricultural policy measures. This is the case of Andalusia, which assesses the whole Andalusian Rural Development Programme and does not have a specific assessment for each measure. Moreover, it is done through a form with 21 open questions, lacking KPIs. Therefore, a possible result of AGRICORE in those cases is to define a set of KPIs and methodology to evaluate the impact of specific measures in collaboration with the corresponding administrations.
2. Identification of the attributes of the agents and detection of the information gaps. This task entails the definition of a table with the generic attributes of the agent, which were classified according to internal and external aspects of the agent: farm holding, farm owner, farm manager, parcel, crop, livestock, product, economic-financial module and ecosystem. Moreover, inside these groups, the attributes were classified by parameters, states, agro-management decisions, disturbances and outputs. Depending on the objectives of each use case and the characteristic of the target populations, some attributes must be initialised. To this end, the availability of data sources had to be checked in order to detect existing or potential information gaps. In D1.8, the information gaps of each use case were listed, and some of them could be filled thanks to the collaboration of some stakeholders.
3. Definition of the Participatory Research. In order to fill the remaining information gaps, Participatory Research activities were designed. For each use case, this consist of contacting relevant stakeholders and conducting a survey. Given the covid-19 pandemic situation at the time, it was decided that the questionnaires would be conducted telematically, adapting the design and planning of the survey campaign. Furthermore, the sample population to be investigated in each use case was defined based on the particularities of the use case and the available resources.

1.2 Objectives

Since this deliverable belongs to WP7 – Use case demonstrations, it is entitled to organise the execution of the three use cases in order to achieve the expected results and meet the deadlines. The objectives of this deliverable are:

- To define detailed planning and schedule for the execution of the use cases of the AGRICORE project.
- To identify the stakeholders involved in each use case and their collaborations.
- To include the collaborations of the stakeholders in the planning.
- To define a monitoring strategy that ensures the proper execution of the use cases.

1.3 Structure

The structure of this deliverable is organised from sections with more generic content to sections with more specific content for each use case. This ascending specificity structure will allow the reader to understand the different aspects considered for the planning (i.e., development of other WPs, common deadlines, contacted stakeholders and the situation of the Covid-19 pandemic).

After introducing the deliverable and contextualising it inside the AGRICORE project in Section 1, Section 2 includes a brief description of the measure and the agricultural sector to be analysed in each use. This content is extracted from D1.8, where it is explained in detail. Section 3 gathers the common aspects of the three main points of this deliverable: planning of tasks, list of involved stakeholders and risk assessment plan. These points are detailed explained for each use case in Section 4, where each use case has its own sub-section. In this way, it is possible to delve into the most important aspects of each use case according to its particularities. Finally, the Conclusions section summarizes the most relevant aspects of presented planning, especially for those upcoming tasks related to Participatory Research.

1.4 Influence of the deliverable

This document describes the planning for the execution of the three use cases included in the AGRICORE Grant Agreement. However, the guidelines presented here can be extrapolated to any other use case to be implemented in the future. Indeed, the conclusions drawn from this planning and implementation process will be the basis for the drafting of deliverable 'D1.7 - Identification and filling of information gaps through participatory research actions'. It will also drive the preparation of 'D7.2 - Report on use cases advances', 'D7.3 - Updated description of the AGRICORE use cases' and 'D7.4 - Results on Participatory Research Activities'.

2 Brief description of the use cases

In this section, the analysed measure of each use case is briefly described, including the subsidy amounts and the beneficiaries requirements. In addition, the situation of the agricultural sector related to each measure is depicted.

2.1 UC1: Environmental impact assessment in the olive farming sector in Andalusia

The Andalusian Use Case will focus on **the ex-post (2014-2017) and ex-ante (2018-2020) analysis of the impact of the Regional Measure 11** (M11 – the Organic Farming support measure [\[12\]](#) [\[13\]](#)) in the field of olive farming in Andalusia, being this region the world leader on olive oil production [\[14\]](#). Indeed, the agronomic cultivation of olive orchards shapes the territory of Andalusia; the continuous historical expansion of this agricultural system has marked the landscape, economy and culture of numerous zones of this region [\[15\]](#).

Andalusia has more than 1.5 million hectares, representing 14% of the world's olive orchard area [\[16\]](#). Olive orchards occupy around 16% of the surface area of Andalusia, which constitutes around 45% of its total agricultural area (data calculated from [\[17\]](#)). Thus, Spain is one of the main producers of both oil olives and table olives, representing around 69% of olive oil production with respect to the European total and 45% concerning the world total. Regarding table olive farming, Spain accounts for 77.5% of total European production, amounting to 19% of the world production (data calculated from [\[18\]](#)). In the last reported campaigns (2018/2019 and 2019/2020), the average olive production in Andalusia stood at 5.8 million tonnes. The vast majority of these olives (92.7%) were used for the production of olive oil, resulting in an average of 1,112,091 tonnes of olive oil over the two campaigns; the rest of the olive production (7.3%) was destined for table olives, with an average of 428,740 tonnes over the two seasons (data calculated from [\[17\]](#)). Within the overall national production, Andalusia predominates in terms of olive oil and table olive production, representing 76.2% and 57% of Spanish production, respectively (data calculated from [\[17\]](#) and [\[18\]](#)).

Regarding the exports, the Andalusian region also leads them with 75.8% of the total national volume, representing 79.6% of total oil olive and 73.8% table olive production in Andalusia. This is worth approximately 1,771 and 447 million euros, respectively [\[19\]](#). Therefore, these figures indicate the weight of the olive farming sector in the Andalusian economy, around 1.6% of the Andalusian GDP [\[20\]](#).

From a social point of view, the olive sector in Andalusia is of fundamental importance. In the 2020-2021 campaign, it is an estimated 21.6 million daily wages associated with agricultural work in olive orchards, from which almost 90% belongs to the oil olive farming sector [\[19\]](#) [\[21\]](#). Furthermore, according to the 2016 Farm Structure Survey in Andalusia (EEEE, by its Spanish acronym), female workers in the olive orchard sector were estimated at around 17% [\[21\]](#). Finally, establishing the classification of farms owners by age range, 74.6% are over 44 years old, 25.3% are over 64 years old, and only 0.1% of owners are under 44 years old. In terms of gender, around 80% are men, while the remaining 20% are women [\[15\]](#).

In the last decades, the expansion and intensification of olive growing have also produced negative environmental effects, although there is a general lack of quantitative information in this respect:

- First, **water consumption has increased** due to the increment of the irrigated olive orchards area in Andalusia. According to the Survey on Crop Areas and Yields (ESYRCE, by its Spanish acronym), the olive orchard is the crop with the largest irrigated land area in Andalusia [\[22\]](#), resulting in major environmental problems, such as **the over-exploitation of aquifers** [\[15\]](#).

- Another significant environmental problem associated with water resources is the diffuse **pollution of rivers**, reservoirs and aquifers due to the **misuse of fertilisers** and **phytosanitary products**. Nitrogen, as a macronutrient, is an essential protagonist used in the fertilisation of olive orchards.
- The use of excessive amounts of nitrates can lead to the acceleration of natural processes, arising a **greenhouse effect** almost 300 times greater than that due to olive orchard-related CO₂ emissions [15].
- Lastly, **soil erosion** represents one of the most critical and widespread environmental risks, often acting in a diffuse but constant manner. The loss of surface layers, rich in nutrients and organic matter, conditions the productive capacity of soils, limiting their ability to produce biomass, either for productive purposes or to support the natural environment. In Andalusia, low erosion areas predominate, with 47.2% of the total olive orchard area, followed by moderate erosion areas (29.7%), high erosion areas (11.8%) and very high erosion areas (11.2%) [15].

In response to the need to develop sustainable production schemes that combine profitable agricultural practices with environmental preservation, the olive orchard has experienced rapid growth of alternatives to conventional production, such as integrated production and organic production. During the last decade, the area of organic olive orchards in Andalusia has increased progressively, reaching 79,761 ha in 2019, which represents 5 % of the total area of oil olive orchards in Andalusia. The production of organic olive oil reached 17,150 tonnes in 2020, and it is estimated to increase to around 24,540 tonnes in the current 2020/21 campaign [21].

Regarding production costs, in 2017, the Studies and Statistics Service of the Regional Ministry of Agriculture, Fisheries and Rural Development of Andalusian (CAGPDS, by its Spanish acronym) carried out an estimate of the average costs of cultivation by type of olive farm, taking data from the 2015/2016 campaign. These studies reflected that the average total costs per hectare are around 40% lower in organic olive farming compared to conventional olive farming. However, the dependency on CAP subsidies is higher in organic olive farming than in conventional olive farming. The amount of subsidy varies according to the sub-measure (there are two sub-measures as part of M11) and the area of the olive orchard, as shown in Table 1.

Table 1. Amount of the subsidies of M11.

Sub-measure	Subsidy
M11.1.2. Conversion to organic olive farming	297.48 €/ha
M11.2.2. Maintenance of organic olive farming	247.9 €/ha

Natural or legal persons, joint ventures or partnerships are eligible for this support. To be classified as an organic farmer and be eligible for aid, the applicant must be an active farmer [1] who owns the olive grove holding for which aid is requested, which must have an area equal to or greater than 1 ha. Moreover, the applicant must be registered in two regional systems: SIPEA (Information System for Organic Production in Andalusia) and REAFA (Andalusian Register of Agricultural and Forestry Holdings). Since 2014, there have been three calls for aid under M11. The first of these calls was in 2015, where aid was granted for both the conversion and maintenance of organic olive farming. In 2018, the second call took place, but it only provided aid for the maintenance of organic olive farming. The latest call has taken place this year (2021), although delayed by one year due to the Covid-19 pandemic, and a budget has been allocated for both sub-measures, M11.1.2 and M11.2.2.

The results obtained from this use case are of keen interest to many stakeholders, and it will have a considerable impact on the Andalusian olive farming sector. On the one hand, policymakers will benefit from the ABM in order to design improved policies that entail an increase in organic olive production. Moreover, the Participatory Research activities will provide them with an updated image of the situation of olive farming in Andalusia, especially the organic olive farming sector.

On the other hand, the olive farmers will benefit from these new policies because they will have the opportunity to express their requirements, which will be considered in developing new agricultural policies. Furthermore, all this will involve opening new lines of investigation to study how the profile of the organic olive farmers has changed in recent years and the most influential factors in the decision to convert to organic production.

2.2 UC2: Impact assessment on ecosystem services in Polish agriculture

The Polish Use Case will focus on **the ex-post (2014-2018) and the ex-ante (2019-2020) analysis of the impacts of a national level measurement (M10.1)** (agri-environment-climate commitments)[23] in the overall Polish agricultural system and specifically, on ecosystem services in the country. Agri-environment-climate payments are granted to farmers and land-managers who, on a voluntary basis, commit their farming activities to one or more specific agri-environment-climate practices. The M10.1 measure deals with promoting practices contributing to sustainable land management and protecting landscape diversity, valuable natural habitats and endangered species of birds, which is part of the EU and national strategic legal frameworks.

