



# Operational Groups Assessment 2018

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## Authors:

Steven Knotter  
Daniela Kretz  
Kleitia Zeqo

IDEA Consult nv  
40 Rue Joseph II/Joseph II Straat  
1000 Bruxelles

T: +32 2 282 17 10  
[info@ideaconsult.be](mailto:info@ideaconsult.be)

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## TABLE OF ACRONYMS

<b>Acronym</b>	<b>Meaning</b>
<b>CA</b>	Conservation Agriculture
<b>DG AGRI</b>	Directorate-General for Agriculture and Rural Development
<b>EIP-AGRI</b>	European Innovation Partnership on Agricultural Productivity and Sustainability
<b>EU</b>	European Union
<b>H2020</b>	Horizon 2020 - The EU Framework Programme for Research and Innovation
<b>MA</b>	Managing Authority
<b>NACE</b>	Statistical classification of economic activities in the European Union
<b>NGO</b>	Non-Governmental Organisation
<b>NRN</b>	National Rural Network
<b>OG</b>	Operational Group
<b>SFC</b>	System for Fund Management
<b>SME</b>	Small and Medium-sized Enterprise
<b>SP</b>	Service Point (of the EIP-AGRI)

# 1/ Context and content of the report

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IDEA Consult has been tasked with the assessment of the Operational Groups (OG) that were approved and running under the European Innovation Partnership on Agricultural Productivity and Sustainability (EIP-AGRI) until April 2018 (612 in total).

This assessment focuses on the state-of-play of the setting-up and implementation of the OGs, their results and how these are disseminated, while also reflecting on the support provided by other institutional actors such as Managing Authorities and Rural Networks. The study can provide useful input to DG AGRI and the Service Point (SP) for planning EIP-AGRI network activities and preparing the next programming period. The assessment has produced the following outputs:

1. In a first step, the assessment involved checking the available information on the approved OG projects and integrating this into one **comprehensive and updated database** in Excel;
2. A **clustering exercise** of the OGs was carried out, based on various information such as sectors covered, type of agricultural activity, type of challenge etc. derived from the project descriptions;
3. A **survey of all funded OGs** to further analyse the functioning of the OGs, and enrich and complete the clustering exercise;
4. More in-depth **case studies** of 9 OGs to identify interesting lessons and good practices related to different aspects of their functioning (OG set-up, organisation/partnership, implementation, cooperation /connections to other OGs and different EU funding, dissemination);

The final report contains all these outputs, and describes the process and findings from the different research steps:

- ▶ The process and results of the clustering exercise and analysis (section 2);
- ▶ An analysis of the survey results (section 3);
- ▶ An overview of the case selection and the 9 case study reports (section 4);
- ▶ The overall conclusions, summarising the findings from the clustering, surveys and case studies (section 5).

## 2/ Clustering exercise

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The clustering exercise provides a useful method to gain insights about the Operational Groups (OGs) based on the information available on them. There are several ways to use keywords as a descriptive and informative tool to categorise OG projects. Starting from the data available from SFC<sup>1</sup> – which attributes single keywords to the OGs without pre-categorisation - a more articulated clustering exercise was carried out through the use of categories and, when needed, subcategories to better reflect the main project attributes. The aim of the clustering exercise was to ensure that:

1. The categories used to describe the Operational Groups are sufficiently representative so that each OG could be associated to them;
2. The categories allow the grouping of existing OGs to obtain a better insight into their main thematic focus and activities, and to link this with other characteristics like partners involved, location, etc.
3. The cluster categories are useful in facilitating the development of connections between existing Operational Groups. The clustering positions each OG project within the relevant thematic group and can eventually help them to find other projects working on related themes or similar approaches.

### 2.1 Approach for the development of clusters

The clustering approach used SFC as a foundation, and building on this, developed categories and, where applicable, sub-categories in order to describe the activities of the OGs. This approach aims to find and connect related OGs by identifying and grouping similar projects on an increasing level of detail. The resulting categorisation is presented in Figure 1.

A series of steps were followed to develop this classification:

- ▶ Step 1: Collection and integration of different datasets of OGs
- ▶ Step 2: Analysis of the initial sample:
  - Observing and understanding the initial sample of OGs
  - Extraction of keywords from the initial sample
- ▶ Step 3: A synthesis of the initial assessments of the OG sample and discussion by team members
  - Validation of approach and keywords
  - Consideration of the SFC keywords in the developed categorisation
  - Grouping keywords according to commonalities into preliminary main categories (challenge, solution, sector, etc.)
  - Assessment of the usability of these categories within the sample of OGs
  - Consensus on way forward
- ▶ Step 4: An expanded analysis on an extended OG sample with all available information
  - Further validation and testing of the developed main clustering categories
  - Expansion of categories and elaboration of sub-categories with additional coverage in view of the extended sample of OGs
- ▶ Step 5: Expert synthesis of expanded analysis
  - Discussion and testing of proposed keyword categorisation in view of clustering all OG projects
  - Check to ensure the existing SFC keywords are adequately considered and integrated in the categorisation
  - Assessment of the usability of known classification schemes (e.g. NACE, CORINE, etc.)

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<sup>1</sup> SFC is the system for fund management in the European Union through which member states and the European Commission officially exchange information about EU-funded programmes and their implementation. Managing Authorities of Rural Development Programmes use SFC to send structured information to the Commission about approved OG projects.

- ▶ Step 6: Proposed draft categorisation as outlined in this document below
  - This proposed categorisation accounts also for the SFC keywords where applicable

While conducting this exercise and looking for new categories, the following aspects were considered:

- i) Target audience (existing and potential OGs). What language do OGs (potential) partners use and how can we create useful clusters for them to easily search funded projects that correspond to their specific needs and challenges?
- ii) Added value of creating new cluster categories that can enable and facilitate:
  - A simple search of projects, partners, challenges and solutions
  - An easy analysis of type of projects funded
  - The identification of OG projects at the appropriate level of detail
- iii) Facilitating exchange between Operational Groups
- iv) Considers the SFC keywords and yet further elaborates and structures these
- v) Categories are clear, as much as possible mutually exclusive and user friendly

Based on this methodology and in consultation with the EIP-AGRI Service point and DG AGRI a set of categories has been established as outlined in Figure 1. These include the following main categories:

- ▶ **Product/ sector:** The information about which product and sector are at the core of the OG (for example type of meat, dairy, cereal, forestry, fish/aqua culture etc.) is key in contextualising the OG activities. For this category we proposed the use of the statistical classification of economic activities in the European Union (NACE).<sup>2</sup> The benefit of using a NACE classification arises largely from the holistic representation of sectoral activities through a European standardised approach to classifying activities in the "Agriculture, Forestry and Fishing"<sup>3</sup> sector. Furthermore, comparability between other EU programmes, funding streams and projects can be obtained by building upon this classification with respect to product and sector. Figure 1 presents an extract of the NACE classification. For the full scheme, please see the indicated links.<sup>4</sup>

For the purpose of this project all activities in the area of "Agriculture, Forestry and Fishing"<sup>5</sup> are drawn upon. This sector is subdivided into main areas, (i.e. "01.1 Growing of non-perennial crops", "01.2 Growing of perennial crops", as well as "01.6 Support activities to agriculture and post-harvest crop activities"), which include sub-areas (e.g. within "01.1 Growing of non-perennial crops" the sub-areas include "01.11 Growing of cereals (except rice), leguminous crops and oil seeds", "01.12 Growing of rice", "01.13 Growing of vegetables and melons, roots and tubers", among others).

- ▶ **Type of Agriculture:** this category identifies the type of agricultural / forestry activity that the project is related to. **Box 1** below presents the definitions of the specific types defined for this clustering exercise. Only one type of farming is allocated to each OG (e.g. agro-ecology projects do not include organic farming projects).
- ▶ **Type of challenge:** Each Operational Group is driven by a certain challenge or main problem/opportunity which they aim to tackle within their innovative project. This categorisation allows to identify and group OGs according to their focus and get an idea of their objectives. Obviously an OG can have multiple objectives, so more than one category can be attributed per OG, in a prioritised way. The information about the challenge is broken down into main categories (i.e. Resource Management) within which sub-categories are attributed (e.g. water management, soil management, etc.).
- ▶ **Type of solution:** Similarly, each Operational Group has a certain approach and a focus on a possible solution (innovation) that they wish to explore in relation to their product/sector and the challenge faced. The results

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<sup>2</sup> [http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Statistical\\_classification\\_of\\_economic\\_activities\\_in\\_the\\_European\\_Community\\_\(NACE\)](http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Statistical_classification_of_economic_activities_in_the_European_Community_(NACE))

<sup>3</sup> [http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST\\_NOM\\_DTL\\_LINEAR&IntCurrentPage=1&StrNom=NACE\\_REV2&StrLanguageCode=EN](http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL_LINEAR&IntCurrentPage=1&StrNom=NACE_REV2&StrLanguageCode=EN)

<sup>4</sup> [http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST\\_NOM\\_DTL\\_LINEAR&IntCurrentPage=1&StrNom=NACE\\_REV2&StrLanguageCode=EN](http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL_LINEAR&IntCurrentPage=1&StrNom=NACE_REV2&StrLanguageCode=EN)

<sup>5</sup> [http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST\\_NOM\\_DTL\\_LINEAR&IntCurrentPage=1&StrNom=NACE\\_REV2&StrLanguageCode=EN](http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL_LINEAR&IntCurrentPage=1&StrNom=NACE_REV2&StrLanguageCode=EN)

of the clustering for this category allows for a simple search of activities undertaken. Moreover, activities undertaken by funded OGs can act as an example for other aspiring OGs when preparing their own applications for EU funding.

- ▶ **Lead partner type:** We proposed to group lead partners under certain main categories to facilitate the search (for example research institutes, farmers representation/association, private business, regional authorities, NGOs, research and technology organisation etc.). Clustering under this category present an overview of different types of subjects/organisations leading the OGs
- ▶ **Information about the partnership structure:** Each OG has a specific type of partnership structure, depending on the challenge faced and solution they provide. Therefore, in the survey we have specifically asked for information on partners involved in the OG project regarding two aspects – (1) number of (formal) partners and, (2) the type of entity they are (according to the same typology defined for the lead partner). Moreover, information on other partners involved, apart from the lead partner, is currently available in the database (SFC). However, it should be noted that information in the available dataset is currently insufficiently reliable to build a solid categorisation, e.g. certain types of partner's fall under more than one type of entity. In the survey we were able to tackle this issue by posing more specific questions.

*Box 1: Definitions of the type of agriculture / forestry activity*

The following definitions are applied:

- ▶ **Mixed farming** is a method of farming in which one farm has more than one purpose, usually growing crops as well as raising animals. Ideally these two activities are integrated and sustained each other rather than being carried out as separate businesses.
- ▶ **Conventional farming** refers to farming systems which include the use of chemical fertilizers, pesticides, herbicides and other continual inputs, concentrated animal feeding, irrigation, intensive tillage, or concentrated monoculture production.
- ▶ **Organic farming** is an agricultural system that uses ecologically based pest controls and biological fertilizers derived largely from animal and plant wastes and nitrogen-fixing cover crops. Organic agriculture is defined formally by regulation. Farmers must be certified for their produce and products to be labelled "organic," and there are specific organic standards for crops, animals, and wild-crafted products and for the processing of agricultural products.
- ▶ **Agro-ecology** is understood as a practice based on sustainable use of local renewable resources, local farmers' knowledge and priorities, wise use of biodiversity to provide ecosystem services and resilience, and solutions that provide multiple benefits (environmental, economic, social) from local to global.
- ▶ **Integrated pest management/reduced inputs** means careful consideration of all available plant protection methods and subsequent integration of appropriate measures that discourage the development of populations of harmful organisms and keep the use of plant protection products and other forms of intervention to levels that are economically and ecologically justified and reduce or minimise risks to human health and the environment. 'Integrated pest management' emphasises the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms (By European Commission definition - Annex II of the Sustainable Uses Directive).
- ▶ **Conservation agriculture** comprises three main farming practices: minimum soil disturbance ('minimum' or 'zero' tillage), organic soil cover and diversified crop sequence. Conservation agriculture (CA) enables farmers to increase their productivity, adapt to climate change and reverse environmental degradation.
- ▶ **Circular agriculture** in agriculture centres on the production of agricultural commodities using a minimal amount of external inputs, closing nutrient loops and reducing negative discharges to the environment (in the form of wastes and emissions).
- ▶ **Bio-based production** means wholly or partly derived from materials of biological origin (excluding materials embedded in geological formations and/or fossilised). As they are derived from renewable raw materials such as plants, bio-based products can help reduce CO<sub>2</sub> and offer other advantages such as lower toxicity or novel product characteristics (e.g. biodegradable plastic materials).
- ▶ **Agro-forestry** means land-use systems and practices where woody vegetation is deliberately integrated with crops and/or animals on the same parcel or land management unit without the intention to establish a remaining forest stand. The trees may be arranged as single stems, in rows or in groups, while grazing may also take place inside parcels (silvo-arable agroforestry, silvopastoralism, grazed or intercropped orchards) or on the limits between parcels (hedgges, tree lines).

► **Forestry** is the activity of growing and taking care of trees in forests, especially in order to obtain wood.