Poland covers six NUTS1 level Regions (PL1-PL6) with a total area of 312 696 km², of which 51.2% is rural and further 39.5% is intermediate. Regarding the Polish population, it is 38.43 million, of which 39% live in rural areas. All Poland administrative regions are considered as less developed under article 204/99/EU definition. Moreover, the country is one of the member states eligible for funding from the Cohesion Fund. As regards the Polish territory distribution, forests cover approximately 30% of the Polish territory, whereas the agricultural land is 15.9 million ha, of which 70.4% is sown area. Poland is one of the EU Member States with the largest number of farms, which amounts to 1428781 and an estimated 2,383 million persons working on farms[24]. The agricultural land area in good agricultural conditions is 14,55 million ha, and the average area of agricultural land in an agricultural holding is 10.42 ha. This makes that Poland was among the EU Member States with the lowest average area per farm. Furthermore, there is a relatively high share of the population working in agriculture due to Polish agriculture's socio-economic structure, which small family farms dominate. The sown area of crop production in Poland in 2019 was as follow: cereals 7.9 million ha (wheat - 2.5 million ha, triticale - 1.3 million ha, barley - 1.0 million ha, maize for grain - 0.6 million ha, the remaining ones - 2,5 million ha (rye, oats, mixed cereals), industrial crops 1,1 million ha (rape and turnip rape – 1.0 million ha), feed crops - 1,1 million ha (maize for feed - 0,6 million ha), vegetables - 0,2 million ha [24]. Agricultural land of organic farms in Poland in 2019 amounted to 0.5 million ha, of which more than 75% are certified. The livestock units (LSU) in Poland in 2019 was about 10.0 million (Cattle – 46,4%, Pigs – 28%, Poultry 23,6% of total livestock units)[24]. The population age distribution in the rural area consists of 16,4% of people under 15 and 15,0% over 64 (in 2019). In Poland, soil quality influences the land's agricultural productivity, to the extent that 62.5% of agricultural land is classified as areas with natural constraints (ANC). Since the agriculture sector accounts for 10.7% of Poland's GHG (a greenhouse gas) emissions, farmers need practical tools to address these and other emissions stemming from intensive crop and livestock production. Approximately 19.4% of arable land in Poland faces various environmental challenges: 8.2% is particularly endangered by water and/or wind erosion, 3.6% experiences problems with low humus levels and 7.4% are defined as Nitrate Vulnerable Zones (areas that drain into waters polluted by nitrates).

Among many RDP actions, the implementation of RDP 2014-2020 Agri-Environmental-Climate-Action in the framework of M10 measure obtained the 4th largest amount of money among all of the 17 different actions financed from the RDP budget with a quota of 1366,7 million[25][26]. The number of farms being beneficiaries of the M10 action on average is 99,891 [27], which is 14,00% compared to the total number of market farms (746,000)[28], and 7,01 % compared to all farms in Poland (1,400,000)[29].

Table 2. Historical budget of M10.1 Payment for Agri-Environment-Climate Commitments.

M10.1 Payment for Agri-Environment-Climate Commitments	Up to 2016	Up to 2017	Up to 2018	Up to 2019	Up to 2020
Budget (million EUR)	217	405	604	857	1085
No. of applications/ no. of individual participants	149,525/ 68,859	220,375/ 79,777	288,012/ 88,759	356,969/ 98,062	427,998/ 103,878

In the sub-measure M10.1, five packages could be distinguished, with their specific requirements and subsidization level (see [Table 3](#)).

Table 3. Subsidy amounts of M10.1.

Package	Subsidy
1. Sustainable agriculture	86 €/ha
2. Soil and water protection	97-140 €/ha
3. Preservation of orchards with traditional varieties of fruit trees	423 €/ha
4. Valuable habitats and endangered species of birds in Natura 2000 areas	129-280 €/ha
5. Valuable habitats outside Natura 2000 areas	129-280 €/ha

Requirements of the beneficiaries:

- Obligation to have an agri-environmental activity plan.
- The obligation to maintain all permanent grasslands and landscape elements not used for agriculture, constituting refuges of wild nature.

The results obtained from the Polish use case are of keen interest for many stakeholders, and it will have a considerable impact on the Polish farming sector. On the one hand, policymakers will benefit from the ABM in order to design improved policies that preserve and promote the necessary changes to agricultural practices that make a positive contribution to the environment and climate. According to Task II - Environment and climate of the 2014-2020 RDP assessment for the period 2014-2018 [\[30\]](#), most of these improvements are to be adapted to the particular conditions of each habitat or region. Thus, the mowing and grazing calendar could be adapted according to geographical characteristics, and measures aimed at improving water conditions could be reformulated according to the type of natural habitat. For example, wet meadows and peat bogs are areas of special interest, as in addition to improving water conditions, it is necessary to combat desiccation, where current measures are insufficient. In addition, the report indicated that the farmland bird index was below its reference value, so it would be necessary to review the conservation and restoration measures for ornithological fauna, as it was noted that the current measures do not have the same impact on all bird species. Also, regarding soil protection, measures should focus on winter and autumn to avoid the effects of rain erosion. This must be accompanied by an increase in the area covered by conservation practices and developing ways of further integrating farms with a fragmented structure to a greater extent, which are predominant, especially in areas at risk of erosion. Subsidies for such activities can be estimated through the planned use of ABM.

In addition, the Participatory Research activities will provide them with an updated image of the situation ecosystems management (biodiversity, water and soils) in Poland. On the other hand, the Polish farmers will benefit from these new policies because they will have the opportunity to express their requirements, which will be considered in developing new agricultural policies.

2.3 UC3: Socio-economic impact assessment in Greek agriculture

The Greek use case will analyse **the M6.1 “Start-up aid for young farmers” sub-measure [31], which is included in the national programme for the period 2014-2020**. This use case will analyse the impact of the M6.1 application in Greece, focusing on the socio-economic aspects. The ex-post analysis will be done for the period 2014-2017, and the ex-ante impact analysis will be done for the period 2018-2020.

Greece has one of the lowest shares of young farmers in the total number of farm managers (3,7% aged up to 35 years old). As in the EU, Greece saw this share decreasing between 2010 and 2016. Also, the ratio of young managers to elderly in Greece is one of the lowest in the EU [32]. The scarce presence of young farmers is considered one of the main weaknesses in the competitiveness of European agriculture. The lack of young farmers puts the survival of the sector at risk due to an inadequate rate of generational turnover in the sector [33]. New farmers can bring new skills and energy, as well as more professional management, to the farming sector. Against the context of an ageing agricultural labour force, the future of the farming profession must be ensured [34]. Young farmers – and new entrants to farming – are needed to take over and modernize rural activities and businesses. The CAP, and specifically Rural Development Policy, can create an enabling environment for the current and the next generations of farmers. It provides the key that can help unlock the access to finance, land, and knowledge that the new generation requires when setting up their businesses.

Agriculture is a relevant sector for the Greek economy as it contributes 3.95% of Gross Value-Added (GVA)[35], ranking 9th among 64 sectors. Furthermore, it employs 3.93% of the total workforce in Greece[36], ranking 7th. Therefore, agriculture is a significant industry for the Greek economy that provides primary inputs for other sectors such as Food & Beverage and can play a vital role in young people's employment.

Although the proportion of the labour force in agriculture is continually decreasing, it remains high in Greece compared to the EU-28. More specifically, while 4.4% of the total labour force in the EU-28 is employed in agriculture, the corresponding percentage of Greeks stood at 11% in 2015[37]. More detailed surveys show that the percentage of the farm managers aged over 55 years old in Greece exceeds 55% of the total, while young farm managers aged <35 years old reach less than 6% of the total farmers. However, it should be noted that the last two programming periods of new entrants' policy after 2000, as well as the early retirement, yielded satisfactory results [38].

The National Census of 2011 [39] reported 2.260.401 people between 20-40 years old available for work and eligible for the Young Farmers Scheme, of which 57% were male and 43% female. Almost ten years later, their population is more or less the same, but younger people face unemployment threats. Despite the fact that 53% of people 20-44 have completed middle education and 34% have a university degree and above [40], the national average unemployment rate in 2019 was 17.3%. Younger groups report higher rates ranging from 12.6% for people 30-44 to 22.8% for 25-29 people and a record 32.7% unemployment rate for people aged 20-24. To this extent, Measure 6.1 can stimulate entrepreneurship, generate jobs and provide income for unemployed, deprived social groups.

The key requirements for persons/ legal entities to be eligible for the Young Farmers Measure in Greece as they are currently running (period 2016-2020) [31].

- For persons
 1. Permanent resident of the rural area for which the application is submitted.
 2. Legal capacity and be of age 18-40.
- For legal entities

1. The head of the holding is a young farmer, as in the criteria above.
2. The head has a 51% share of the legal entity.
3. The headquarters of the entity is in the same region as the permanent residence of the head.
4. The entity reports agriculture as its main economic activity (according to tax data)
 - Be the first establishment of the person or the head of the entity.
 - Be registered to the Integrated Administration and Control System (IACS) of the Ministry.
 - Be registered as professional farmers or new entrant farmers in the respective Registry.
 - Have a different occupation other than agriculture the last 5 years prior to application for the call.
 - Become professional farmers within 18 months since accession to the Measure.
 - Have adequate skills or obtain them within 36 months since accession to the Measure. Middle education must be in geotechnical major to become eligible for the scheme and according to the business plan of the application. For those with a university degree and above, no specialization is required.
 - Submit business plan (min. 3 years-max. 4 years) with economic goals and timelines.

The criteria for the level of available financial aid to young farmers are presented in the following table:

Table 4. Criteria for the level of available financial aid to young farmers.

Criteria		Amount (€)
Type of activity	Crop	17.000
	Livestock	19.500
	Mixed	17.000
Added amount according to the type of residence	Mountainous	2.500
	Disadvantaged	2.500
	Islands>3.000 population	2.500
	Other	0
Total aid per applicant	Min	17.000
	Max	22.000

The expected outcome from the Greek Use Case is of great importance for a large number of stakeholders, and it will have a considerable impact on the overall agricultural sector of the country. On the one hand, policymakers will benefit from the ABM to design improved policies that will meet the expectations of young farmers, increasing their desirability to participate in relevant measures. On the other hand, the farmers will benefit from these new policies because they will have the opportunity to express their requirements, which will be considered in developing new agricultural policies concerning the young farmers' scheme. Moreover, the knowledge of the stakeholders will be used in the available information through Participatory Research actions. Additionally, another remarkable aspect of their engagement is facilitating the development of Participatory Research actions and providing, mainly through exchange activities, the knowledge that would hopefully serve as inspiration for the project.

3 Common planning and schedule

The pillars of this deliverable are to define the planning of WP7 tasks ensuring a successful execution of the use cases, a effective inclusion of the collaboration of the involved stakeholders in the planning and a suitable delineation of the monitoring plan. The latter will have monitoring tools, such as periodic meetings and a risk assessment with a mitigation strategy, to anticipate possible issues and avoid delays. Even though the definition and development of these tasks are specific for each use case due to its particularities, the common aspects of the methodology are below explained.

3.1 Detailed Planning and Schedule

This section presents detailed planning and schedule of WP7 tasks for the execution of the use cases. This planning aims to coordinate and monitor the internal work and collaboration with the contacted stakeholders. Moreover, it must contemplate the development of other work packages. Thus, since the deadlines established in the initial planning of the project are shared for the three use cases, a common Gantt chart has been designed to plan their execution ([Figure 2](#)).

In the Gantt chart, the tasks that are considered to be finalised up to the submission date of this deliverable are in green in the calendar, whereas the ongoing tasks have their period of execution in orange. In addition, given the acceptance of the project extension by six months due to the Covid-19 pandemic, the execution period of some tasks has been extended in time regarding the initial planning, which is highlighted in yellow, or directly postponed, which is indicated with arrows.

As was mentioned in the Introduction, some tasks of the Gantt chart were finalised for D1.8, such as the analysis of the measure and situation of agriculture in each use case (T7.1.1.1 and T7.1.1.2), the study of the impact assessment mechanisms used by policymakers (T7.2.1) and the identification of used KPIs and their evolution in recent years (T7.2.2 and T7.2.3). Furthermore, other tasks that are direct outputs of this deliverable have also been included, such as the preparation of common and specific risk assessments and mitigation strategies (T7.1.2.1 and T7.1.2.2) and the inclusion of stakeholders' collaborations in the planning of the use cases (T7.1.3.2).