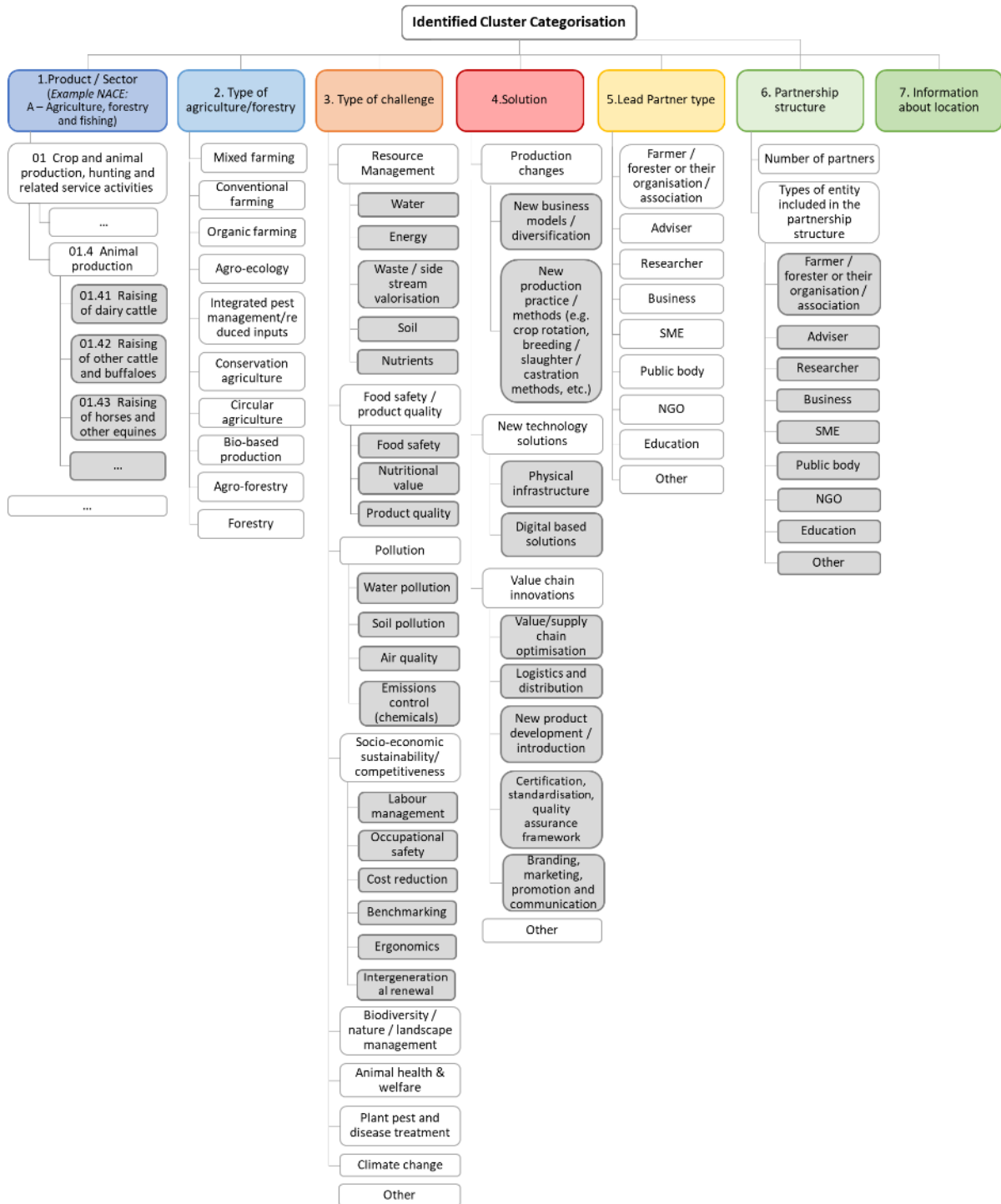


Figure 1: Categorisation resulting from clustering exercise

## 2.2 Approach for the clustering analysis

An analysis of the clustered OGs can give insights into the activities of the OGs and the relationships between them. Each OG was assigned to the cluster categories defined by the approach outlined above. This was carried out by two means:

- **Assignment of clusters directly by the Operational Groups** through the survey (See Chapter 3)



- ▶ **Assignment of clusters by experts** based on available information about the Operational Groups

For the assignment of clusters by experts a data file was compiled based on the EIP-AGRI database (SFC) and complemented by additional OG information from several countries. The integrated database is provided together with this report.

The analysis is oriented towards two main types of information: individual categories and correlations between these categories. Details are found in the following subchapters.

## 2.3 Considerations in using the clustering

### 2.3.1 Purposes of the clustering

The clustering exercise of the Operational Groups can be useful for both the OGs themselves and those managing and supporting them at the regional/national (MAs, NRNs, etc.) and European level (Service Point, DG AGRI, in two main ways:

- ▶ The clustering allows performing analyses of the different types of OGs, their structure and patterns of OG set-ups and functioning. It provides evidence-based indications of their different activities and focus. This report offers a selection of such insights, but there are certainly still aspects that can be further explored.
- ▶ The clustering allows to capture the diversity of OGs work in a relatively detailed manner, at the level of individual OGs. It makes possible to connect OGs on the basis of their focus, approach and organisation. It can provide a useful tool for OGs to find and connect to other relevant OGs and EU projects (H2020 multi-actor projects, thematic networks, etc.) to exchange on their work, and potentially come to cooperation.

It can also facilitate the work of actors supporting the OGs to connect them to other initiatives and provide them with useful information.

### 2.3.2 Limitations in using the clustering

Although the clustering has substantial added value for the purposes above, we do need to highlight **some limitations** on its use:

- ▶ The OG allocation to the categories is not always evident, and highly dependent on the available information. Three types of limitations need to be flagged here:
  - Occasionally, the required information was missing or too limited to allocate the OG to any category;
  - Some information was available only in the language of the OGs country;
  - Some information included in the SFC datafile was missing for technical reasons (text exceeding the maximum length allowed for in the system).

Even where the information is available, the clustering remains a matter of interpretation. This not only counts for the categories related to challenges and solutions of the OG, but equally so in classifying the different types of agriculture, which are often not mutually exclusive and therefore not always clearly distinguishable.

- ▶ In order to further improve the clustering and the database of OGs so to be effectively used both for analytical purposes and facilitating connections between OGs and other EU funded projects, we formulate two recommendations:
  - Managing Authorities could ensure a **minimum quality check** of the basic OG information provided via SFC. They could for instance ensure that the descriptions of the objective and main activities of the OG required for their clustering is sufficiently available and clear.
  - The clustering exercise could be used to improve the **online OG database**, capturing and categorising the activities of the OGs along the dimensions considered in this study. This can serve to better identify synergies between similar projects, and connect thematically relevant OGs at European level.

## 2.4 Results of the clustering analysis

The results of the analysis itself are presented according to two different types of data. Firstly, we have looked at individual categories and the data resulting from these, with indications of the counts and percentages where appropriate (Chapter 2.4.1). Secondly, the data are presented based on correlations between the different categories (Chapter 2.4.2). From this comparison, key indications of important cluster combinations and key cluster types can be identified. These correlations also served as one of the selection mechanisms for the case studies.

Access to the data on projects involved in the clustering analysis is provided in the Annex.

### 2.4.1 Individual categories

**Individual categories** indicate where information on the number of responses per cluster category (e.g. sector, location, type of agricultural or forestry activity, challenge, solution, lead partner, partnership structure) is provided. In total 601 Operational Groups were allocated to clusters either directly by the Operational Groups through the survey or through expert allocation.

#### 2.4.1.1 Country

The spread of the OGs across the EU countries is depicted in Table 1. Most OGs are active in Germany, France, Italy, Portugal and Spain, which is in line with the size of the agro-rural sector and available budget to support OGs in these countries. Countries such as Poland, Hungary, Estonia, Latvia, Slovakia, Slovenia, Romania, Bulgaria and Croatia were not yet represented in the database at the time of this study (first quarter of 2018). This is directly related to the fact that no calls for OG were yet launched by the Managing Authorities in those countries, on which the set-up of OGs obviously depends.

Table 1: Spread of the clustered Operational Groups across EU.

Country	Count
<b>Germany</b>	109
<b>France</b>	105
<b>Italy</b>	96
<b>Portugal</b>	85
<b>Spain</b>	58
<b>The Netherlands</b>	44
<b>Sweden</b>	31
<b>United Kingdom</b>	18
<b>Austria</b>	13
<b>Ireland</b>	13
<b>Belgium</b>	10
<b>Czech Republic</b>	9
<b>Finland</b>	5
<b>Lithuania</b>	5
Total	<b>601</b>

#### 2.4.1.2 Product/ Sector

In total the data set contains 601 observations. For this category the *Statistical classification of economic activities in the European Community (NACE)*<sup>6</sup> have been used as a basis. Figure 1 presents an extract of the NACE classification. For the purpose of this project all activities in the area of "Agriculture, Forestry and Fishing"<sup>7</sup> are drawn upon. This sector is subdivided into main areas, (i.e. "0.1 Growing of non-perennial crops", "0.2 Growing of perennial crops", as well as "01.6 Support activities to agriculture and post-harvest crop activities") which include sub-areas (e.g. within "0.1 Growing of non-perennial crops" the sub-areas include "01.11 Growing of cereals (except rice), leguminous crops and oil seeds", "01.12 Growing of rice", "01.13 Growing of vegetables and melons, roots and tubers", among others). The highest ranked sectors can be grouped into three areas as presented in Table 2, with links to the following case studies:

- ▶ Group 1.1 Growing of non-perennial crops (including cereals, rice, fibre crops, etc.). For examples see case studies 1, 6 and 8.
- ▶ Group 1.4 Animal production (including cattle, sheep, swine, etc.). For examples see case studies 3, 4, 5 and 7.
- ▶ Group 1.2 Growing of perennial crops (such as wine, fruits, etc.). For examples see case studies 2 and 9.

Table 2: Three most prevalent product / sector groups (total observations=601, only top three depicted)

Product / Sector	N° of OGs	Percentage of Total
<b>01.1 Growing of non-perennial crops</b>	160	27%
<b>01.4 Animal production</b>	159	26%
<b>01.2 Growing of perennial crops</b>	133	22%

#### 2.4.1.3 Type of agricultural / forestry activity

The identified cluster categories were applied to the OGs and in total N=601 types of agriculture/forestry could be assigned (Table 3).<sup>8</sup>

- ▶ Conventional farming dominates the OGs: With 28% (N=168) of the OGs that could be classified being active in conventional farming, this marks the most common category. Examples are presented in case studies 1, 5, and 9.
- ▶ Organic farming is the second most important type of agricultural activity among the OGs. Examples are presented in case studies 2 and 3.

Table 3: Type of agriculture/forestry (N=601)

Type of agriculture/forestry activity	N° of OGs	Percentage of Total
Conventional farming	168	28%
Organic farming	121	20%
Conservation agriculture	75	13%
Integrated pest management/reduced inputs	69	12%
Agro-ecology	42	7%
Circular agriculture	41	7%
Bio-based production	33	6%
Mixed farming	24	4%

<sup>6</sup> [http://ec.europa.eu/eurostat/statistics-](http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Statistical_classification_of_economic_activities_in_the_European_Community_(NACE))

[explained/index.php/Glossary:Statistical classification of economic activities in the European Community \(NACE\)](http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Statistical_classification_of_economic_activities_in_the_European_Community_(NACE))

<sup>7</sup> [http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST\\_NOM\\_DTL\\_LINEAR&IntCurrentPage=1&StrNom=NACE\\_REV2&StrLanguageCode=EN](http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL_LINEAR&IntCurrentPage=1&StrNom=NACE_REV2&StrLanguageCode=EN)

<sup>8</sup> In cases where the cluster could not be assigned, this was due to a missing project description or insufficient details to apply the cluster categories.

Type of agriculture/forestry activity	N° of OGs	Percentage of Total
Agro-forestry	18	3%
Forestry	10	2%
<b>Total</b>	<b>601</b>	<b>100%</b>

#### 2.4.1.4 Type of challenge faced

Figure 1 presents the types of challenges faced by OGs for the purpose of this clustering. The type of challenge includes resource management, food safety / product quality, socio-economic sustainability/competitiveness, pest and disease treatment, animal health and welfare, pollution, biodiversity / nature / landscape management, climate change and other.

Within the categorisation of 'type of challenge' a number of cluster types contained sub-groups (i.e. the overarching category resource management includes soil, nutrients, water, waste / side stream valorisation and energy. For the purpose of presentation, the subgroup results are aggregated to the level of the group. Table 4 presents the findings of the counts (N=601):

- ▶ Resource management is by far the most important challenge, with soil management being particularly important (i.e. case study 7). The number of OGs focused on waste/side stream valorisation (5%) is also notable.
- ▶ Food safety / product quality also marks an important challenge that the OGs aim to address in their projects, where especially product quality is the most dominant challenge that is explored (i.e. case study 7).
- ▶ Socio-economic competitiveness marks another important category. However, during the cluster assignment it became apparent that it was difficult to further allocate OGs to the sub-categories of this group (see Figure 1). This is particularly apparent through the fact that the overarching type 'socio-economic competitiveness' was deemed relevant, however five of the sub-types (e.g. "labour management", "occupational safety", "cost reduction", etc.) have less than 15 positive responses each (not shown). In a future clustering it would be needed to assess these cluster types in further detail.

Table 4: Type of challenge (N=601)

Type of challenge	N° of OGs	Percentage
Resource Management <sup>9</sup> (total)	175	29%
Resource management (soil)	54	9%
Resource management (water)	40	7%
Resource management (nutrients)	39	6%
Resource management (waste/side stream valorisation)	32	5%
Resource management (energy)	7	1%
Resource management (not specified)	3	1%
Food safety / product quality <sup>10</sup>	107	18%
Socio-economic sustainability/competitiveness <sup>11</sup>	86	14%
Pest and disease treatment	59	10%
Animal health and welfare	54	9%

<sup>9</sup> This is an aggregated category covering resource management related to soil, nutrients, water, waste / side stream valorisation and energy

<sup>10</sup> This is an aggregated category covering food safety / product quality related to product quality, food safety and nutritional value

<sup>11</sup> This is an aggregated category covering socio-economic sustainability/competitiveness related to cost reduction, benchmarking, labour management, intergenerational renewal, ergonomics and occupational safety

Type of challenge	N° of OGs	Percentage
Pollution <sup>12</sup>	41	7%
Biodiversity / nature / landscape management	40	7%
Climate change	20	3%
Other	19	3%
<b>Total</b>	<b>601</b>	<b>100%</b>

#### 2.4.1.5 Type of solution

The OGs' specific focus is grouped into four main categories ranked by the group in Table 5 (N=592). The total does not equal 601 (total number of OGs analysed in previous steps) as the descriptions of the OG project descriptions for nine projects were not sufficiently detailed to allow for a solution cluster to be assigned to the project. The main findings for the 592 OGs for which a solution could be assigned are as follows:

- ▶ Most OGs look to production changes<sup>13</sup> as the central solution for the challenge: in total 326 OGs address production changes (i.e. case studies 3, 6, 7 and 8), of which the majority look to the development of a new production practice or method (N=286, not depicted).
- ▶ Value Chain innovation<sup>14</sup> is also important: with 144 OGs in total. Within this category, new product development or introduction was the main focus (not depicted). See case studies 1 and 2.
- ▶ New technology solutions<sup>15</sup> are addressed: these are present but not the most prevalent among the solutions explored in the OGs. Nevertheless with 105 OGs, new technology solutions are explored within the OGs as the potential solution to the challenges faced. See case studies 3 and 6

Please see Figure 1 for the full categorisation of the types of solution.

Table 5: Project focus / solution (N=592)

Focus of the project	N° of OGs	Percentage of Total
Production changes	326	55%
Value Chain innovations	144	24%
New technology solutions	105	18%
Other	17	3%
<b>Total</b>	<b>592</b>	<b>100%</b>

#### 2.4.1.6 Lead Partner type

Information on the lead partner type was available for a majority of the OGs (N=511) (Table 6). However, for 90 OGs there was insufficient information available in order to attribute the lead partner.

- ▶ Researchers / research institutes lead one third of OGs (N=173). See case studies 1, 2, 3, 6 and 7 for examples of OGs led by a research organisation.
- ▶ Farmer/forester or their organisation/association of farmers or foresters are the second highest ranking lead partner type (N=112). See case studies 4 and 9 for examples of OGs led by farmers or their associations.
- ▶ A substantial amount of lead partners classified as 'Other' (6%). Upon further investigation this indication is utilised to present registered associations (that do not represent farmers), as well as private institutes, among

<sup>12</sup> This is an aggregated category covering pollution related to emissions control, water pollution, air quality and soil pollution

<sup>13</sup> This is an aggregated category covering production changes related to the development of a new production practice or methods (e.g. crop rotation, breeding, slaughter, castration methods, etc.) and new business models / diversification

<sup>14</sup> This is an aggregated category covering value chain innovations related to new product development / introduction, value / supply chain optimisation, certification, standardisation, quality assurance framework, logistics and distribution and branding, marketing, promotion and communication

<sup>15</sup> This is an aggregated category covering new technology solutions related to digital based solutions and physical infrastructure

others. Overall 32 of the 33 'others' are from the survey responses and appears that certain respondents have classified lead partners as 'other' while they could be attributed to the existing categories. This shows that further clarification of the definitions is needed to support respondents in correctly attributing their lead partner type.

Certain categories could sometimes not clearly be distinguished, and some categories may need to be re-considered in a subsequent step. For instance, for a university is it not easy to distinguish whether it is a research or an education institute.

Table 6: Type of Lead Partner ranked by occurrence (N=511)

Lead Partner Type	N° of OGs	Percentage of Total
Researcher / Research Institute	173	32%
Farmer/forester or their organisation/ association of farmers or foresters	112	20%
Business / SME	80	15%
Advisor	65	12%
Other	33	6%
Public body	20	4%
NGO	15	3%
Education	13	2%
<b>Total</b>	<b>511</b>	<b>100%</b>

#### 2.4.1.7 Partnership structure

Information on the partnership structure in terms of the total number of partners, and the number of each type of partner (i.e. farmer, researcher, advisor, etc.) were attributed to the OGs through the clustering (expert and survey-based information, see Chapter 3 for more information about the survey results). This means that for each OG information was obtained on how many farmers, researchers, advisors, etc. are involved. Unfortunately, there was insufficient information available for select OGs (N=362 blanks).

Table 7 summarises the overall number of the types of partners that are typically involved in the OGs (excluding the lead partner), i.e. 220 'Farmers/forester or their organisation/ association of farmers or foresters' are present in the 239 OGs for which information was available.

The main findings are:

- ▶ Farmer/forester or their organisation/association of farmers or foresters are the most important partners of the Operational Groups
- ▶ Researchers / research institutes are also important contributors to the OGs success
- ▶ NGOs find only limited involvement in the OGs as a partner

Table 7: Type of partners ranked by occurrence (N OGs=239)

Partnership Structure: Types of entities	Amount
Farmer/forester or their organisation/association of farmers or foresters	220
Researcher / Research Institute	182
Business / SME	115
Advisor	99
Public body	84
Education	60
Other	55

NGO	29
<b>Total number of partners in 239 OGs</b>	<b>844</b>

### 2.4.2 Correlations

This section presents the relationship between the individual cluster categories (such as sector, type of agricultural or forestry activity, challenge, solution, etc.), with another cluster category. This is carried out especially where the relationship between those categories can give interesting information about the OGs, their challenges, and their activities. Specifically, the following correlations between cluster categories are highlighted:

- ▶ Challenge & Solution: what types of solutions are typically used to tackle which types of problems faced by OGs?
- ▶ Sector & Challenge: do certain sectors address by OGs face certain challenges more than others? If so, which?
- ▶ Type of agricultural / forestry activity & Challenge: Are certain OG challenges more prevalent for certain types of agricultural or forestry activity?
- ▶ Type of agricultural / forestry activity & Solution: are certain OG solutions more frequently applied for certain types of forestry or agricultural activity?
- ▶ Country & Type of agricultural / forestry activity: Do OGs in certain countries address certain types of agriculture more than others?
- ▶ Country & Challenge: Do OGs in select countries face differing challenges?

The results of this investigation are presented in the sections and tables below. The tables should be understood as follows:

- ▶ Each cell contains the absolute number found for the different correlations
- ▶ The green bars represent the share of OG in relation to the specific row total. The longest bar thus shows the most important category per row.
- ▶ The orange circle highlights the most important category in relation to the specific column total

Together this provides deeper insight into the different ways OGs deal with practical challenges for different types of agricultural sectors and types.

#### 2.4.2.1 Correlation between the challenge and the solution

This section reveals what types of solutions can be ideal in addressing specific challenges and presents the core of the work carried out in the OGs. The results of this correlation are presented in Table 8. The main findings, highlighted in orange include:

- ▶ Production changes are the preferred solution for the following challenges:
  - Resource management (see case study 8)
  - Food safety / product quality (see case study 7)
  - Animal health / welfare (see case study 5)
  - Pest and disease treatment (see case study 9)
- ▶ New technology solutions are sought when faced with:
  - Resource management challenges (see case study 6 and 8)
- ▶ Value Chain innovations are preferred for:
  - Food safety / product quality as a challenge
  - Resource management as a challenge
  - Socio-economic sustainability / competitiveness
  - Biodiversity / nature / landscape management (see case study 2)

Table 8: Correlation between challenge and the solution (N=592).

	Production changes	New technology solutions	Value Chain innovations	Other	Total
Resource Management	106	31	34	4	175
Food safety / product quality	51	16	38	1	106
Pollution	27	9	2	2	40
Socio-economic sustainability/competitiveness	41	11	29	2	83
Biodiversity / nature / landscape management	15	9	11	3	38
Animal health and welfare	32	14	6	1	53
Pest and disease treatment	34	8	15	1	58
Climate change	13	2	5		20
Other: Please describe	7	5	4	3	19
<b>Total</b>	<b>326</b>	<b>105</b>	<b>144</b>	<b>17</b>	<b>592</b>

#### 2.4.2.2 Correlation between product / sector and the challenge faced

Looking at the top ten sectors in terms of count, an assessment of the correlation with the challenge faced by the OGs active in these sectors reveals several key findings, which are highlighted in Table 9. OGs are active in three main sector groups (i.e. "01.1 Growing of non-perennial crops", "01.2 Growing of perennial crops", "01.4 Animal production") as indicated under the subheading Count of Product/Sector (see Table 2 for the number of OGs active in these sectors). In Table 9 these are coloured in groups of various shades of grey.

The challenges / opportunities faced, as indicated in the above, are grouped according to the main category (i.e. "resource management", "food safety/product quality", etc.). For details on the sub-categories (e.g. for "resource management" this includes water, energy, nutrients, etc.) please refer to the data file in Annex.

Thus, the main findings for the correlation between sector and challenge include:

- ▶ Challenges related to resource management mostly emerge in relation to growing of non-perennial crops (see case study 6)
- ▶ Challenges related to growing of pome fruits and stone fruits are largely related to food safety and product quality
- ▶ Socio-economic sustainability / competitiveness is particularly important for the growing of vegetables, melons, roots and tubers as well as for the raising of dairy cattle
- ▶ OGs focused on the raising of livestock are often particularly concerned with issues related to animal welfare (see case study 5)



Table 9: Correlation between product / sector and the challenge (only top ten sectors assessed, i.e. N=411).

		Resource Management	Food safety / product quality	Pollution	Socio-economic sustainability	Biodiversity/nature/landscape	Animal health and welfare	Pest and disease treatment	Climate change	Other	Total
01.1 Growing of non-perennial crops	01.11 Growing of cereals (except rice), leguminous crops and oil seeds	28	15	2	6	6	1	6	1	2	67
	01.13 Growing of vegetables and melons, roots and tubers	15	10	6	12	1	15	2	2	63	
	01.61 Support activities for crop production	23	4	4	7	5	1	1	2	47	
01.2 Growing of perennial crops	01.21 Growing of grapes	7	5	2	4	3	4	5	30		
	01.24 Growing of pome fruits and stone fruits	10	14	5	4	3	1	6	2	1	46
	01.25 Growing of other tree and bush fruits and nuts	5	4	2	1	1	2	2	17		
01.4 Animal production	01.41 Raising of dairy cattle	15	8	4	12	4	13	1	1	1	59
	01.42 Raising of other cattle and buffaloes	2	6	1	2	1	3	1	16		
	01.46 Raising of swine/pigs	9	7	4	7	14	2	2	45		
	01.62 Support activities for animal production	5	3	1	4	6	2	2	21		
	<b>Total</b>	<b>119</b>	<b>76</b>	<b>30</b>	<b>56</b>	<b>28</b>	<b>38</b>	<b>38</b>	<b>14</b>	<b>12</b>	<b>411</b>

#### 2.4.2.3 Correlation between type of agriculture / forestry activity and the challenge faced

Agricultural activities could possibly be associated with specific challenges. The main findings include (figure not depicted):

- ▶ By type of agriculture/forestry activity:
  - **Conventional farming** predominantly addresses resource management, food safety & product quality, and socio-economic sustainability and competitiveness (see case studies 1 and 6 for conventional farming examples)
  - Agricultural / forestry activity related to **integrated pest management** largely addresses pest and disease treatment as a challenge (see case study 9)
- ▶ By type of challenge:
  - **Resource management** is a cross-cutting challenge that is equally present in organic farming and conventional farming (see case study 6 and 8)
  - **Food safety and product quality** are challenges, mainly for conventional agriculture and bio-based production (see case study 7 for details on this challenge)
  - **Socio-economic sustainability / competitiveness** is a cross-cutting challenge that is equally present for conventional and organic farming (see case study 3)

#### 2.4.2.4 Correlation between type of agricultural / forestry activity and focus/solution of the project

The relationship between the type of agricultural activity and the focus/solution of the project should give an indication of whether specific agricultural or forestry activities (e.g. circular agriculture) rely on specific solutions (e.g. predominantly new technological solutions). Indeed, as depicted in Table 10, most types of agricultural activity rely on production changes for the focus/solution to their project. More specific findings include:

- ▶ Especially conventional farming, organic farming, and integrated pest management rely on **production changes** as the way forward for their activity within the Operational Groups (see case study 5 and 9)
- ▶ **Value chain innovations** are important for conventional farming and organic farming as a part of the solution explored within the OG project (see case study 1)
- ▶ **New technology solutions** are drawn upon by especially conventional farming as well as conservation agriculture as a solution (see case studies 3 and 6)

Table 10: Correlation between the type of agricultural / forestry activity and the focus / solution sought (N=588).