		13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	
		Year 2								Year 3								Year 4								Year 5																		
Task	Description	2020				2021								2022								2023								2024														
		9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
T7.1	Use case planning definition, monitoring and agent involvement																																											
T7.1.1	Use case planning definition																																											
T7.1.1.1	Analyse the assessed measure (objectives, target population, subsidies, procedures...)																																											
T7.1.1.2	Study the current status of the farming sector related to the assessed measure according to the information obtained from T7.1.1.1																																											
T7.1.1.3	List the resources available for the execution of the Participatory Research																																											
T7.1.1.4	Check the availability of data to initialise the modules of the AGRICORE suite for the Andalusian use case (T7.5.3), including those obtained from the Participatory Research execution																																											
T7.1.1.5	Provide the necessary data for the creation of testing environments (T6.5) for the Andalusian use case																																											
T7.1.1.6	Contact some stakeholders (academic institutions, technical services from the Commission) in order to test the ABM and give feedback																																											
T7.1.2	Monitoring the use case development																																											
T7.1.2.1	Prepare a common risk assessment table with possible mitigation actions																																											
T7.1.2.2	Prepare an internal risk assessment table with possible mitigation tasks																																											
T7.1.2.3	Hold periodic internal TFM to evaluate the progress made and analyse possible risks from T7.1.2.1 and T7.1.2.2																																											
T7.1.2.4	Update the list of possible common and particular risks and propose new mitigation actions																																											
T7.1.2.5	Set internal milestones to meet the deadlines																																											
T7.1.3	Involvement of the use case's agents																																											
T7.1.3.1	Make contact with relevant stakeholders (local policymakers, agrarian associations, academic institutions, technical services) and secure their collaboration in the use case																																											
T7.1.3.2	Include the contacted stakeholders' collaborations in the planning and schedule for the execution of the use case																																											
T7.2	Policy impact assessment scope																																											
T7.2.1	Analyse the impact assessment mechanisms used by policymakers regarding the assessed measure																																											
T7.2.2	Identify the KPIs that are considered in the used impact assessment mechanisms																																											
T7.2.3	Study the evolution of the values of those KPIs in recent years in order to determine their tendencies																																											
T7.2.4	Determine the influence of the measure actions and the agromanagement decisions on the used KPIs up to the date of the execution of the Participatory Research																																											
T7.2.5	Verify if the outputs of the IAMs reflect the KPIs. If not, propose alternative solutions, such as estimations																																											
T7.2.6	Make contact with relevant stakeholders (mainly policymakers and technicians) to improve the current impact assessment mechanisms according to their requirements																																											
T7.3	Execution of Participatory Research																																											
T7.3.1	Define a plan that guarantees to obtain the Participatory Research objectives																																											
T7.3.2	Pilot conduction of the survey in order to receive feedback from stakeholders (technicians) and farmers and detect some problems																																											
T7.3.3	Adapt the execution plan and Participatory Research activities according to the detected problems																																											
T7.3.4	Conduction of the survey/interviews																																											
T7.3.5	Make contact with relevant stakeholders (agrarian associations, cooperatives...) to compile their requirements for T7.5																																											
T7.3.6	Compile information and analyse it to provide it to the partners for the development of the modules																																											

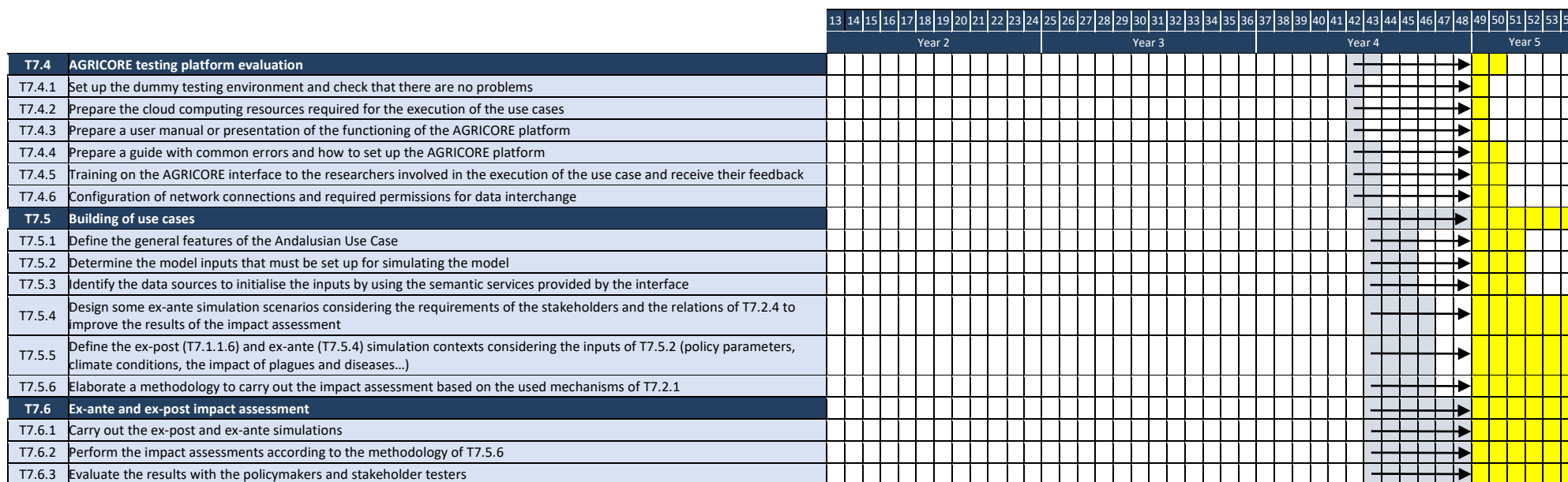


Figure 2. Gantt chart of WP7 tasks.

3.2 Identification and contact of main stakeholders

Although each use case has contacted different stakeholders, all of them have been classified by types of stakeholders, which are defined in this section. In the following section, the second subsection of each use case gathers its corresponding stakeholders that have been contacted or are still to be contacted. For each stakeholder, it is indicated the type of stakeholder, the status and method of contact, a description of the collaboration envisaged and the expected impact of the project on it. To date, no significant impact has been achieved because most of the stakeholders are interested in the PR results or any other output of the project, which is not possible due to the current status of the project. However, this impact will be included in the following deliverables of this WP.

The types of stakeholders that have been considered are:

- Policymakers: members of the regional or national government, especially from ministries or departments related to agriculture, who are in charge of making new policies.
- Farmers: this type groups individual farmers, agricultural associations and cooperatives and associations of farmers.
- Scientific community (Universities, research institutions etc.).
- Consultancy and advisory agencies: they are companies that offer technical advice in relation to agriculture such as farm design, changing the type of production, improvements to increase production, etc.
- NGOs: they are non-profit organisations interested in the diffusion and consciousness-raising about carrying out sustainable and eco-friendly agricultural practices.
- Clusters: they are the projects funded under the same topic with which it is possible to exchange information.

3.3 General aspects of the monitoring plan

The monitoring of the three use cases is carrying out by a specific group of tasks (T7.1.2 of Gantt chart) that also includes the risk management activities to avoid possible delays and issues by applying preventive, contingency or mitigation actions. Regarding the continuous monitoring activities, the most significant is the Task Force Meetings (TFMs); it is a bi-weekly or monthly meeting, depending on the workload, which is attended by those partners (CAAND, IDE, UTP, IAPAS and AUTH) responsible for the three use cases and other partners (UNIPR and AKD) collaborating in the implementation of the use cases. In these meetings, the latest progress of the use cases is presented, and risks and issues are discussed in order to meet the established schedule and planning. In addition, internal deadlines and milestones are set to organise the preparation of deliverables and the achievement of tasks. Lastly, it should be noted that holding these **TFMs** has become **a common methodology to monitor** the development of tasks in other work packages. For example, joint WP1 and WP7 TFMs are currently being held to coordinate work on Participatory Research of the three use cases.

It should be noted that the development of Participatory Research of each use case has been and will continue to be highly conditioned by the situation of the Covid-19 pandemic in each country/region. A clear example of this is the adaptation of the survey campaign according to the evolution of the vaccination campaign in each country. As a result of this, the questionnaires will be conducted in person in Andalusia and Greece, whereas the telematic way will be maintained in the Polish Use Case. Like this, other risks could arise that could jeopardise the follow-up of the

planning defined in this deliverable. To this end, common and particular risk assessments and mitigation actions (T7.1.2.1 and T7.1.2.2 of the Gantt chart) were prepared in order to include them in the monitoring plan. These potential risks will be reviewed in the TFM's to detect them and avoid possible issues carrying out preventive actions. In the event of a risk occurring, mitigation actions will be taken to minimise its impact on the project.

In this section, the common risk assessment and mitigation strategy is presented ([Table 5](#)). The specific ones of each use case will be shown in the third subsection of each use case (see below section). Nonetheless, all tables contain the same information: the risk definition, the estimated probability of that risk occurs, the estimated impact of that risk occurring and the related mitigation actions.

Table 5. Common risk assessment and mitigation actions (L stands for low probability/impact, M for medium probability/impact and H for high probability/impact).

Risk number	Risk	Prob.	Imp.	Mitigation action
1	Delays in the execution of the tasks due to the Covid-19 situation.	M	M	Adapt the planning (dates and procedures) of the tasks and their development to the current and foreseeable Covid-19 situation.
2	Lack of data to initialise the ABM simulations.	L	H	<ul style="list-style-type: none"> • Checking the availability of the necessary data to initialise the ABM inputs after collecting the available data source • Checking the availability of the necessary data to initialise the ABM inputs after designing Participatory Research activities to fill in the detected information gaps.
3	Difficulties in managing face to face interactions with relevant stakeholders due to the Covid-19 situation.	M	M	Preparing and planning these interactions by telematic channels in order to carry them out when it was possible.
4	Not considering the particularities of the use cases in the ABM implementation.	L	H	<ul style="list-style-type: none"> • Compiling the requirements (features of the beneficiaries, KPIs...) obtained from analysed Measures. • Contacting relevant stakeholders, especially policymakers, to track possible updates in requirements. • Monitoring the inclusion of the provided requirements in the different modules.
5	Not obtaining the expected data from the Participatory Research actions.	M	M	<ul style="list-style-type: none"> • Defining an alternative Participatory Research action to the one already proposed that allows the collection of the desired data or, failing that, a representative sample of those data. • Monitoring the development of the planned Participatory Research activities. • Proposing alternative ways to obtain this information, such as estimations.
6	Difficulties in reaching the target number of answered questionnaires.	M	H	<ul style="list-style-type: none"> • Conducting the surveys by directly contacting farmers that belong to the target population and facilitating responding to the questionnaires (time, place, personal interviews...). • Adapting the questionnaires to the issues encountered. • Looking for additional respondents.

4 Specific Planning and Schedule for the Use Cases

Each use case content is limited to its specific aspects that are influenced by the particularities of each use case (situation of agriculture, aspects of agriculture targeted by the analysed measure, information gaps detected, participatory research activities designed, situation of the Covid-19 pandemic, etc.). This section has three sub-sections corresponding to each use case structured around the three pillars as follows:

- The first part is about the advances regarding common planning and schedule. This is to review the information gaps identified in D1.8 to detect new gaps or indicate that some gaps have been filled and to update the methods for filling these gaps, i.e. the Participatory Research activities. The latter includes the findings of the pilot survey and the adaptation of the survey and questionnaire campaign.
- The second point is simply the list of stakeholders with the information detailed in Section 3.2.
- The third part is the individual risk assessment and mitigation actions of the use case. Moreover, it is also explained if any risk has been detected or any mitigation action has been carried out.