	Production changes	Value Chain innovations	New technology solutions	Other	Total
Agro-ecology	28	7	4	2	41
Agro-forestry	11	3	4		18
Bio-based production	19	10	2	1	32
Circular agriculture	26	9	4	1	40
Conservation agriculture	34	16	22	1	73
Conventional farming	74	43	39	8	164
Forestry	6	3	1		10
Integrated pest management/reduced inputs	47	12	8		67
Mixed farming	14	6	3	1	24
Organic farming	64	34	18	3	119
<b>Total</b>	<b>323</b>	<b>143</b>	<b>105</b>	<b>17</b>	<b>588</b>

#### 2.4.2.5 Correlation between country and challenge

This section presents the correlation between country and the type of challenge / solution faced can give hints about regional issues related to regional agricultural / forestry activities and can also point towards opportunities for cross-border correlation on specific issues. Table 11 highlights in orange the particularly important challenges per country. The main findings include:

- ▶ Resource management is particularly important for German, Spanish and Dutch OGs (see case study 6)
- ▶ Food safety and product quality appears to be the greatest issue in Portugal, though this is also relevant for France and Spain
- ▶ Socio-economic sustainability/competitiveness are especially important in France and Italy (see case study 3)
- ▶ Animal health and welfare takes precedent in German and Swedish OGs
- ▶ Pest and disease treatment are particularly important for French, Portuguese and Spanish OGs
- ▶ Biodiversity is particularly addressed by Italian and German OGs; similarly, for Irish<sup>16</sup> OGs where this is likely due to thematic calls, combined with open ones, that the Irish Managing Authority launched

<sup>16</sup> See slide 4 here: [https://ec.europa.eu/eip/agriculture/sites/agri-eip/files/field\\_event\\_attachments/17\\_sem-athens-2017\\_ie\\_offaherty.pdf](https://ec.europa.eu/eip/agriculture/sites/agri-eip/files/field_event_attachments/17_sem-athens-2017_ie_offaherty.pdf)

Table 11: Correlation between the country of the OG and the challenge (N=601).

	Resource Management	Food safety / product quality	Pollution	Socio-economic sustainability	Biodiversity / nature / landscape	Animal health and welfare	Pest and disease treatment	Climate change	Other	Total
Austria	3	1	2	1		2	4			13
Belgium	2	2	3	1			1		1	10
Czech Republic	2	1	3	1	2					9
Finland	4	1								5
France	23	19	7	26	3	4	10	6	7	105
Germany	39	12		11	10	21	8	3	5	109
Ireland	5			2	6					13
Italy	29	10	14	14	11	3	5	5	4	95
Lithuania	2			1		1			1	5
Portugal	22	24	3	9	3	3	17	4		85
Spain	17	17	2	8	2	5	7			58
Sweden	4	11		3	1	9	2		1	31
The Netherlands	21	8	5	5	2	1	2	1		45
United Kingdom	2	1	2	4		5	3	1		18
<b>Total</b>	<b>175</b>	<b>107</b>	<b>41</b>	<b>86</b>	<b>40</b>	<b>54</b>	<b>59</b>	<b>20</b>	<b>19</b>	<b>601</b>

#### 2.4.2.6 Correlation between country and the type of solution

This section presents the correlation between country and the solution can be useful in determining national differences in activities. Table 12 presents the differences, highlighting a few main findings in orange. These include:

- ▶ Production changes form the dominant type of solution for most countries (see case studies 4, 5, 7, 8 and 9)
- ▶ Sweden shows a balanced approach to the application of different types of solutions with an equal distribution between production changes, new technology solutions and value chain innovations (see case study 9)
- ▶ The Czech Republic and Ireland favour new technology solutions as their prioritised solution type

Table 12: Correlation between country and the type of solution that is applied in the OG

	Production changes	Value Chain innovations	New technology solutions	Other	Total
Austria	8	1	3		12
Belgium	5	3	1	1	10
Czech Republic	2	1	6		9
Finland	1	2	2		5
France	65	19	20	1	105
Germany	60	27	16	4	107
Ireland	5	2	6		13
Italy	41	32	8	9	90
Lithuania	3		1	1	5
Portugal	55	22	7	1	85
Spain	37	12	9		58
Sweden	10	11	10		31
The Netherlands	27	7	11		45
United Kingdom	7	5	5		17
<b>Total</b>	<b>326</b>	<b>144</b>	<b>105</b>	<b>17</b>	<b>592</b>

### 3/ Survey analysis

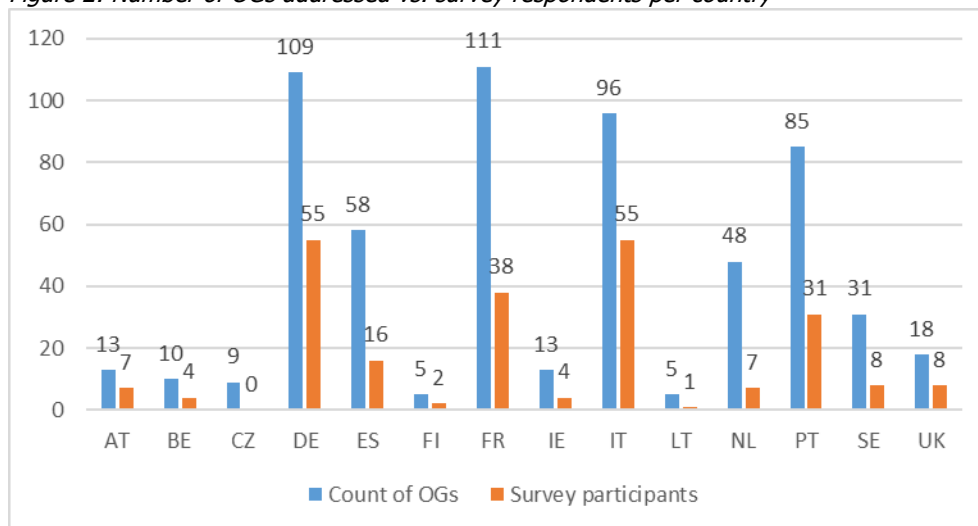
The survey was developed in English in consultation with the EIP Service Point and DG AGRI, and translated into Spanish, Italian, French and German. It was launched in June 2018 by the Service Point through Google Forms to the whole database of 611 OGs in 14 Member States. It ran for six weeks until half July 2018.

In this section we present the results of the survey responses by describing a number of OG characteristics and providing its analytical findings.

#### 3.1 Response and OG characteristics

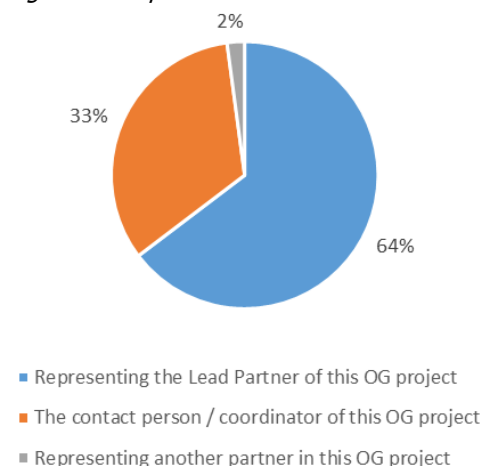
**236 OGs responded to the survey, leading to a response rate of 39%.** This certainly allows for a thorough analysis of the results. Figure 2 below shows the distribution per country of all OGs vs the responding OGs. France (111 OGs), Germany (109 OGs) and Italy (96 OGs) have the highest number of funded Operational Groups. This corresponds also to the survey response rate, which is higher in countries with more OGs. The same counts for the Portuguese OG. Only the response of the Spanish OGs lags somewhat behind, with 16 of 60 OGs responding. We did not receive any response from Czech OGs.

Figure 2: Number of OGs addressed vs. survey respondents per country



When it comes to participant's characteristics, we see that the great majority of survey respondents (64%) represented the Lead Partner, which also act as the contact person of the OG. This was followed by 33% representing the Contact Person/Coordinator, which is different from the lead partner, and 2% representing another partner of the OG.

Figure 3: Respondent's Characteristics



Around 77% of the OG responding the survey started in 2016 (37%) and 2017 (40%). Only 11% OGs started in 2015; while 13% have done so in 2018. When we compare this to the overall number of supported OGs, we see that the share that started in 2016 and 2017 is just as big as for the survey. However, a larger share has started in in 2015 (17%), and smaller share in 2018 (6%). The survey therefore has a slight bias to the more recent OGs in the database. In fact, 95% of respondents stated that their project was still on-going.

On the other hand, the available database for the survey contained the ongoing OGs up to the first quarter of 2018, and the survey was thus not sent to many of the OGs that started later that year.

Figure 4: Starting year of OG survey respondents

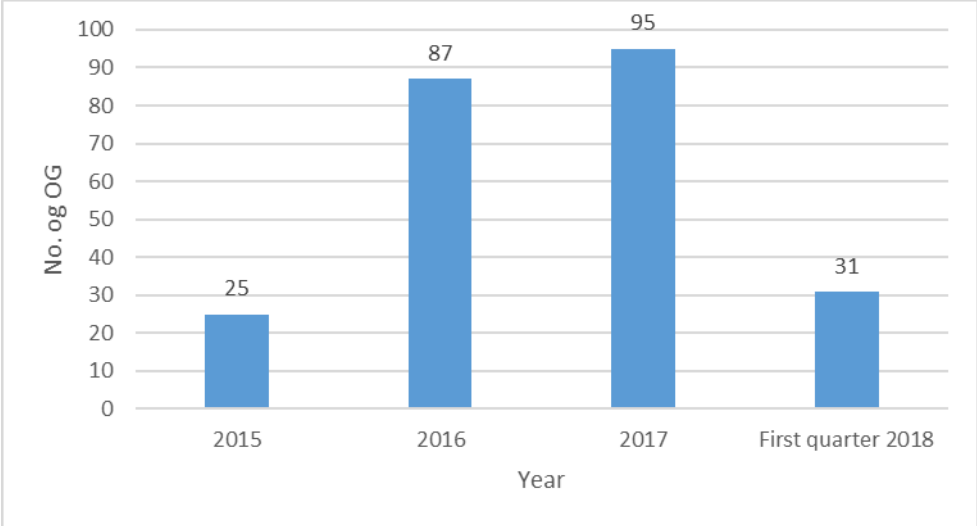
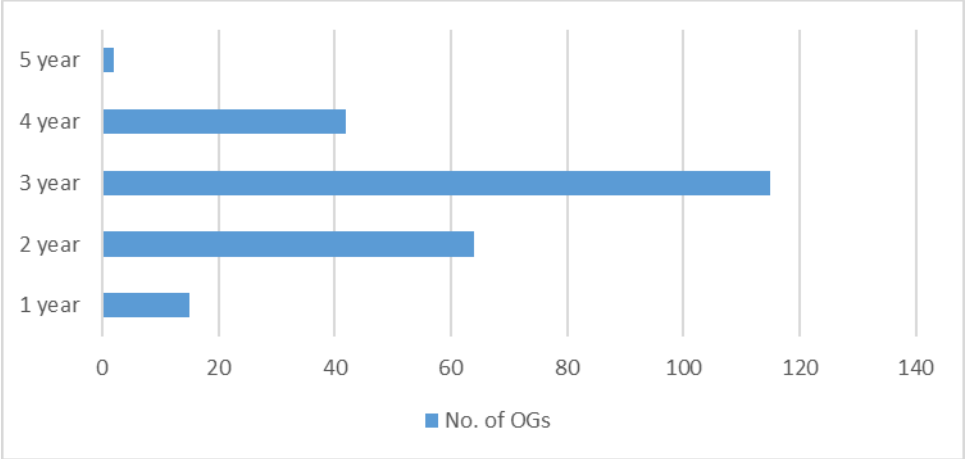


Figure 5 below shows that **almost half of the responding OG projects was or is running for a period of three years** (115 or 48% of the respondents). For 27% of respondents the OG duration is two years, followed by 18% for whom the OG project lasted or will last four years. About 6% of OGs runs for only one year (15), and only two OGs have a project life of five years.

Figure 5: Duration of OGs projects in years



### 3.2 Survey results

This section describes and analyses the results of the survey responses by the OGs on the following topics

- ▶ The partnership structure and division of tasks
- ▶ Preparation and set-up of the project
- ▶ Collaboration with other actors and projects

- ▶ Outcomes of the project and their dissemination
- ▶ Support for the OG by supporting actors (NRN, Managing Authority, Innovation Support Services, EIP Agri Service Point
- ▶ Follow-up of the OG project

### 3.2.1 Partnership

Concerning the establishment and composition of the partnership, an interesting mixed picture emerges. Although a total of 75% OG projects include partners that had already previously cooperated, only about one fifth (22%) of the partnerships appear exact continuations from previous projects. Although only 5% of responding OGs consist of organisations/experts all collaborating for the first time, it thus appears that **78% are newly formed partnerships specifically for the OG project**. This indicates that the new EIP OG AGRI framework did succeed in fostering collaborations between new combinations of actors.

Figure 7 shows that the **great majority of respondents are either satisfied or very satisfied with the partnership structure, available expertise and interaction within their OG partnership**. On average only 3-5% of respondents were either dissatisfied or very dissatisfied.

Figure 6: OGs Partnership Structure

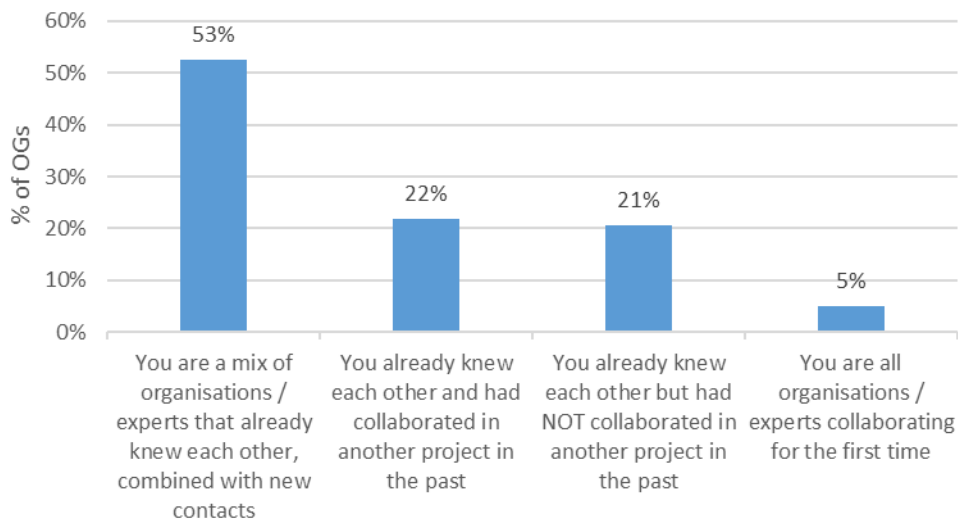


Figure 7: Satisfaction with the structure, expertise and interaction in the OG Partnership (satisfied/very satisfied)

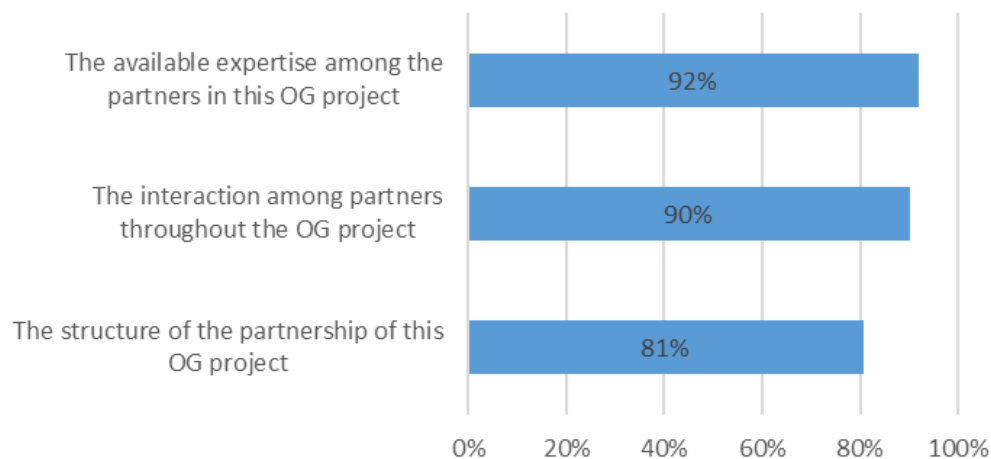


Figure 8 presents a good overview of type of organisations involved in OG projects, with different colours showing the number of the concerned partner type in the consortium. The light blue colour shows the absence of a partner type. The table below of the figure shows the share of OGs that include that specific number of that specific type

of partner in their project. E.g. 10% of the OGs include five farmers/farmer organisation in their partnership; 20% even more than 5.

**The great majority of surveyed OGs (92%) have at least one farmer or representative association present in their consortium**, and 20% of them have more than five partners in this category. Almost all OGs thus have direct involvement of farmers, as is expected as first target group of all OGs, and there appear no substantial issues with including them as partners.

Further analysis, supported by the case studies, shows that farmers are in many cases involved in the projects as stakeholders, collaborating with the project even if they are not formally members of the partnership (e.g. in testing/ demonstration activities, etc.). This may be the reason behind the (small) share of OGs without farmers as formal member (8%).

Further, we see that **more than 75% of OG have at least one researcher in the partnership, and around half of them include businesses/SMEs**. Around 40% have advisers and/or public actors on board. This shows that the OGs work as foreseen by the EIP AGRI, connecting agro-rural practice with relevant research and technical and/or commercial expertise in a variety of partnership compositions.

The fact that close to 25% of OGs do not include research partners, and a substantial number indicate they include at least one education partner (27%), NGO (12%) and/or other types of partners (23%) further points to the diversity of the cooperation, also indicating the various ways OGs are working practical solutions for concrete challenges in farming practice.

Figure 8: Type and number of formal partners in OGs

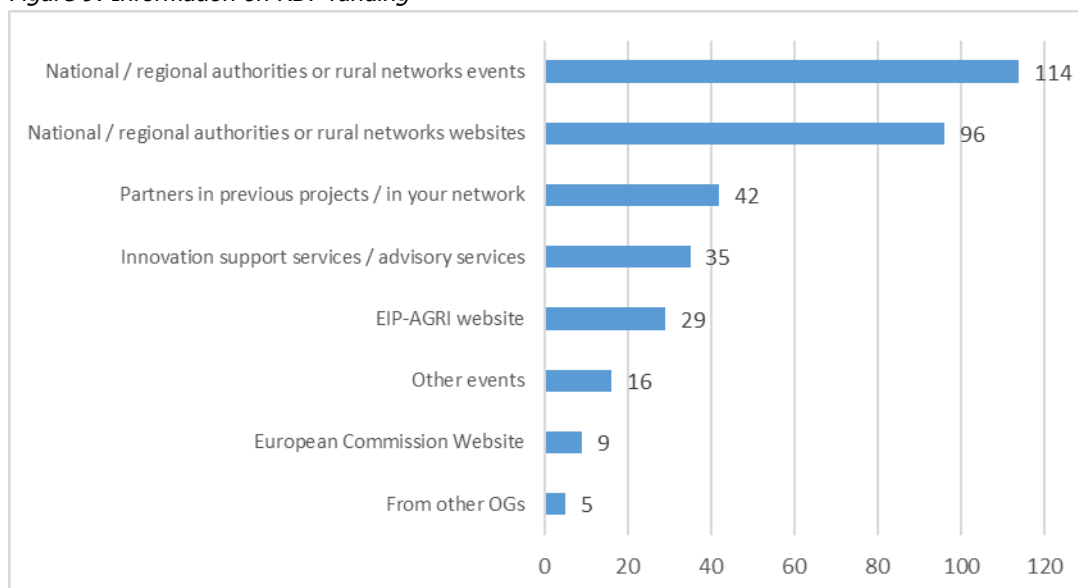


3.2.2 Preparation phase

Figure 9 below provides an overview of main information channels used to learn about OG funding opportunities. Mostly, OG partners become aware about RDP funding opportunities through websites and events of national/regional authorities or rural networks. Furthermore, the cases studies show that, a pro-active role and attitude of these authorities appears absolutely key for organisations applying for the RDP funding, to help them responding to the calls in the right way, preparing the application both in terms of content and finances.



Figure 9: Information on RDP funding



The main reasons to initiate an OG appears **the improvement of current practices and methods and dealing with practical problems, as well as connecting research and farming and innovation**. Cross-sectoral cooperation and network expansion are less relevant as main reason for starting an OG and are probably more a means than an aim for the projects (Figure 10).

Figure 10: Main reasons behind the start of the OG

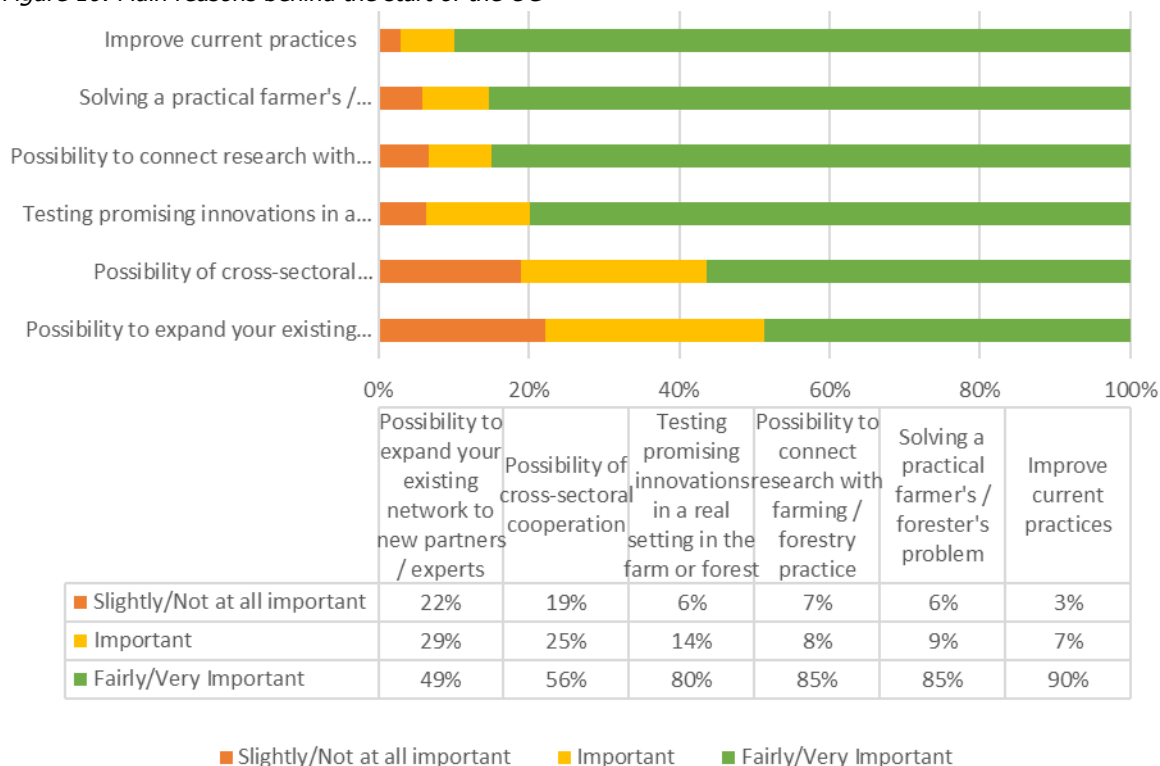


Figure 11 shows that OG partners are aware of experts in the fields they operate. **The great majority of OGs found no difficulty in identifying best partners/experts**. Moreover, 73% of surveyed OGs found it was easy to identify the precise problem or opportunity to tackle with the RDP funding. However, not all surveyed OGs found it easy to set up a partnership structure: the process was rated difficult for 21% of respondents. Building trust between the partners was rated not too difficult: easy or very easy in 65% of the cases.

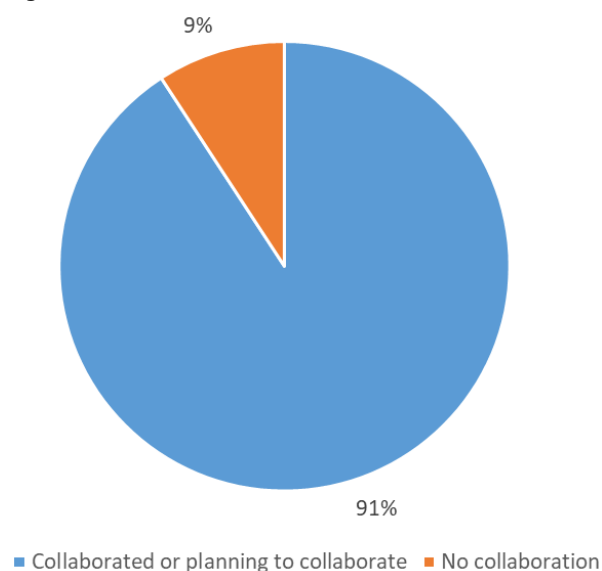
Figure 11: How easy / difficult were the following steps in the process of preparing this OG project application?

	1= very difficult	2 = difficult	3 = neutral	4 = easy	5 = very easy
Defining the precise problem or opportunity to be tackled by the project	0%	8%	19%	52%	21%
Identifying the best partners / experts	0%	9%	17%	61%	13%
Setting up the partnership structure (e.g.: defining the cooperation format, agreeing on division of tasks and sharing of responsibilities, etc.)	3%	18%	30%	44%	6%
Building trust between the partners	0%	10%	25%	52%	13%

### 3.2.3 Collaboration

Working in OGs seems to incentivise collaboration in general, not only within the OG. **The great majority of OGs (91%) are either collaborating or are planning to collaborate with other entities<sup>17</sup> outside of the project partnership** (Figure 12). Only 22 respondents (9%) did not indicate any plan to collaborate outside the partnership. The main reason why these OGs do not collaborate with other entities is that they could not identify any relevant organisation / project.