4.1 UC1: Environmental impact assessment in the olive farming sector in Andalusia

4.1.1 Detailed Planning and Schedule

The information gaps detected in the Andalusian Use Case and how they are going to be filled highly determine the planning of this use case. As was explained in D1.8, the data needed to fill in those information gaps are obtained from a survey campaign. Thus, the questionnaires include questions directly related to them and other information of interest to the project. The detected information gaps are:

- **Personal innovativeness:** this feature shared by the farm owner and farm manager indicates the propensity to change the agricultural tools and methods in order to improve productivity and save time, effort and money. The development of innovations usually involves some risks because they may be associated with investments, complex techniques or lack of information.
- **Risk aversion:** like the previous feature, it is shared by the farm owner and farm manager. In this project, risk aversion is understood as the tendency of the farmer to get into debt to invest in machinery, farmlands or innovations. Therefore, risk aversion and personal innovativeness are significantly related to each other. In this case, this parameter will be measured with lottery-choice [\[41\]](#) and multi-item scales questions. Moreover, both risk aversion and personal innovativeness are common information gaps in all three use cases.
- **Coordinates and areas of the parcels:** both parameters are very related, and they are necessary to create a bank of parcels to generate the synthetic population. Thanks to the data provided by SIGPAC (Geographical Information System for the Identification of Agricultural Parcels) and SIPEA (Information System for Organic Production in Andalusia), it has been possible to obtain the locations, areas and shapes of the organic and conventional olive farming parcels in Andalusia. In addition, other data of those agrarian parcels have been obtained, such as mean slope and irrigation regime.
- **Biomass level:** this variable refers to the pruning residue (branches and leaves). Since it varies according to the pruning intensity and frequency, the recommendations of the Institute

for Agricultural and Fisheries Research and Training (IFAPA, by its Spanish acronym) will be followed [42]. Therefore, it will be assumed that a production pruning is carried out every year in the adult olive groves. That means that each olive tree would generate a mean of 12.5 kg of pruning residue [43].

- **Age:** the age of the olive grove is a standard input for the biophysical models.
- **Cultivation standards:** this point refers to the olive farming campaigns and agricultural labours calendar, and innovative organic olive farming techniques. For this information gap, a calendar for organic olive groves has been designed based on [44] and [45] (Figure 3). This calendar will be followed to simulate the synthetic population. Furthermore, D1.8 includes some recommendations and features of the agricultural activities of the calendar in order to describe how they can be performed.

Operations		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pruning		x	x										
Desvareto (sucker removal)								x	x				
Fertilisation	Soil	x									x	x	x
	Foliar			x	x								
Foliar treatments											x	x	x
Soil management	Sowing of cover crop									x	x		
	Mowing of cover crop		x	x	x	x	x						
Harvest												x	x

Figure 3. Agricultural labours calendar (Source: based on [44] and [45]).

- **Exploitation costs:** although questions about it were included in the first version of the questionnaire, this was not initially considered as an information gap. However, since disaggregated data on the costs of olive exploitations were not found, it was necessary to collect this data to prepare and simulate the economic dimension of the holding.

Both Andalusian questionnaires appended to D1.8 (one addressed to organic olive farmers and another addressed to conventional olive farmers) include questions regarding the listed information gaps. However, the questionnaires do not ask for the location of the farm, which cannot be asked due to the Data Protection Policy of the project, and biomass level and cultivation standards, which relevant information was extracted from specialised literature and technical assistance. In addition, the organic olive farming questionnaire was reviewed together with ECOVALIA, which was the entity in charge of conducting the pilot survey. In that revision, some questions were modified in order to be understandable by the farmers, and others were explained to the pollster. Finally, it was agreed that the pilot survey would be conducted by telephone due to restrictions attributable to the Covid-19 pandemic situation in those months (M19 and M20). Once the pilot survey campaign was conducted, the following conclusions were drawn:

- The questionnaires were too extensive to answer by phone. Thus, the questionnaires should be adapted to the format of a telephone survey, or other alternatives to conduct the survey should be considered.
- Some questions need visual support to be completely understood; otherwise, the interviewee might not answer them or give answers that distort the results.
- Many farmers unknow some of the asked data, such as the belonging to nature protection areas and the breakdown of the olive exploitation costs.

As was planned in the Gantt chart, the questionnaires and the planning of the survey campaign was reviewed. The objective was to adapt the execution of the Participatory Research activities according to the detected issues during the pilot survey in order to define a plan that guarantees to obtain the Participatory Research objectives. As a result, the following modifications were planned:

- Conduction of the survey in person. Due to the necessity of visual support to answer some questions and the improvement of the Covid-19 situation in Andalusia, this alternative way of conducting the survey was imposed. In this sense, the questionnaires only have to be slightly modified to make some questions more visual, easier and quicker to answer.
- Reduction of the extension of the questionnaires. Some questions were removed because their answers were not relevant for the Andalusian Use Case or may be deduced from other answers. In addition, since the survey will be conducted in person, some questions were grouped using tables.
- Defining alternative actions to collect those data not obtained from the surveys. This was included in the risk assessment. For those questions mentioned above that farmers did not know the answers to in the pilot survey, two actions have been implemented to ensure that the expected data will be obtained. On the one hand, the pollster will verify the answers to the questions related to the farm belonging to protected natural areas because, as will be explained below, s/he will be an agricultural technician who knows the area well. On the other hand, in order to obtain the cost breakdown of the olive grove holdings, short questionnaires will be sent to the agricultural technicians of some cooperatives located in the agricultural region where the surveys will be carried out. In addition, information will be taken from previous studies to make an estimated breakdown. Finally, it should be noted that these questions will not be removed from the questionnaire, as it is expected that some farmers will answer them, and it is also interesting to know the percentage of farmers who do not know these data.

As was mentioned before, the survey will be conducted in person. On the one side, OPRACOL, an olive farmer association that maintains close cooperation with CAAND, will be in charge of carrying out most of the organic olive farming questionnaires and almost half of the conventional olive grove surveys. On the other hand, the remaining surveys from both types of olive farming will be conducted by the provincial agricultural technicians from CAAND. Both teams of technicians know the Andalusian olive orchards well and have experience in dealing with olive farmers. The idea is that they contact some agricultural cooperatives located in the agrarian regions selected to carry out the survey campaign and which have members who are part of the target population. They will then arrange a personal interview with the olive farmers and go to the cooperatives or their farms to conduct the surveys.

The target population of the Andalusian Use Case questionnaire is the olive farmers who converted to organic production during the ex-post analysis period (between 2014 and 2017). The objective is to survey approximately 10% of the converted olive farmers, around 200 farmers. In addition, following the methodology of [\[46\]](#) and [\[47\]](#), the same number of surveys will be conducted to conventional olive farmers in the same regions to contrast both types of production systems (see D1.8 for more detail of the sample population). For this reason, a list of olive farmers who initiated their conversion to organic olive farming is needed. Moreover, in order to determine the influence of the features of the olive exploitations on the conversion decision, they had to be classified by the type of exploitation defined in the Master Plan of Olive Grove [\[15\]](#)¹. For this purpose, the production data - provided by CAGPDS grouped by OCAs - were

¹ Originally, this plan defines six types of olive exploitation. However, since types 3 and 4, on the one hand, and types 5 and 6, on the other hand, share similar characteristics and the type of exploitation was to be estimated, it was considered appropriate to group them into two types, 3-4 and 5-6.

necessary. The obtention of these data and the list of organic olive producers are described in D1.2.

Finally, from the data of the olive groves converted to organic olive farming in the ex-post analysis period and the production data by OCA, it was possible to determine the type of exploitation. This classification was based on the mean slope (if the slope is higher than 20%, it is considered a high slope) and crop yield of the exploitations (there is an average yield for each type of exploitation). The result is an estimation of which is the distinctive type of exploitation to each OCA. [Table 6](#) gathers information related to the area and production and the number of conversions and target surveys for each type of exploitation.

Table 6. Summary of the features of sample population grouped by type of exploitation.

Type	Area (ha)	Production (kg)	Yield (kg/ha)	% of organic olive land	Nº conversions	Surveys
1	45093.4749	8703679	193.014	64.3 %	1053	105
2	8288.3057	16193452	1953.771	11.8 %	220	22
3-4	11557.829	22741132	1967.595	16.5 %	461	46
5-6	5196.3166	40029194	7703.378	7.4 %	164	16

Thanks to the data obtained from the survey and the collected datasets in WP1, a synthetic population for the Andalusian Use Case could be generated, and the different modules used in the simulation could be set up. The general features of the synthetic population are olive exploitation with an area between 1 and 5 ha (one-third of the organic olive exploitations in Andalusia), of which approximately 85% are composed of more than one enclosure. Moreover, most of them will be non-irrigated olive groves (about 82% of the total) located in high-slope zones. The next step is to select the OCAs where the survey will be conducted, which will depend on the number of target surveys for each type of exploitation. In this sense, at the beginning of July, the first step was taken up, and the contact with an olive cooperative located in the agricultural region of "Sierra Norte" was initiated. There, some organic olive farmers with exploitations of type 1 will be surveyed. In the same way, other olive cooperatives from other agricultural regions were contacted to conduct surveys of other types of exploitations.

Finally, the following steps in the execution of the Andalusian Use Case should consider the interaction between the modules of ABM simulation. Regarding these interactions, some aspects must be highlighted:

- First, although there are no specific KPIs to measure the environmental and climate impacts of organic olive farming, it is clear that they will be obtained from the outputs of the Environmental Impact Assessment module. Indeed, the fact of increasing the area of organic olive groves implies a positive impact on the environment and climate, but it is necessary to define specific indicators. In that sense, the following indicators related to olive farming were extracted from the evaluation reports of M11: restoration, preservation and enhancement of biodiversity; water management improvement; and prevention of soil erosion and improvement of soil erosion management. In addition to them, other KPIs could be defined thanks to the assistance of agricultural technicians and policymakers.
- Secondly, the search for a biophysical model that includes olive farming is in progress. Up until now, no open-source biophysical model of this crop has been found and therefore, new information gaps might appear depending on its inputs and outputs.

4.1.2 Identification and contact of main stakeholders

This section presents the list of the relevant stakeholders of the Andalusian Use Case ([Table 7](#)). In addition to enumerating the stakeholders, this section includes some comments regarding specific situations or issues with some stakeholders. Firstly, it should be noted that the

collaboration with ECOVALIA can be considered as concluded, as their only task in the project was to carry out a pilot survey. As a result, this entity has had access to the data collected during the pilot survey, from which it is possible to estimate the current situation of olive farming in Andalusia. However, it is possible to contact them if there are any doubts about the data they collected. Secondly, it is necessary to highlight the crucial importance of the collaborations of OPRACOL and cooperatives in the survey campaign. Moreover, the request to the cooperatives for cost data is a mitigation action to ensure the collection of those data that are necessary to initialise the ABM. Another important aspect is that the survey campaign has been initiated in the agricultural region of the "Sierra Norte", whose director of the agricultural office has been contacted with a view to future collaboration in the elaboration of a testing environment for the ABM.

Table 7. Stakeholders' table of the Andalusian Use Case.