Figure 12: OGs' collaboration with other entities



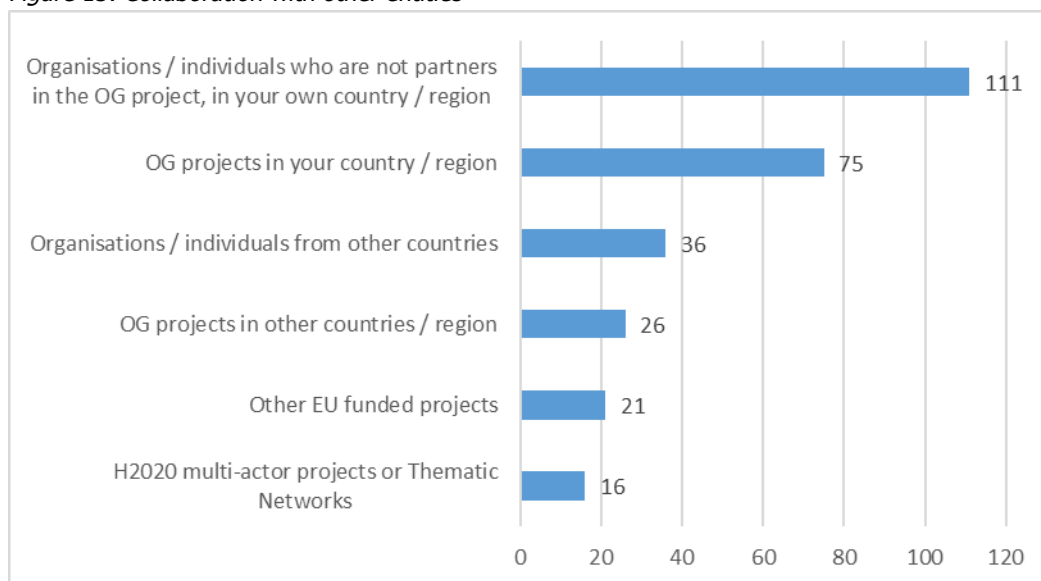
Currently, OG projects still mostly collaborate with individuals / organisations or other OG projects within their own region / country (see Figure 13). Although many OGs did account for collaboration as a separate activity in their budgets, already **62 OGs collaborated with entities or OGs from other countries (around 26%)**, indicating some exchange or flow of information beyond the regional/local OG.

Furthermore, 34 of circa 14% OGs developed collaboration with H2020 projects (16) or other EU funded projects (21), with three projects doing both. Research institutes are leading 11 of these projects, and 12 others have either a farmers/farmers' representation or a business as lead partner. The rest is spread over advisors, public bodies and NGOs. Although it might take more time to link up to such projects than to develop relations with individual organisations, nationally or internationally, the OG framework does apparently provide access to other EU projects for certain partnerships.

Confirmed by the cases, these findings show the **clear potential OGs have to connect to other relevant initiatives and actors**, and also indicate the apparent willingness of the partnerships to explore these possibilities.

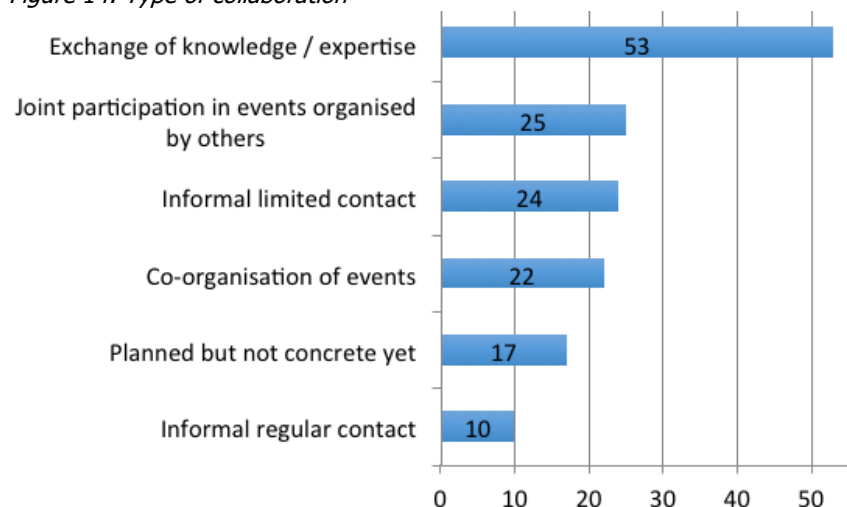
<sup>17</sup> Organisations or individuals who are not formal partners in the OG project.

Figure 13: Collaboration with other entities



Only a limited number of collaborating OGs indicated the type of collaboration in the survey, so the picture for this aspect is not complete. However, it does become clear that the intensity of the cooperation mainly remains at the level of exchange of knowledge/expertise (Figure 14). A substantial number also contributed to or has co-organised specific events. 17 OGs indicated that they plan to collaborate with other entities in the future, but that this is not concrete yet.

Figure 14: Type of collaboration

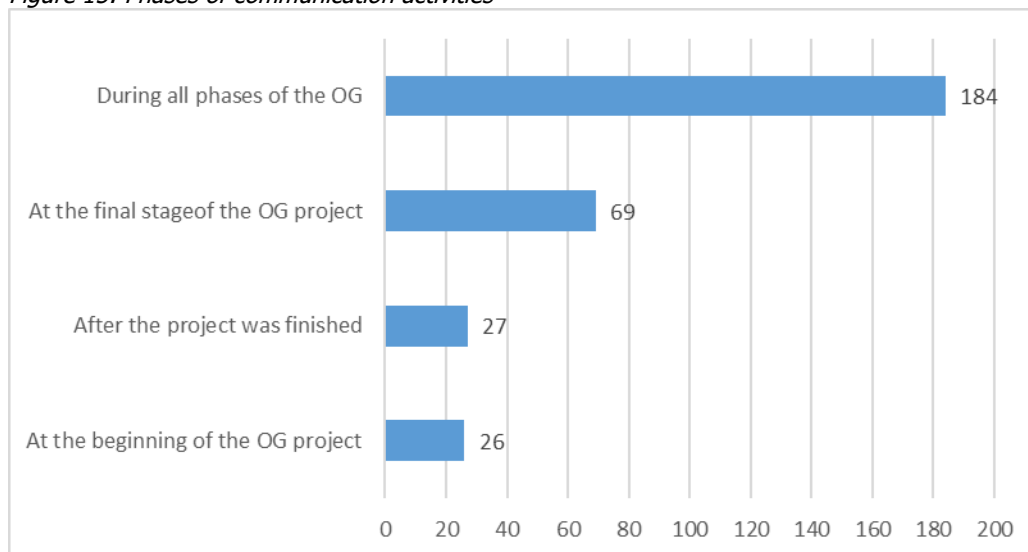


### 3.2.4 Outcomes & results and their dissemination

Given that the majority of projects are on-going, in general it is too early to tell, to what extent the OGs have reached their objectives. However, 22 participants answered a question on this item, out of which 17 stated that their OG project had fully reached their objectives and five stated that they had partially reached their objectives. Similarly, it is very early to determine whether the outcomes of OG projects are taken up by farmers/foresters in their practices on a large scale.

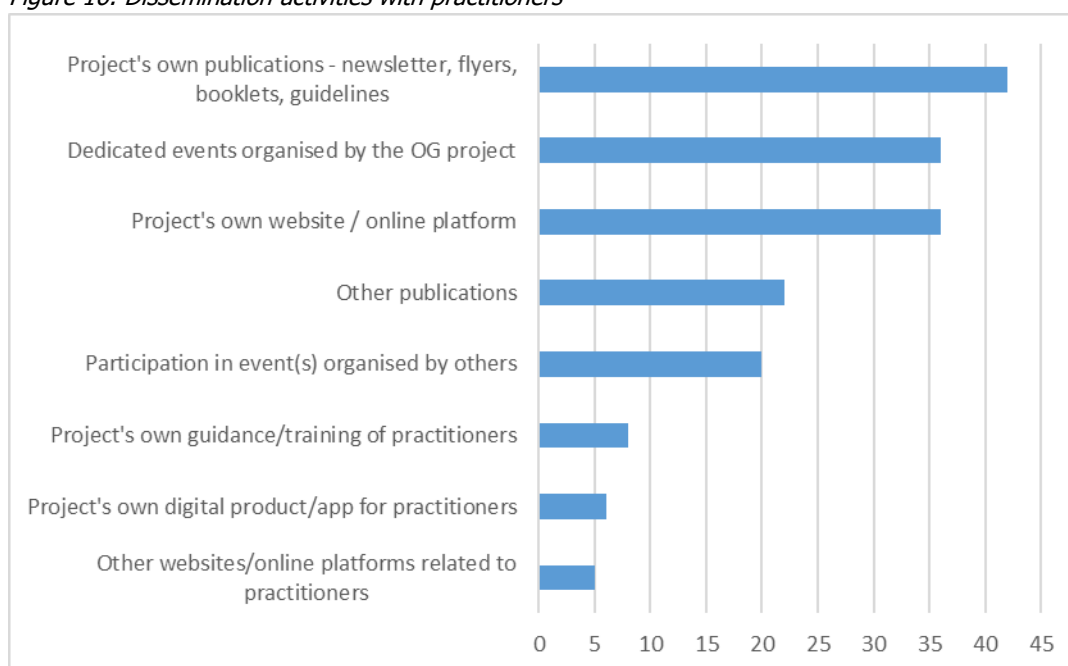
However, dissemination efforts are high. **Most OGs devote attention and resources to communicate their project activities during all phases of the project** (see Figure 15). Furthermore, Figure 16 shows that OG use numerous ways to disseminate project activities and results with practitioners, mainly through project's publications, events or website.

Figure 15: Phases of communication activities



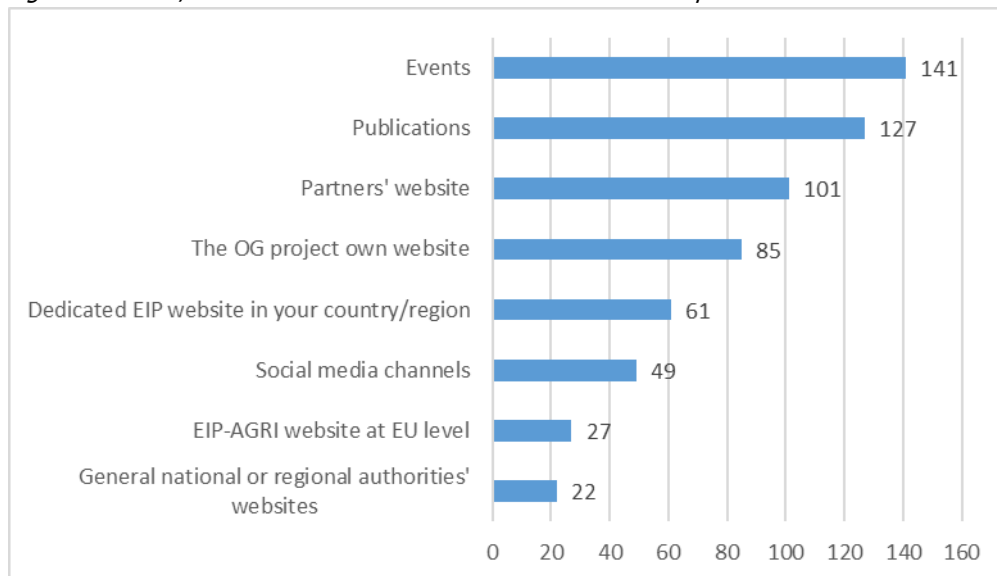
The cases confirm that the dissemination activities are in first instance aimed at the direct target group of stakeholders and practitioners formally or informally involved with the project, with them aim making the project’s outcomes available and usable for the local farmer’s community. Some of the interviewed OGs do express the ambition to expand the dissemination of their outcomes beyond this local community afterwards.

Figure 16: Dissemination activities with practitioners



When it comes to reaching the general public, OGs mostly make use of events, publications and their own or partner’s websites (see Figure 17). 25% of OGs make use of a dedicated EIP-AGRI website in their country or region and 49 OGs (20%) make use of social media. Besides publishing practice abstracts on the EIP website, around 10% of OGs make use of the further possibilities of the EU EIP-AGRI website or of national/regional authorities to disseminate information to a broad public beyond the project’s local scope, including non-farmers.

Figure 17: Tools/channels used for dissemination towards broad public



### 3.2.5 Support

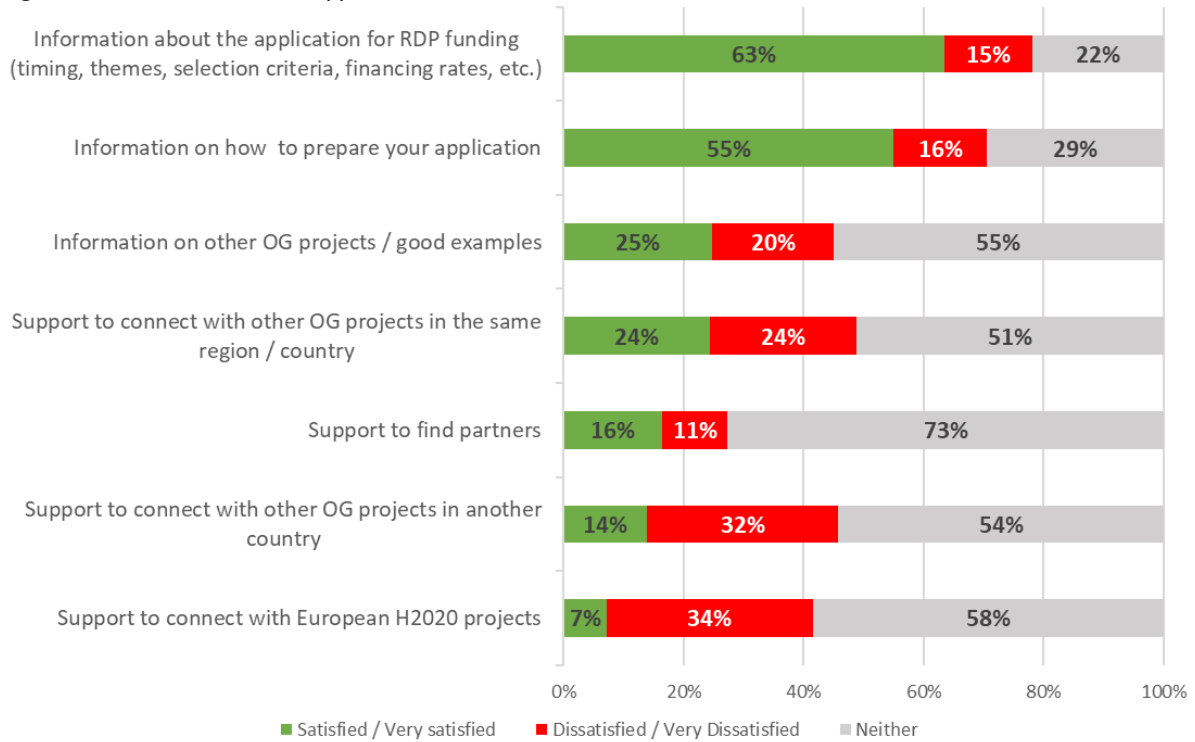
Operational Groups receive different type of support from their national or regional authorities, rural networks, innovation support services and/or advisory services. Figure 18 provides an overview of type of support received as rated by the survey participants.