Organisation	Type of stakeholder	Contact	Contact status and approach strategy	Collaboration	Expected impact on stakeholders
Ministry of Agriculture, Fisheries and Rural Development of Andalusia	Policy maker	Director of the Ecological Production Systems Service, Mr Jon Jáuregui	Already made, contact by phone during August 2020	During the data collection of organic olive growers in Andalusia, Mr Jon Jáuregui was contacted. This contact led to a strong relationship between the two parties. So much so that Mr Jon Jáuregui agreed to be part of the EAB. Furthermore, thanks to his position, he collaborates by redirecting many of our enquiries about organic olive farming to reliable contacts in public entities.	The research activities of the AGRICORE project, as well as the results of the Andalusian Use Case analysis, will provide insights on the improvement of policy design, impact assessment and monitoring of the Common Agricultural Policy at the regional level. Policymakers will benefit from the conducted ex-ante and ex-post policy analysis as well as by the impact assessment performed at all relevant areas (environmental, socioeconomic and ecosystem). Moreover, in the Andalusian Use Case, other data of interest are the factors that make the olive farmers convert to organic olive farming and the estimation of the impact of M11 in olive farming.
Ministry of Agriculture, Fisheries and Rural Development of Andalusia	Policy maker	Technical adviser of the Department of Ecology, Agricultural and Fisheries Management Agency of Andalusia. Mr Juan Manuel Arcos	Already made, contact by phone and email	During the data collection of organic olive growers in Andalusia, Mr Juan M. Arcos was contacted. This contact led to a strong relationship between the two parties. Mr Manuel Pino provided data about organic olive farming in Andalusia like a list of olive grove areas, historical number of farmers, or aggregate data series on olive groves, among others.	The research activities of the AGRICORE project, as well as the results of the Andalusian Use Case analysis, will provide insights on the improvement of policy design, impact assessment and monitoring of the Common Agricultural Policy at the regional level. Policymakers will benefit from the conducted ex-ante and ex-post policy analysis as well as by the impact assessment performed at all relevant areas (environmental, socioeconomic and ecosystem).
Ministry of Agriculture, Fisheries and Rural Development of Andalusia	Policy maker	Director of the Department of Studies and Statistics, Mr Manuel Pino	Already made, contact by phone	The contact was initiated by CAAND in order to obtain organic olive farming data. The contact was successful, and Mr Manuel Pino provided statistical data about organic olive farming in Andalusia.	The research activities of the Andalusian Use case, especially the survey campaign and its results, are of special interest to the Department of Studies and Statistics. These data could be used to update their statistics and check their previous predictions about the impact and diffusion of organic olive farming in Andalusia.
Institute for Agricultural and Fisheries	Scientific community	Principal researcher of the Food Chain	Already made, contact by email in	After knowing the existence of previous studies similar to the one to be carried out in the Andalusian Use Case of the AGRICORE	The research activities of the Andalusian Use case, especially the survey campaign and its results, are of special interest to the Institute for Agricultural and

Research and Training		Economics Area, Mr Carlos Parra	November 2020	Project, the contact was initiated by the IDE team with one of the authors of these studies, Mr Carlos Parra. The contact resulted in his willingness to collaborate with the project, providing us with both the scientific publications resulting from these studies and the survey carried out to collect the data. In fact, this survey was used as a model for the Andalusian Use Case questionnaires.	Fisheries Research and Training. In this sense, the results obtained from our research and those of their previous studies could be compared, and their publications could be updated.
CERTIFOOD	Consultancy and advisory agency	Technician-auditor, Mr Javier Alcaraz and Mr Francisco Javier Contreras	Already made, contact in person and by phone	The contact was initiated by CAAND thanks to the close relationship between the two entities. The technician-auditors contacted assisted us in understanding the whole conversion process to organic production in Andalusian olive farming. They also showed a great willingness to collaborate with the project and insisted on offering themselves for any future consultations they could help us with.	The research activities of the Andalusian Use case, especially the results of the survey campaign and the factors determined to be most influential in initiating the conversion to organic olive farming, are of great interest to this certification body. These data will allow for keeping informed about the current situation of the Andalusian organic olive farming and predicting its diffusion in the following years. In this sense, CERTIFOOD could promote the conversion to organic production, and future workload could be considered.
University of Seville	Scientific community	Professor at the Higher Technical School of Agricultural Engineering, Mrs María del Carmen Florido	Already made, contact by phone	This contact initiated by CAAND resulted in the provision of scientific papers about the Andalusian olive farming studied in the Institute for Agricultural and Fisheries Research and Training.	As part of an academic institution, the results of the survey campaign and the developments of the project are of interest in order to keep informed about the situation of organic olive farming in Andalusia and initiate new studies.
Ecological Value Association (ECOVALIA)	NGO	Director of Innovation, Mrs Auxiliadora Vecina	Already made, contact by email and phone	The contact was initiated by CAAND thanks to the previous collaborations between the two entities in other projects. The technicians contacted assisted us in modifying the initial design of the questionnaires to be more understandable by the farmers. Moreover, ECOVALIA performed the pilot survey.	The research activities of the Andalusian Use case, especially the results of the survey campaign and the factors determined to be most influential in initiating the conversion to organic olive farming, are of great interest to this entity. These data will allow for keeping informed about the current situation of the Andalusian organic olive farming and predicting its diffusion in the following years. In this sense, ECOVALIA could promote the conversion to organic production, and future workload could be considered.

Ministry of Agriculture, Fisheries and Rural Development of Andalusia	Policymaker	Head of Services of Initiatives and other community interventions, Mrs María Pilar Rojas	Already made, contact by phone	The contact was initiated by CAAND, and from the very beginning, Mrs María Pilar Rojas was willing to collaborate with the project by providing information and changes in the CAP thanks to her position as the interlocutor of the Andalusian Rural Development Programme with Europe.	The research activities of the AGRICORE project, as well as the results of the Andalusian Use Case analysis, will provide insights on the improvement of policy design, impact assessment and monitoring of the Common Agricultural Policy at regional, national and European levels. Policymakers will benefit from the conducted ex-ante and ex-post policy analysis and the impact assessment performed at all relevant areas (environmental, socioeconomic and ecosystem). Moreover, in the Andalusian Use Case, other data of interest are the factors that make the olive farmers convert to organic olive farming and the estimation of the impact of M11 in olive farming.
Agricultural Region Office	Farmers	Director of the Agricultural Region Office of “Sierra Norte”, Mr Juan Antonio Cruz Martínez Other directors	Ongoing contact by phone	The contact was initiated by CAAND in order to plan the survey campaign. Thanks to the successful collaboration, a part of the surveys are carried out in that region of Andalusia. In addition, a potential future collaboration is the provision of information about the olive groves of the agrarian region in order to design a testing environment for the ABM. This collaboration will be repeated with other agrarian regions.	The results of the research activities in those agrarian regions will allow the corresponding Agricultural Region Office to predict the diffusion of organic olive farming and its impact on organic olive production and the environment. Furthermore, the ABM to be developed will assist these offices in future studies about organic olive farming in Andalusia.
OPRACOL	Farmers	Managing director, Mr Manuel Félix Moreno Vélez	Already made, contact by phone, email and in-person	OPRACOL is an association of olive farmers with extensive experience providing direct consultancy to farmers, managing their field notebooks and CAP aid. The contact was initiated by CAAND at the end of June to provide them with general information on the project and the objectives of the survey campaign in the Andalusian Use Case. On 13 July, a meeting was held between both parties, including three agricultural technicians from OPRACOL, to discuss in more detail the implementation of the surveys (questionnaire design, distribution of the sample population, etc.). Finally, they showed interest in the	The results of the survey campaign will enable OPRACOL to economically evaluate and compare organic and conventional production systems in the olive farming sector. In addition, they will be able to collect data on the profitability, strategies and investments of olive farms according to their typology.

				project and its results, agreeing to carry out the organic olive farming surveys and part of the conventional olive farming surveys among their associated farmers.	
Agricultural cooperative “Virgen del Robledo”	Farmers	President of the cooperative, Mrs Carmen Navarro Silván	Already made, contact by phone and email	The contact with this olive farming cooperative located in the north of the province of Seville was initiated in mid-July by CAAND. The purpose of the contact is to allow us to survey some of their cooperative members who are part of the selected sample. In addition, they will be asked to provide us with data on the costs of organic and conventional olive exploitations.	This olive farming cooperative is interested in the results of the survey campaign in order to measure and assess the profitability of the organic olive exploitations of their cooperative members and compare it with other agrarian regions and types of exploitations. Moreover, they will be able to collect data on the strategies and investments of their members and compare it with other agrarian regions and types of exploitations
Cooperativa Olivarera de los Pedroches (OLIFE)	Farmers	President of the cooperative, Mr Juan Antonio Caballero Jiménez	Ongoing contact by phone	The contact with this olive farming cooperative located in the north of the province of Córdoba was initiated by CAAND. General information on the project and the objectives of the survey campaign in the Andalusian Use Case were provided. A meeting with them will be held in September to give them further details of the survey campaign and to define their collaboration with the project.	This olive farming cooperative is interested in the results of the survey campaign in order to measure and assess the profitability of the organic olive exploitations of their cooperative members and compare it with other agrarian regions and types of exploitations. Moreover, they will be able to collect data on the strategies and investments of their members and compare it with other agrarian regions and types of exploitations
Agricultural cooperatives	Farmers	-	Ongoing contact by phone	The contact with several olive farming cooperatives located in different agrarian regions has been initiated by CAAND. The purpose of the contact is to allow us to survey some of their cooperative members who are part of the selected sample. In addition, they will be asked to provide us with data on the costs of organic and conventional olive exploitations.	The results of the research activities in those agrarian regions will allow the corresponding olive farming cooperative to predict the diffusion of organic olive farming and its impact on organic olive production.

4.1.3 Monitoring Plan for the Use Case

In the Andalusian Use Case, some risks have been detected, and the corresponding actions to mitigate their impact are carrying out. These risks are 5 and 6 from the common risk assessment. Firstly, as mentioned in Section 4.1.1, the collaboration of agrarian technicians was needed to obtain valuable information about the location of the farms in nature protection areas and the breakdown of olive exploitations costs. Secondly, as deduced from the explained TFMs to conduct the survey, the farmers will be contacted directly in order to ensure the target number of answered questionnaires (risk 6). In this action, the role of the agrarian technician pollsters and precise planning are essential to carry out the survey successfully.

In addition to the common risk assessment, an individual one for the Andalusian use case together with their mitigation actions has been prepared ([Table 8](#)). This considers the particularities of the use case.

Table 8. Andalusian risk assessment and mitigation actions for the Andalusian Use Case (L stands for low probability/impact, M for medium probability/impact and H for high probability/impact).

Risk number	Risk	Prob.	Imp.	Mitigation action
1	Not considering the dependency between the different tasks of the Andalusian use case in terms of time and results.	M	H	Elaborating detailed planning and schedule of the use case development, including monitoring the tasks in progress.
2	Unavailability of resources (means of contact to conduct the survey, stakeholder's collaboration) that were considered in the planning of the execution of Participatory Research.	L	H	Not designing the Participatory Research activities on the basis of the same resources (diversification of resources).
3	Not finding stakeholders (academic institutions, technical services from the Commission...) willing to participate in the testing of the platform.	L	M	Design some standard simulation scenarios and carry out the impact assessment according to the existing mechanisms.
4	Occurrence of unexpected issues during the Andalusian use case development that causes not following the planning.	L	M	<ul style="list-style-type: none"> • Elaborating two risk assessments, one for the general execution of the use cases and another one specific for the Andalusian use case and defining the corresponding actions. • Updating the risk evaluations and the list of mitigation actions periodically.
5	Not being aligned with the developments of other WPs that affect the execution of the Andalusian use case.	L	M	Holding bi-weekly meetings with the entire Consortium and task force meetings with the leaders of the other use cases to ensure this alignment.
6	Not having the necessary stakeholders' collaborations in the tasks	M	M	<ul style="list-style-type: none"> • Agreeing in advance with them on the collaboration(s) they will carry out in the use case. • Preparing alternatives to the expected collaborations if some stakeholders do not meet with what was agreed on (diversification).

7	The impact assessment of the Andalusian use case simulations could not be carried out with the outputs of the IAMs.	M	H	<ul style="list-style-type: none"> • Checking the compatibility between the necessary KPIs of the impact assessment mechanisms in the Andalusian use case and the outputs of the IAMs. • Studying some methods to estimate KPIs' values that are not direct outputs of the IAMs, if that was the case.
8	Obtaining wrongly answered or incompletely filled questionnaires.	L	M	<ul style="list-style-type: none"> • Continuous review of the more recent answered questionnaires in order to classify as valid or not. • Gathering extra questionnaires to ensure having a representative sample.
9	Obtaining contradictory or confusing information after the analysis of the questionnaire responses.	L	H	Contacting stakeholders (policymakers, agricultural associations and technicians) that could help to filter outliers and discard those results considered unrealistic.
10	Difficulties in installing the AGRICORE platform and understanding its functioning.	L	M	Preparing user manuals that contain a list of the hardware requirements, including links to help with the installation of third-party software, and an explanation of all the elements of the platform and the available functionalities, illustrated with simple examples.
11	Obtaining impact assessment results is not aligned with the real ones.	M	H	<ul style="list-style-type: none"> • Carrying out dummy simulations where the impact assessment results provided by the ABM match the real ones. • Comparing results from actual and dummy simulations to debug errors in the simulation setup.

4.2 UC2: Impact assessment on ecosystem services in Polish agriculture

4.2.1 Detailed Planning and Schedule

Because of the huge Polish farms' population near around 1.5 million and making the survey feasible, there was put methodological assumption that first of all leading farms will be base of PR in Polish Use Case. Such innovative approach – leading farms' method inspires farms to make new decisions and challenges based on the leading farm constituting a "model" to follow for other farms with economic and production results below the average of the leading farms. Hence, in this way, the findings were expected to be enough representative of Polish farms' population. More than 3,000 farms associated with different farmers' organizations and/or cooperated with agricultural advisory centres were selected to satisfy the assumed methodological assumption. They reach very good economic results, high competitiveness and used high-technology practices. Furthermore, they are open to innovations and especially to activities for sustainable development aims (including a rule: being friendly for climate and environment) and are socially sensitive, having deepened awareness of the crucial meaning of agro-climate-environmental activities for a local and global society.

The information gaps were detected on the basis of the analysis of needs resulted from the synthetic generation process to assign values to synthetic agent attributes, from a comparison of the content of available databases (e.g. Polish FADN [\[28\]](#), Statistics Poland [\[48\]](#) and also the pilot survey findings).

As a result of the comparison of the content of available databases, it was detected that the data about education level, risk aversion and personal innovativeness of decision-makers were not as specific as is required because there is not a division among decision making roles of farmer family members. Moreover, an evaluation of stakeholders of used soils' quality and machinery sets, which let mitigate both farming and environmental risks, is not available.

In addition, the following gaps will also be detected:

- Previous experiences of farmers resulting from participation in M10 action.
- Areas of parcels.
- Parcels' coordinates.
- The minimum size of plots.
- Location of farms in relation to Natura 2000 areas.
- Revenues obtained from agriculture guaranteeing farmer's family maintenance.
- Ecosystem components like soil properties: number of layers, layer thickness, maximum bulk density, clay, sand, silt, organic carbon, vol. water content, bulk density, nitrate, erosion, soil quality, aquifers' quality and ecosystem services' current state that make their farms be potential recipients of M10 measures.
- Disturbances: deviations of abiotic factors (temperature, rainfall, etc.), plagues, pathogens, others.
- Profitability of participation in M10 action.
- Social/cultural impact being barriers/chances to access M10 action.
- Outputs: environment impact.

Lacking data detected as a result of such comparison will be completed with Participatory Research activities, mainly through a questionnaire aimed at farmers and the interpretation of their responses. Some of these gaps have been filled during the Participatory Research design process itself, through contact with stakeholders, e.g., contacts with public administrations and also bibliographic review and access to non-public databases:

- Agro-management decisions circumstances concerning adjustment the sowing, fertilisation, and harvesting dates beyond the limiting dates defined in M10.1 action.
- Environment impact on outputs – crop yield losses resulted from satisfying the action requirements.
- Base rates of payments, which should be higher because of a higher return on investment from land sold for non-agricultural aims.
- Deviations of abiotic factors (temperature, rainfall, etc.), which can cause annual variation in weather conditions making it difficult to follow the fertilisation plan strictly.

As planned in the Gant chart, a pilot survey was conducted among several of the biggest and leading farmers with which UTP and IAPAS previously cooperated within various other projects. The main conclusions obtained from the pilot survey are listed below:

- Agricultural producers indicated that some action's obligations are not sufficiently adjusted to current climatic and economic conditions. Due to climate change, farmers have to adjust the sowing, fertilisation, and harvesting dates beyond the limiting dates defined in the action. Without it, the plant's production profitability is substantially limited, and subsidies received within M10 do not cover the yield losses.

- Many farmers indicated that base rates of payments should be higher to enable the competitiveness of the farmers taking part in M10 action in relation to the other farmers or non-agrarian undertakings, e.g., sale of plots to basic enterprises (intensive) and farms (social-extensive).
- Some respondents expressed doubts about the strict following of the fertilisation plan prepared based on only one chemical analysis of the soil performed usually in the autumn (or directly after the harvest). Annual variation in weather conditions makes it difficult to follow the fertilisation plan strictly, while in the M10 action, no changes to the fertilisation plan are allowed.

Following the planning, the questionnaires and the planning of the survey campaign were reviewed. The objective was to adapt the execution of the Participatory Research activities according to the detected issues during the pilot survey in order to define a plan that guarantees to obtain the Participatory Research objectives. Firstly, the conduction of the pilot survey reinforced the initial idea of carrying out the survey campaign telematically due to the Covid-19 pandemic situation in Poland. Secondly, regarding the modifications derived from the conduction of the pilot survey, it should be noted that some questions will be changed to make them more visual, easier and quicker to answer. Moreover, some of the questions were reduced or removed because their answers were not relevant for the Polish Use Case or may be deduced from other answers.

The final version of the survey will be sent to Advisory Center in Brwinów to encourage the expected respondents on its web page. Then, the survey will be conducted. The links to the survey page will be distributed to 3,000 potential respondents by email. The filled-in surveys will be collected on the IAPAS server and automatically processed. A scheme for data processing will be elaborated. The data from the survey and other activities within Participatory Research will be compiled, analysed and distributed to the consortium partners for the development of the modules within the AGRICORE platform, which will be used to carry out the ex-post and ex-ante impact assessment. All those activities will be conducted to match with the actions listed in the Gantt chart.

4.2.2 Identification and contact of main stakeholders

In [Table 9](#), the stakeholders of the Polish Use case are listed.

Supporting Polish Use Case study performance by mentioned in the table farmers' organisations includes the questionnaire survey creating and its performance over:

- Share of representatives of this organization in a remote pilot study in two phases.
- Under the construction of the information structure of the questionnaire.

On the basis of the opinions of farmers, we have improved the way of expressing questions, which will ensure better communication with respondents – farmers. Hence, this will let obtain more completed surveys and better material for analysis. A well-verified questionnaire in a substantial and its layout aspects will ensure appropriate analysis of Participatory Research findings. The findings from PR could be useful for setting improved eco-services and environment indicators. The participation of farmers will allow improving their awareness, greater involving them in the implementation of the Agro-Environmental Policy and conducting more environmentally friendly and profitable agriculture.

Table 9. Stakeholders' table of the Polish Use Case.

Organisation	Type of stakeholder	Contact	Contact status and approach	Collaboration	Expected impact on stakeholders
Polish Ministry of Agriculture and Rural Areas Development	Policy Official	General Director, Monika Rzepecka Chief Specialist of the Section of Water Management and Climate in Department of Climate and Environment, Małgorzata Ślusarczyk Senior specialist at the Department of Strategy and Analysis, Zofia Giersz Head of Rural Development Plan Unit of Ministry of Agriculture and Rural Areas Development, Anna Klisowska	Already made on 23/06/2021 and 06/07/2021. Two online meetings.	<ul style="list-style-type: none"> • The e-mail contact initiated by prof Cezary Sławiński. • Two online meetings on 23/06/2021 and on 06/07/2021 with representatives of the Ministry and IAPAS took place. • Description and presentation of AGRICORE project and Polish Use Case. • The Ministry declared interest in the results of AGRICORE and especially in the potential use of the AGRICORE tool. • The Ministry declared the initial willingness to acknowledge and analyze the results of the Polish Use Case study. 	Research carried out in the AGRICORE project will be used by the officials from the Ministry to improve the management of various aspects of agricultural policy, in particular socioeconomic and environmental. Agricultural policy officials will benefit from the ex-post and ex-ante Polish Use Case evaluation, which will help them conduct impact assessment analysis and monitoring of the Common Agricultural Policy at a national level.
Association of Employers – Land Leases (ZPWIDR)	Farmers Association	OFFICE DIRECTOR Łukasz Gapa	Already made. Contact by email and phone.	<ul style="list-style-type: none"> • The contact was initiated by UTP in order to support Polish Use Case study performance concerning the creation of the questionnaire. • It allowed establishing direct contact with farmers associated within ZPWIDR. 	Obtained findings from Participatory Research could be useful for setting improved eco-services and environment indicators in the frame of agri-climate-environment policy and may lead to higher effectiveness of carried out policy by activating more beneficiaries.
Association "Polish Club FARMER OF THE YEAR"	Farmers Association	Chairman of the Competition Jury, Teresa Kucharska	Already made. Contact by email and phone.	<ul style="list-style-type: none"> • The contact was initiated by UTP in order to support Polish Use Case study performance concerning the creation of the questionnaire. • It resulted in the initial agreement for the facilitation of Polish Use Case 	Obtained findings from Participatory Research could be useful for setting improved eco-services and environment indicators in the frame of agri-climate-environment policy and may lead to higher effectiveness of carried out policy by activating more beneficiaries.

				Participatory Research performance and supporting the participation of farmers being laureates of the Competition in the planned survey.	
Polish Pig Breeders and Producers Association „POLSUS” Northern District based in Bydgoszcz	Farmers Association	Head of the Northern District: Tomasz Kmuk	Already made. Contact by email and phone.	<ul style="list-style-type: none"> The contact was initiated by UTP in order to support Polish Use Case study performance concerning the creation of the questionnaire. It led to a strong relationship between the two parties to support the participation of farmers being associated in PZHiPTCh in the planned survey. 	The findings from Participatory Research could be useful for setting improved eco-services and environment indicators in the frame of agri-climate-environment policy and may lead to higher effectiveness of carried out policy by activating more beneficiaries.
Agricultural Advisory Center in Brwinów	Consultancy and advisory agencies	Head of Section for Innovation and Agriculture Janusz Dąbrowski	Already made by e-mail.	<ul style="list-style-type: none"> The Agricultural Advisory Center in Brwinów coordinates the work of several thousand agricultural advisors in Poland, maintains close relations with producers and is strongly interested in the results of the AGRICORE project. A contact was established by representatives of IAPAS by e-mail. E-mail information on the AGRICORE project, i.e., the main goals and method of conducting the Polish Use Case study. A link to the test version of the electronic questionnaire prepared by IAPAS and UTP was sent. The Center suggestions for supplementing and improving the content of the survey. IAPAS has obtained access to a database of 3,000 agricultural advisors from all over Poland from the Center, which will be used to conduct the survey. A promise was received to publish information about the survey on the agency's website and to encourage farmers to take part in it. 	<p>As the Center serves the beneficiaries of Measure 10.1, the expected impact is:</p> <ul style="list-style-type: none"> Increasing awareness of the premises of Measure 10.1 among agricultural advisors and farmers. Gaining a better insight into the effects of Measure 10.1.