**Around 63% of respondents were either satisfied or very satisfied with the information received about the application process and information on how to prepare the application (55%).** However, one in three OGs was dissatisfied with the support received in order to connect with both other OGs and other European projects in other countries during the running of the OG project.

For the latter aspects, the high rates of 'neither' in the responses for the different options are striking. This implies that either respondents did not have strong opinion on the support received, or that they did not need or want support for these aspects. The case studies confirm that the collaboration with actors outside of the OGs mainly emerged from existing contacts of the partners. OGs do not often pro-actively seek support from regional authorities or bodies to specifically link up to other projects and/or organisation, particularly in other countries.

The same counts for the support to find partners and build up the partnership, as the OGs largely are composed of a limited number of core partners that already know each other, complemented with relevant other organisations from their own network.

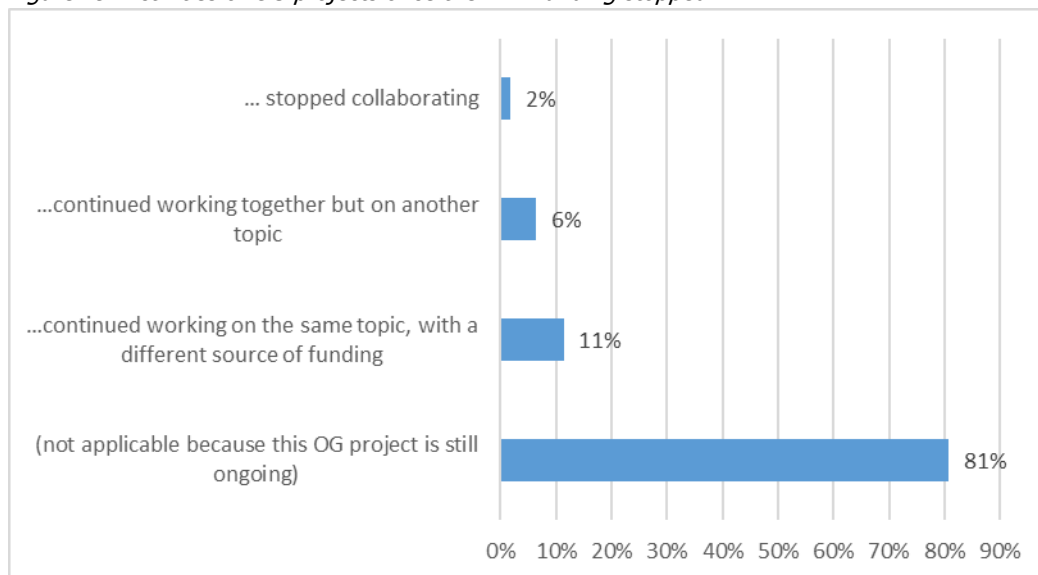
Figure 18: Satisfaction with Support received



### 3.2.6 Follow-up of the OG project

The great majority of surveyed OGs are still on-going and therefore it is difficult to assess if they will continue to collaborate and how they will do so once the RDP funding ends. However, Figure 19 shows that 17% of concluded OGs continued collaborating either on the same topic with another type of financial support or on a new topic. **Only 2% of all surveyed OGs (4 OGs) stated that they stopped collaborating once the RDP funding was over.**

Figure 19: Activities of OG projects once the RDP funding stopped



Overall, **the great majority of OGs (91%) would recommend other actors/organisations to become involved in an OG project.** In the opinion of 18 respondents the administrative efforts in setting up and running an OG outweighed potential results they could achieve thanks to the EU OG funding. Remarkably, seven of these 18 are from Germany (of 55 respondents, four from Sweden (of eight respondents).

Other reasons for not recommending setting-up an OG project included:

- ▶ Time consuming application process
- ▶ Complicated and slow payment process / financial statements leading to cash flow problems
- ▶ High bureaucratic effort for practitioner organisations and farmers

It must be noted that remarks on bureaucracy, administrative burdens and financing procedures were also given by OGs who do recommend this funding. The main points of attention extracted from the survey's answers, provided in writing by more than 40 participants, are:

1. **Simplification of the application process:** simplification of the application process and reporting is seen as important factor to attract a higher participation of farmers in the OG.
2. **Bureaucracy for administrative procedures:** documentation requirement is considered high, especially for small-sized partners and farmers.
3. **Reporting of expenses to include farmers:** some OGs see it important to make it easier for farmers participating as partners to report their work and time dedicated to OG as agricultural entrepreneurs.
4. **Including budget for general expenses and indirect costs:** Allow all partners to report a percentage of general expenses in order to allow greater partnership participation. More indirect project costs (e.g. administration, overhead costs) should also be included in eligible costs.
5. **Pre-financing for OGs:** budget approval is considered too lengthy and some OGs report having to take a loan in order to finalise project activities. A pre-financing mechanism could allow OGs to focus on the project, without being financially constrained. Speeding up the payment procedure is also considered important.
6. **Long-term financing:** opportunities to continue working on the topic beyond the OG financing is considered important. A longer-term perspective of the funding was evoked.

## 4/ Case studies

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### 4.1 Approach for the selection of the Case Studies

As a last step of this project, 9 case studies were carried out, covering the key types of OGs and activities they carry out as identified through the clustering analysis. The following section describes the criteria/approach taken to select the 9 case OGs:

- ▶ **Survey completed by OG:** the first filter criterion is the survey. Only OGs that completed the survey are considered as cases
- ▶ **Country of the OG:** The country of the OG serves as a key selection criterion in order to sufficiently cover the distribution of OGs throughout Europe. We selected a maximum of one OG per country, also taking into account the country and language expertise of the team.
- ▶ **Correlation between challenge and solution:** we assured a representative distribution of the cases over the different challenges and type of solutions the OGs are working on, according to our clustering exercise.
- ▶ **Sector and type of agricultural activity:** we assured a representative distribution of the cases over the different sectors and type of activity as responded by them in the survey regarding the clustering exercise

Further, the case selection takes the responses on the following questions/aspects from the survey into account, which were discussed in depth during the interviews with the lead partners.

- ▶ **Partnership: type and number of formal partners in OGs**

The cases include OGs that have:

- Farmers & researchers in the partnership
- Lead partner: farmers/foresters or research institutes as lead partners
- A lot of partners vs. less partners
- ▶ **Preparation Phase**  
The cases include OGs that found it either easy/very easy or difficult/very difficult to set up the partnership structure
- ▶ **Lifetime/Lifecycle of project**  
The cases include both 'older' and 'newer' OGs, and one that is already finished
- ▶ **Collaboration with other entities**  
The cases include OGs that have
  - Collaboration with projects/entities in other regions or MS
  - Collaboration with other EU-funded and H2020 projects
- ▶ **Support**  
The cases include OGs that are either (very) satisfied or (very) unsatisfied with the support to connect with other OG projects in the same region / in other countries or to H2020 projects
- ▶ **Outcomes and results and its dissemination**  
The cases include OGs that have communication and dissemination activities through all project phases, also towards practitioners

### 4.2 Case study overview

Based on this approach, the final case study selection includes the following Operational Groups (see table below).



Table 13: Overview of the OGs selected for the case studies

	<b>Title</b>	<b>Country</b>
1	Plant for a customer	Belgium
2	BRIDE Biodiversity Regeneration In a Dairying Environment	Ireland
3	Vineyard 2.0	France
4	CompetitiveSouthBerries - Competitive and sustainable small fruits: innovative cultural techniques for the extension of the production season	Portugal
5	Working group extended suckling period	Austria
6	Control of additional water use in crop production - situational, site-specific and automated	Germany
7	GOFOPE15: Operational Group for the Transition to Organic Farming on Agricultural and Livestock Farms	Spain
8	Optimization of conservation agricultural systems through better management of cultivation techniques	Italy
9	Infofusion Fusarium	Sweden

Each case study was carried out as an in-depth interview with the OG project leader. A brief report on the following aspects in each case study report is elaborated below.

- ▶ Project & main features from the cluster analysis and survey
- ▶ Main activities and expected outcomes
- ▶ Structure of the project / partnership
- ▶ Collaboration with other projects, initiatives or actors
- ▶ Outcomes and dissemination
- ▶ Support obtained throughout the proposal preparation and project.

## 5/ Case Study Reports

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### 5.1 Case study 1: Plant for a customer (BE)

Interviewee: Dany Bylemans, Proefcentrum Fruitteelt (PCFruit), [dany.bylemans@pcfruit.be](mailto:dany.bylemans@pcfruit.be)

Interviewer: Steven Knotter

Language for case study interview: Dutch

Title: **Plant for a customer** (*"Plant voor een klant"*)

Timing: **2017-2019**

Country: **Belgium**

Product / Sector: **Growing of pome fruits and stone fruits**

Type agricultural or forestry activity or approach: **Conventional farming**

Main challenge / opportunity faced: **Socio-economic sustainability/competitiveness**

Type of Solution: **Value Chain innovations: New product development / introduction**

Lead Partner Type: **Research institute**

Number of partners: **16** (Farmer/forester or organisation/association of farmers/foresters; Advisor; Researcher / Research Institute; Business / SME; Public body; NGO)

#### **Project description EIP-AGRI Website:**

"The objective can be summarized in one sentence: increasing the profitability of the fruit farm by planting market-oriented varieties. Hence the title of the operational group: "Plant for a customer". The aim is to critically evaluate the process of renewal of varieties and to adjust it so that promising varieties can be planted earlier and better supported. This will reduce the chance of failure of varieties. The operational group wants to develop a process of renewal of varieties that is applicable to all types of fruit."

#### **Main activities and expected outcomes**

The core and main concrete outcome of the project is the development of an integrated ex ante technical and commercial assessment tool for the introduction of different fruit plant varieties. This tool will help fruit growers to evaluate which new varieties could be introduced that will strengthen their competitiveness and are technically feasible. The tool allows establishing a commercial threshold for different niche markets for specific varieties. In that way, the tool will clarify the choices that go with the introduction of new plant varieties, based on evidence on the technical and commercial merit of the specific variety.

The OG fits perfectly in the Flemish ambition and strategy to strengthen the fruit sector through the creation of new value chain with more added value.

The development of the tool is done in close cooperation with the local community of fruit growers, so that they have full insight into its structure and methodology, even though they will require external assistance to fully perform the evaluation.

#### **Structure of the project / partnership**

The partnership and project originate from a broad discussion animated by the *Proefcentrum Fruitteelt* (PCFruit) to help growers in dealing with the crisis in the sector, largely caused by the economic sanctions by Russia on European fruit, the biggest export market for Flemish apples and pears. The debate was organized as a forum of about 80 growers and 20 other stakeholders (the auction, ad supply businesses). The debate showed a great need for new fruit varieties generating more added value for the sector, but also that it is difficult for growers to objectively choose the best options.

The partnership is very broad with 16 partners, including many practitioners. Many of the actors know each other very well from previous cooperation and are complemented with additional partners with specific expertise.

The lead partner PCFruit is an applied research and test centre, specifically oriented at the fruit sector in Flanders (concentrated in the provinces Limburg and Vlaams-Brabant).

The project has a dynamic organisation and set-up, involving various types of growers in different ways. A number of them are partners in the project, while a larger group participates as a second circle of stakeholders around the project. These growers are involved in testing the tool, and regularly providing feedback and advice on its development.

Advisors serve as bridge between research partners and all growers involved, and guide and assist the tools testing.

Also a few cooperatives (who finance regular research on new varieties), horticulture firms and the Flemish farmers association are involved as partners.

The decision on whom exactly to include in the partnership was a difficult one. Specifically, to what extent horticulture plant/tree growers should be included and in what roles was an issue of debate. These particular actors have large expertise, network and access in implementing new varieties, however they have their own market interests as well.

The OG offers the right setting to facilitate such discussions, and sufficient flexibility to cater for changing needs and circumstances. This allowed the inclusion of these actors in the formal partnership at a later stage of the project preparation.