				<ul style="list-style-type: none"> The Center expressed interest in participating in a workshop concerning the AGRICORE project results, but the details and the form of the Center's support in such an event should be agreed upon in the future. 	
The Agency for Restructuring and Modernisation of Agriculture (ARMA)	Consultancy and advisory agencies.	Director of ARMA OFFICE Beata Nawrocka	Partly made, but to be extended.	<ul style="list-style-type: none"> ARMA is an executive organization responsible in Poland for payments resulting in the access of farms to measure M.10 and individual packages, and controls the implementation of their obligations in this respect. It also produces comprehensive reports assessing the effectiveness of the conducted agri-environment-climate policy. The contact was initiated by UTP in order to support Polish Use Case study performance within Participatory Research through the usage of ARMA reports and opinions of representatives ARMA declared the initial willingness to acknowledge and analyze the results of the Polish Use Case study. 	ARMA will benefit from analyzes carried out in the Polish Use Case and can use the obtained information to improve M10 action and better reach the assumed goals of this policy concerning environmental aspects of agricultural activities and ecosystem services.
The National Centre for Emissions Management (KOBiZE)	Consultancy and advisory agencies.	Anna Olecka Deputy Head of Emission Inventory and Reporting Unit	Already made (teleconference and e-mail).	<ul style="list-style-type: none"> The representative of the National Centre for Emissions Management (KOBiZE) participated in the online meeting organized together with the Ministry of Agriculture and Rural Development on the 6th of July 2021. Anna Olecka, the Deputy Head of Emission Inventory and Reporting Unit of KOBiZE expressed interest in the results of the AGRICORE project, especially in the context of possible gas emission estimation. 	KOBiZE will benefit from analyses carried out in the Polish Use Case regarding the impact of agricultural production on the environment, particularly on greenhouse gas emissions from agricultural land. The methods elaborated by AGRICORE will enable comparative research on this subject.

Institute of Soil Science and Plant Cultivation (IUNG)	Scientific Community	Prof. dr hab. Wiesław Oleszek, the Director of the Institute	Already made. Personal contact through telephone communication.	<ul style="list-style-type: none"> The contact was initiated by IAPAS Coordinator Prof. Cezary Sławiński Description and presentation of the AGRICORE project. The contact resulted in the initial willingness of IUNG to active involvement in the AGRICORE project. 	Increased knowledge concerning the methods and tools for analyzing the impact of policies on the agricultural sector.
The Institute of Technology and Life Sciences in Falenty, Poland	Scientific Community	Dr. Wiesława Kasperska	Already made. Personal contact through emails and telephone communication.	The Stakeholder was contacted to get the information on whether it is possible to gather data from their project related to monitoring non-forest Natura 2000 habitats using remote sensing methods.	Increased knowledge on actions leading to improvement of policy design, impact assessment and monitoring of the Common Agricultural Policy at the regional level.
The National Research Institute of Horticulture in Skierniewice, Poland	Scientific Community	Prof. Waldemar Treder	Already made. Personal contact through email.	Provision of scientific papers related to optimization of the water factor in plant production.	Improved knowledge of the problems related to optimization of the water factor in plant production. Additional data for conducting of the analyzes.
Polish Society of Organic Farmers	NGO	Bogusława Szmigielska	Still to be made.	Possibility of obtaining some data for CAP aims and/or verifying the usefulness of the AGRICORE tool for Polish ecologic farmers needs	Improved knowledge concerning the needs of the Polish ecologic farmers resulting from AGRICORE tool analyzes.

The following contacts need to be highlighted:

- The UTP contacted Dr Wiesława Kasperska, the representative person of The Institute of Technology and Life Sciences in Falenty, about the results obtained from the national project: "Innovative approach supporting the monitoring of non-forest Natura 2000 habitats using remote sensing methods", co-financed by the National Center for Research and Development, under the program "Natural environment, agriculture and forestry" BIOSTRATEG / Competition II carried out in years 2016-2018. Such contact has been made to know whether it is possible to gather data from their project related to monitoring non-forest Natura 2000 habitats using remote sensing methods.
- The UTP contacted Prof. Waldemar Treder from the National Research Institute of Horticulture in Skierniewice about "Optimization of the water factor in plant production" to have the provision of scientific papers related to optimization of the water factor in plant production.
- The UTP will try to contact Bogusława Szmigielska being representative NGO stakeholder – Polish Society of Organic Farmers (<http://www.polskaekologia.org/index.php/czonkowie-wspierajcy/polskie-towarzystwo-rolnikow-ekologicznych>).
- Polskie Towarzystwo Rolników Ekologicznych (PTRE) Ul.Dąbrowica 185 21-008 Tomaszowice inter alia conducts educational activities in the field of agriculture and organic production and creates the possibility of proper use of EU funds to achieve the objectives of the Association.
- Attempts of starting contact with PTRE organization is to know on the possibility of obtaining of some data for PR aims and/or verifying the usefulness of AGRICORE tool for Polish ecologic farmer's needs.

4.2.3 Monitoring Plan for the Use Case

In addition to commonly identified risks, several additional risks have been indicated for the Polish Use Case in Table 10. Proposed mitigation actions consider the specificity of the Polish Use Case.

Table 10. Risk assessment and mitigation actions for the Polish Use Case (L stands for low probability/impact, M for medium probability/impact and H for high probability/impact).

Risk number	Risk	Prob.	Imp.	Mitigation action
1	Difficulties in contacting agencies and farmers to conduct questionnaires due to Covid-19 restrictions.	M	M	An intensive campaign to encourage respondents to participate in the online questionnaire.
2	Some national agencies are not interested in supporting questionnaire distribution.	M	M	Intervention at the highest government agents (ministries of agriculture/environment)
3	Data availability problems for Polish use case study (soil data)	M	H	<ul style="list-style-type: none"> • Contacting with other National Research Institutes (especially IUNG), which possess the needed data • Looking for alternative sources of soil data (SoilGrids)
4	Data obtained from participatory research will not be representative of the whole territory of Poland	L	M	Conducting extra survey campaign to ensure having a representative sample.

5	Received data from the questionnaire not easily interpretable	L	L	Looking for ways to improve data quality and interpretation methods
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4.3 UC3: Socio-economic impact assessment in Greek agriculture

4.3.1 Detailed Planning and Schedule

The identification of the information gaps for the Greek Use Case follows the standard procedure applied to all AGRICORE Use Cases. The first step comprises the elaboration and systematic register of the available quantitative data. As was explained in D1.8, these data for the description of the Greek Use Case include:

1. The latest available Greek Farm Accountancy Data Network (FADN) data for the period 2014-2018, which are presented in D1.8 Use Case Participatory Research Actions.
2. The data provided by the 13.905 applicants for the participation in the Young Farmers Scheme in Greece in 2016, which are presented in D1.8 Use Case Participatory Research Actions.

Concerning the gaps detected between the systematic register of the available quantitative data and the objects' attributes, which define each agent and are required for the synthetic generation process, they are focused mainly on the features of personal innovativeness and risk aversion. Additionally, the available quantitative data do not include several essential topics crucial for describing, analysing and elaborating the Greek Use Case.

These topics include:

1. Young farmer's motivation.
2. Beliefs about Young Farmers Scheme.
3. Beliefs about the farming sector in general.
4. Beliefs concerning Young Farmer's future in Agriculture.

This type of detected gaps will be filled with Participatory Research actions. The methodological approaches for the Participatory Research actions are as follows. On the one hand, **in-depth interviews** will be addressed with all the relevant stakeholders, which have been included in the next section (Greek Use Case Stakeholders Table). The aim of these interviews is the description of the implementation of the M6.1 "Startup aid for young farmers" and the recognition of possible problems linked to the satisfaction of the young farmers.

On the other hand, a **questionnaire survey** aiming to directly identify **the satisfaction and perception of the young farmers about the M6.1** will be conducted in person. The questionnaire will be distributed to beneficiaries and non-beneficiaries of the measure, and it is divided into 3 sections: 1) Demographic and socioeconomic data are asked in the first section. 2) In the second section, there are questions related to the financial and accounting aspects of agricultural holdings. 3) As for the third section, there are questions about the young farmers' motivations, beliefs and perceptions in the case of beneficiaries and non-beneficiaries of setting up measure 6.1 (Startup aid for young farmers).

The biggest part of the questionnaire (as annexed in D1.8) was made up of structured questions with pre-programmed answers to guarantee that all questions were asked in the same way and to make it possible to analyze the data in a statistically sound way. The execution of the pilot survey has led to modifications and adaptations of the questionnaire, which referred mainly to the clarification of some of the questions.

The origin of our sample is a target population of approximately 170 thousand farmers (aged 18 to 40 years old). A portion of this population, specifically 13.905, are beneficiaries of Measure 6.1 of the Greek Rural Development Programme. The overall aim of our research is to survey a sample of 400 young farmers. The sample will be synthesized as follows: a) The majority of the sample (almost 80 per cent) will include young farmers - beneficiaries of Measure 6.1 selected over the total population of 13.905 beneficiaries of Measure 6.1 in Greece. b) The remainder of the sample, approximately 20%, will originate from the 156 thousand non-beneficiaries (young farmers who were not interested in participating or young farmers who were interested in participating in Measure 6.1 but somehow did not proceed). Therefore, overall, the sample will be not allocated proportionally among beneficiaries and non-beneficiaries, and the stratification will be disproportionate. This strategy (difference in proportion) is followed on the basis that the young farmers beneficiaries are considered more responsible for expressing their perception and beliefs about Measure 6.1 in comparison with the non-beneficiaries.

Furthermore, the sample of the beneficiaries has to be properly related to the size of 13 Greek regions according to NUTS 2 classification, taking into consideration the relevant sizes across regions. For instance, Central Macedonia has more than 3,000 beneficiaries and regions such as Attica or the Ionian Islands have less than 100 beneficiaries. Consequently, in that case, stratification will be proportionate. More specifically, in this sampling technique, the population's elements will be divided into strata where within each stratum, the elements are similar to each other with respect to selected characteristics (same region) of importance to the survey. Thus, the population will be divided into 13 strata. Stratification is also used to increase the efficiency of a sample design with respect to estimator precision. The non-beneficiaries will be allocated in the sample in accordance with the allocation of the beneficiaries. For instance, a percentage of 17,4% for beneficiaries and non-beneficiaries will come from the region of East Macedonia & Thrace (Table 11).

The allocation of the population of beneficiaries among the 13 Greek regions according to NUTS 2 classification is presented in [Table 11](#).

Table 11. Allocation of the population of beneficiaries among the 13 NUTS 2 Greek regions.

Region	Number of beneficiaries	Percentage (%)
East Macedonia & Thrace	1473	17,4
Central Macedonia	3360	24,1
West Macedonia	944	6,8
Epirus	272	2
Thessaly	1806	13
Ionian Islands	79	0,5
West Greece	1691	12,1
Central Greece	693	5
Attica	74	0,5
Peloponnesus	1252	9
North Aegean	574	4,1
South Aegean	138	1
Crete	1721	12,4

By using the data provided by the Head of the Investment Unit in Agricultural Holdings of the Special Management Service of the Rural Development Program 2014-2020 (as appended in D1.2) for the 13.905 beneficiaries of Measure 6.1 in Greece, the average socio-economic profile of beneficiaries is presented in [Table 12](#).

Table 12. Average socio-economic profile of beneficiaries of M6.1.

Profile / characteristics	Values
Total number of beneficiaries	13.905
Age	AVG≈ 28.5 years
Sex	More than 2/3 are men
Unemployment (at the time of application)	AVG≈ 17.5 months
Personal income (yearly / at the time of application)	AVG≈ 1300 €
Family income	AVG≈ 5000 €
Level of education	- More than 80% are at least high school graduates - 11% university degree holders
Average size of Agricultural Holding	AVG≈ 5.2 Ha
Grant	AVG≈ 19.250 Euros

4.3.2 Identification and contact of main stakeholders

The stakeholders of the Greek Use Case are listed in [Table 13](#).

Unambiguously, the role of the stakeholders is crucial, and their engagement is imperative for the execution of Participatory Research. Notwithstanding, it is important to highlight the contribution of policymakers because their role is threefold. Firstly, they provide us with valuable data for policy evaluation (ex-post and ex-ante). Secondly, they provide us with crucial data regarding the implementation and the progression of Measure 6.1. Lastly, the policymakers will make use of the valuable outcomes of the project (policy recommendations, knowledge) for the design of the new national CAP strategic plans.

Table 13. Stakeholders' table of the Greek Use Case.

Organisation	Type of stakeholder	Contact	Contact status and approach	Collaboration	Expected impact on stakeholders
Greek Ministry of Rural Development and Food	Policy maker	General Secretary, Dr. Charalambos Kasimis	Already made, Personal contact	The contact was initiated by AUTH team Coordinator Prof. Konstadinos Mattas, who made a detailed description and presentation of the AGRICORE project and its value. In addition, he highlighted the project's impact on policymaking. Lastly, Prof. Konstadinos Mattas stressed the importance of the AGRICORE project results for the Ministry of Rural Development and Food. The contact resulted in the initial willingness of the Ministry for active participation in the actions of the AGRICORE project and the evolvement of Greek Use Case research activities.	The research activities of the AGRICORE project and the results of the Greek Use Case analysis will provide invaluable insights on the improvement of policy design, impact assessment and monitoring of the Common Agricultural Policy at the national and EU levels. Policy officials, at such high-level positions, will benefit from the conducted ex-ante and ex-post policy analysis as well as by the impact assessment performed at all relevant areas (environmental, socioeconomic and ecosystem).
Greek Ministry of Rural Development and Food	Policy maker	General Director, Unit of Agricultural Development, Dr Apostolos Polymeros	Already made, Personal contact and e-mail	The contact was initiated by AUTH team Coordinator Prof. Konstadinos Mattas, who made a detailed description and presentation of the AGRICORE project and its value. In addition, he highlighted the project's impact on policymaking. The contact resulted in the initial willingness of the Agricultural Development Unit for active participation in the AGRICORE project and facilitation of research activities for the Greek Use Case. This contact also resulted in permission for access to FADN data at the national level.	Policy officials at key positions in national policy authorities will benefit from the ex-post and ex-ante evaluation of the Young Farmers Scheme as well as from the proposed improvement of utilized data (FADN) and their use in modelling activities.
Greek Government, Special Service for the Implementation of the Rural Development	Policy maker	Head of Unit, Efthimios Tsiatouras	Already made, Personal contact through emails and telephone communication	The contact was initiated by AUTH team Coordinator Prof. Konstadinos Mattas, who made a detailed description and presentation of the AGRICORE project and its value. The Unit is responsible for the issuance of the institutional framework, the coordination and the monitoring of the effective implementation of Measure 6.1 for the Greek	As the Unit is responsible for the monitoring of the evolvement of the Greek Use Case, the performed and anticipated ex-ante and ex-post analysis of the relevant measures will provide invaluable feedback to the institutional framework provided as well as to the improvement of the effective implementation of measure 6.1

Program 2014-2020				Use Case. The contact resulted in the initial willingness of the Unit for facilitation of the Greek Use Case research activities by the provision of Greek Young Farmers Scheme applications data.	
Panhellenic Union of Young Farmers	Farmers	President, Nikolaos Pavlonasios	Already made, Personal contact through telephone communication	The contact was initiated by AUTH in order to obtain valuable data about perceptions and beliefs of beneficiaries and not of the Young Farmers Scheme in Greece. In the telephone meeting, the AGRICORE project was described and analysed regarding its impact on young farmers in Greece. The meeting resulted in the initial agreement for the facilitation of Greek Use Case research activities needs and the concession of participation in the planned survey.	As the Union constitutes the union of beneficiaries of Measure 6.1, the expected impact include: <ul style="list-style-type: none"> • Improvement of awareness on the prerequisites of Measure 6.1. • Evaluation and monitoring of the evolvement of the Measure.
Payment and Control Agency for Guidance and Guarantee Community Aid (OPEKEPE)	Polymaker	-	Still to be made	OPEKEPE's main task is the control of farm subsidies and payments in Greece, according to European and national Laws. It is responsible for the payments of Young Farmers measure beneficiaries and inspect the implementation of their obligations. Provision of financial data for the beneficiaries of Measure 6.1	Improvement of relevant administrative procedures.
Greek National Rural Network (NRN)	Polymaker	-	Still to be made	Provision of insights to relevant policy viewpoints on the Young Farmers Scheme in Greece (Measure 6.1). The purpose of the contact is to allow us to survey young farmers beliefs and perceptions about the Young Farmers Scheme.	Improvement of organizing the exchange of experience and knowledge on rural development issues.
Ergoplanning SA	Consultancy and advisory agency	Agronomist - Young Farmers Consultant, Papadimitriou Konstantinos	Already made, Personal contact through telephone communication	Provision of consulting services, elaboration of investment plans and facilitation of farmers participation in measures such as Measure 6.1 Young Farmers. Mr Papadimitriou, who has extensive experience on Measure 6.1, is responsible for the business plans that the young farmers must submit. The	Increased knowledge concerning the quality and quantity goals of the agricultural holdings and also the implementation of the business plans.

				communication resulted in the initial agreement for active facilitation of Greek Use Case research needs (survey) and insights on young farmers characteristics and profiles in Greece.	
ELGO - DEMETER (Hellenic Agricultural Organization- Demeter)	Consultancy and advisory agency	West Macedonia Regional Director, Ifigenia Kavakliotou	Already made, Personal contact through telephone communication	One of the ELGO-DEMETER's operations is the provision of professional agricultural education and training programs related to New Farmers with two main directions of the specialized technical part of the Training Programs: Plant Production and Animal Production. This entity is responsible for the training of young farmers under sub-measure 1.1, which is mandatory for the beneficiaries of Measure 6.1. The contact resulted in the initial agreement on the facilitation of Measure 6.1 survey activities (e.g., contact with beneficiaries).	The expected impact includes the improvement of the training level of young farmers.
East Macedonia Regional Unit Administration	Policymaker	Regional Cabinet Member, Theodoros Markopoulos	Already made, Personal contact through emails and telephone communication	Dr Markopoulos is a highly esteemed agronomist and East Macedonia regional cabinet member, having served as state governor in the East Macedonia Region (2014-2019). The contact resulted in the initial concession for valuable insights on the improvement and maximization of the impact of the AGRICORE project on regional policy, raising questions on the planned survey, as well as the method of approach of young farmers for the conduction of the Greek Use Case research activities (survey). The contact will continue as the survey evolves.	Improvement of policy design, impact assessment and monitoring of the Common Agricultural Policy at a regional level.

4.3.3 Monitoring Plan for the Use Case

In addition to the risks 1, 2, 5 and 6 from the common risk assessment, [Table 14](#) briefly presents the identified individual possible risks during the evolvement of the research activities for the Greek Use Case and the relevant proposed mitigation actions.

Table 14. Risk assessment and mitigation actions for the Greek Use Case (L stands for low probability/impact, M for medium probability/impact and H for high probability/impact).

Risk number	Risk	Prob.	Imp.	Mitigation action
1	Obtaining wrongly answered or incompletely filled questionnaires.	M	M	Gathering extra questionnaires to ensure having a representative sample.
2	Obtaining contradictory or confusing information after the analysis of the questionnaire responses.	L	M	Contacting stakeholders (policymakers, agricultural associations and technicians) that could help to filter outliers and discard those results considered unrealistic.
3	Unavailability of resources (means of contact to conduct the survey, stakeholder's collaboration) that were considered in the planning of the execution of Participatory Research.	L	H	Rearranging the Participatory Research activities on the basis of available resources.

5 Conclusions

This deliverable presents the planning of the three use cases in order to execute the different tasks of WP7, meeting the set deadlines. Furthermore, due to the modularity of the project and the need for external collaboration, designing a detailed plan is necessary to coordinate the development of the tasks precisely. Moreover, the agriculture situation in the three use cases described in the introduction, together with the constraints derived from the Covid-19 pandemic, had to be also considered in this planning.

This planning is illustrated with the common Gantt chart included in Section 3.1. This was designed based on the Participatory Research activities described in D1.8 and the original planning of the work packages, especially WP7. Moreover, this plan contemplates the 6 months extension given by the Commission due to the Covid-19 pandemic.

In general, the three use cases are fulfilling with the execution period of the tasks. Some of them were finalised for D1.8, such as analysing the corresponding CAP measure, extracting the KPIs used to assess the impact of the measures, assessing the evolution of those KPIs regarding the objective of the measures, detecting information gaps and designing several Participatory Research activities to fill in those gaps. However, other tasks are outputs of this deliverable, such as the lists of stakeholders and the risk assessments, or have been carried out for the previous months, as the adaptation of the survey campaigns based on the encountered challenges during the pilot surveys. Regarding the ongoing tasks, the survey campaigns have already started in the three use cases, and their conductions and results will be monitored to obtain the necessary data to develop other AGRICORE modules.

Both design and execution of the Participatory Research have the support of several stakeholders. This deliverable gathers the list of relevant stakeholders for each use case. The relevant stakeholders for the project are all those involved in the life cycle of agrarian policies, from their design (policymakers), through their implementation (national and regional administrations), to the results of their direct application (farmers and associations) and other interested entities (certification bodies, consultancy services and scientific community). However, this list of stakeholders engagement is dynamic and probably will be extended as the project develops.

Regarding the monitoring plan, it is a crucial part of planning. Firstly, common and specific risk assessments and mitigation strategies have been defined for the three use cases. This will be reviewed in the periodic meetings of the workgroup. This is necessary to check whether the initial planning is followed or whether any issues or delays could arise or have arisen. Regarding the latter, the designed mitigation actions would be carried out to minimize the impact of the issues.

Lastly, it can be concluded that well-defined planning, together with a monitoring plan, is essential for the successful execution of the use cases. In addition, the collaborations of stakeholders and their inclusion in planning are necessary to carry out the Participatory Research activities. This is the only way to successfully develop the AGRICORE tool and apply it in the three defined use cases. In this way, thanks to the ex-post and ex-ante analysis, it will be possible to assess current CAP measures. Furthermore, it will be possible to simulate any other agricultural measure in order to check whether its intended objectives are achieved.

The following deliverables of WP7 will be submitted at the last part of the project in order to check if the planning presented in this deliverable has been followed. This will depend on the development of all modules contemplated in the ABM and Participatory Research.

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