The cooperation and interaction within the OG is very constructive, although differences of opinion do exist on certain issues. These arise from different visions on how to approach the issue of introducing new varieties, and whether certain niche markets should be pre-determined or the sector should focus on the broad fruit market as a whole.

The lead partner is a highly trusted actor in the sector, and is seen by growers as partly their representative, although formally it is not. Therefore, the lead partner can take on a neutral facilitating role within the OG framework, which allows for open and constructive discussions in a secure, confidential environment.

The project is set-up as a learning experience for the whole sector, with also the inclusion of perspectives and studies done for other (related) markets, in order to further professionalise the Flemish fruit sector in this domain. For this purpose, external stakeholders are consulted in the project, and there are efforts to align the process for apples /pears with the ones done for strawberries (in collaboration with *Proefcentrum Aardbei*) and stone fruit (in collaboration with the sectoral Centre of Conservation).

### **Collaboration with other projects, initiatives or actors**

Apart from the links to other related branches in the fruit sector, the OG is connected to other, regular research activities within the PCFruit itself. Specifically, the explicit link this OG project makes between the 'technical' aroma & taste development and testing for specific varieties, and the specific niche market potential of the variety is an interesting aspect in the approach that can potentially have added value in other research activities by the PCFruit. In this way, PCFruit aims to feed the lessons from the OG projects into its further activities.

Furthermore, the OG is linked to the regular research on varieties and breeding, which is financed with European funds but managed at Flemish level.

Internationally, the lead partner is involved in the European network EUFRIN and is exchanging information on variety development within this context. Moreover, the PCFruit is part of the H2020 thematic network EUFRUIT. The progress and preliminary outcomes of the OG are shared in this network, but there is no formal cooperation between the two.

Other than this, the OG did not pro-actively search for actors or projects to collaborate with, nor did the Flemish Managing Authority or the Flemish Rural Network set-up any specific tool or activity to support this. The OG would welcome a more active support in order to link up to other actors and to facilitate the successful implementation of the tool to be developed on a broader scale.

### **Outcomes and dissemination**

The development of the tool is down to the details, and the different visions about the how to approach the introduction of new varieties are being aligned in the project, leading to a few difficult choices. Although this is an

intensive, time-consuming process, the development of the tool and its application are on schedule, and will be finalized within the timeframe of the project.

External communication is not defined as a separate activity in the project, but it certainly gets substantial attention, also because the aim of the project is to implement the tool across the whole sector.

The project dissemination will primarily be done via publications and presentations for the project's own target audience, but also in events for a broader professional public, and will be part in all general communications by PCFruit to all its members and stakeholders on the development of new varieties.

Moreover, a number of growers in the project will be the first ones to apply the tool in practice, and the PCFruit will follow this closely and support the use of the tool. The results of those tests will be communicated widely, including the practical consequences of the running of the agricultural business, the additional costs of using the tool and who has to carry those. In this respect, the PCFruit will also play a role in contributing to solving practical issues.

Results will be published in professional journal/literature for fruit growers, and also broader for agriculture as a whole. But oral presentation to the professional community are considered an important means to disseminate the project as well, and the OG is constantly looking for opportunities for participation in such events.

Interest from the sector in the project is very high, and the lead partner assesses that already half of all growers in the region is aware of the project and is interested in its outcomes.

The project does not have a specific website, but it does take up sections on the website of the PCFruit itself. They will create a platform for growers which will have information on the tool and its use and will be dynamically updated. This platform will continue to function as the main dissemination channel for the tool after the runtime of the project.

### **Support**

The support for the OG from the Flemish MA or other organisations (e.g. NRN) was limited to the very early phases. The MA offered general support in the preparation of the project and in applying to the call, specifically in the connection between the research centre and the growers.

The MA in general stresses that the OGs need to be driven by the farmers/growers themselves, based on their needs. But this OG believes that growers do not have the capacity to compile and submit such an application themselves, so cooperation with an organization that is better equipped for this is necessary. In that sense, the OG framework is very interesting to bring diverse actors together and offers sufficient freedom to structure and organize it in line with their needs, either in a broad sector-wide project or more specific niche one. PCFruit is, for instance, also leading another OG with a group of bio-organic fruit growers, with entirely different focus and set-up.

There is no particular pro-active support, neither from the NRN or innovation support services in the execution of the OG project. The OG has made contact with the EIP-AGRI Service Point (SP) on its own initiative but has not actively participated in the organised meetings and not reached out to other OGs.

## 5.2 Case study 2: BRIDE Biodiversity Regeneration in a Dairying Environment (IE)

Name, organisation, email Interviewee: Donal Sheehan, Farmer, [dcsheehan@eircom.net](mailto:dcsheehan@eircom.net)

Interviewer: Daniela Kretz

Language for case study interview: English

**Title: BRIDE Biodiversity Regeneration In a Dairying Environment** ("*BRIDE Biodiversity Regeneration In a Dairying Environment*")

Country : **Ireland**

Timing: 2018-2021

Product / Sector: 01.62 **Support activities for animal production**

Type agricultural or forestry activity or approach: **Conservation agriculture**

Main challenge / opportunity faced: **Biodiversity / nature / landscape management**

Type of Solution: **Value Chain innovations: Certification, standardisation, quality assurance framework**

Lead Partner Type: **Farmer/forester or their organisation/association of farmers or foresters**

Number of partners: **13** (Farmer/forester or organisation/association of farmers/foresters; Advisor; Researcher / Research Institute; Business SME; Public body; NGO)

### **Project description EIP-AGRI Website:**

"The BRIDE project will be a results-based demonstration project that will aim to increase the quantity and quality of habitats on intensively managed farmland. It is an innovative partnership, designed to conserve, enhance and restore habitats in lowland intensive farmland. A key aspect of the project's success will be dissemination activities to improve national awareness of the options to maintain and enhance biodiversity within intensively managed farmland".

### **Main activities and expected outcomes**

The BRIDE project aims to improve biodiversity on Bride valley farms. By working together with researchers and ecologists, farmers are able to test measures to improve biodiversity on their farms. Farms that implement the measures are monitored at fixed moments (e.g. onset, mid-term, end) during the project and are rewarded according to a results-based payment. At the onset of the participation, biodiversity was measured at farm level including birds, bats, pollinators and wildflower populations, among others.

The expected outcome is that the measures that are tested on the farms will improve biodiversity, particularly an increase in the size of areas where biodiversity is managed as well as the overall biodiversity quality are targeted.

The BRIDE project targets the development of a biodiversity food label, which will be particularly relevant for the industrial stakeholders that are partners in the project.

### **Structure of the project/partnership**

The partnership began with a small group namely two farmers along with an ecologist. Given the previous engagement of the farmers in agri-environmental conferences and in local conservation projects they were able to, through their existing network, build up the partnership for this project.



**BRIDE Project**  
*Farming with Nature*

The partnership consists of a core group and a wider group, which facilitates the approach of the project. In total the partnership consists of 10 partners, the previously mentioned farmers (2), the ecologist, Teagasc (Agriculture and Food Development Authority in Ireland), Birdwatch Ireland, industry partners including a milk farmer cooperative (Glanbia) and a meat production company / factory (Kepak), as well as the Cork County Council, the National Biodiversity Data Centre and Bord Bia's Origin Green Programme.

The core working group includes the two initial farmers, the project ecologist, Birdwatch Ireland and Teagasc. This core working group steers the project, executes the majority of the conceptual work regarding the project, handles the administrative aspects and monitors the biodiversity development at the participating farms. In addition, the core group also organises meetings and engages the other OG members as well as associated farms.

In the preparation of the application for the OG project, the research partner Teagasc played a vital role, particularly based on their experience in writing proposal and similar applications. They were particularly helpful in the formulation of the challenge and approach, and phrasing this adequately. The complementarities of the partners were highlighted already at this stage – the farmers could see the practical aspects, and the researchers had the complementary expertise to write this up.

While the partners knew each other before, this is the first project in which they are collaborating. Regular meetings are vital for the collaboration within the project. The OG partners meeting twice a year, but the core group meets more frequently.

Apart from the partnership, additional farmers are also engaged as a part of the project execution to test the biodiversity solutions for farms. The project is designed such that 65 farmers that are not formal partners are involved in order to adopt and test the proposed schemes at their farms. These farmers implement the biodiversity schemes that are proposed by the core working group at their farms and receive a results-based payment as a reward for their (still pending) positive impacts on biodiversity.

### **Collaboration with other projects, initiatives or actors**

While some of the project partners have already been independently active in other EU-funded projects (i.e. farmers in LEADER projects, research partner in Horizon2020) and within other initiatives related to biodiversity in agriculture, they are not collaborating with other projects. There is no collaboration ongoing between the BRIDE project and other projects.

As regards cross-regional collaboration, the project has been in touch with German farmers that are also dealing with biodiversity in farming practices. An exchange of practices is planned, and site visits were discussed. In addition, a farmer from Northern Ireland would like to come visit the BRIDE project. Both of these came about at the recent EIP-AGRI event at Spolletto in Italy.

### **Outcomes and dissemination**

The project has only been running for a little less than a year, so concrete project outcomes cannot yet be reported. In total, 65 farmers have become involved in the project and are adopting the proposed schemes at their farms.

Dissemination is a highly important task for the project, as there is a need to generally raise awareness for biodiversity friendly farming. The key issue will be to ensure that the message comes across clearly. There is a need to engage the intensive farmers because they have the biggest impact on biodiversity. The key to involving these farmers will be in helping them to understand the future wishes of consumers, namely agricultural products that are not harmful but produced in harmony with the surrounding environment.

As a part of the outcome the projects will present a do's and don'ts list for farmers interested in biodiversity-friendly farming, in the interest of knowledge transfer and dissemination.

Meetings are highlighted as being of key importance for the dissemination of the practices amongst farmers. Farmers really appreciate hearing the views of other farmers. The OG organises awareness raising meetings as well as knowledge transfer meetings. Awareness raising meetings target spreading information about the project and generally raise awareness for biodiversity conservation as an issue on farms. Knowledge transfer meetings enable farmers implementing biodiversity-friendly farming practices to share their experiences with other farmers in order to disseminate identified best practices.

When the OG project kicked-off a press release was prepared by the research partner, Teagasc. This was supported by a flyer that was developed by the NRN Ireland. The press release was shared with local radio stations, the farming press and farming websites, where the project has also been presented. In addition, the project has a website, logo and Facebook page. The by far most impactful media coverage was the recent appearance in 'Ear to the Ground' a popular farming and rural affairs television show by RTÉ (Raidió Teilifís Éireann), which is Ireland's national public-service media organisation. Since the broadcast many like-minded farmers, also from the BRIDE valley have been in contact with the project to express their interest and enthusiasm for the work that is planned there. The Project has since been covered in another Irish television programme "Ecoeye" a weekly environmental affairs programme. It also featured on the English farming radio show "On Your Farm" on BBC Radio 4 titled "Turning Ireland Green".

The two farmers in the core working group play a key role in the dissemination activities, sharing and disseminating the press release as well as the flyer to any interested parties. They regularly share information about the project with all interested parties and are regularly contacted by interested persons about the project, its aims and desired outcomes.

### **Support**

The NRN Ireland supported the project during the starting phase with dissemination as well as the preparation of a project flyer, which is very useful in engaging stakeholders, farmers and the wider public about the importance of the project.

"The OG projects are a fantastic opportunity [...] Passion is key!" – Donal Sheehan. The project enables local engagement and local solutions for these niche issues. It was highlighted that the time spent on the project is beyond that which is remunerated, and in that sense, these kinds of projects are rather targeted towards those who are willing to go beyond the remunerated time.

OGs are perceived as a useful and effective tool to promote new solutions to tackle biodiversity loss in dairy farming.

## 5.3 Case study 3: Vineyard 2.0 (FR)

Interviewee: Christophe Gaviglion, Institut Français de la Vigne et du Vin, [christophe.gaviglio@vignevin.com](mailto:christophe.gaviglio@vignevin.com)

Interviewer: Steven Knotter

Language for case study interview: French

Title: **Vineyard 2.0** (*Vignoble 2.0*)

Country: **France**

Timing: **2016-2020**

Product / Sector: **Growing of grapes**

Type agricultural or forestry activity or approach: **Organic farming**

Main challenge / opportunity faced: **Socio-economic sustainability**

Type of Solution: **New technology solutions - Digital based solution**

Lead Partner Type: **Researcher / Research Institute**

Number of partners: **8+** (Farmer/forester or organisation/association of farmers/foresters; Advisor; Researcher / Research Institute)

### **Project description EIP-AGRI Website:**

The aim of the project is to test new technologies in the vineyard to be able to identify their assets and their drawbacks, but also to facilitate their dissemination when they are relevant. This project is also about consolidating the relationships with SME providing new technologies in order to better meet the consumers' needs.

The following results are expected:

- ▶ A better use of inputs
- ▶ A better competitiveness of wine farms
- ▶ Better work conditions
- ▶ To reinforce the attractiveness of the profession

### **Main activities and expected outcomes**

The project revolves around three specific themes, directly related to specific new technologies with potential in (organic) wine growing:

- Precision farming: mapping and monitoring specific micro-data on parcels, and how to process and valorise them to be able manage plant growth and treatment on that level
- Automated or assisted-driving systems / vehicles to be used in treatment of the plants
- The use of robotics in wine growing

Depending on the maturity of the technology and specific demands by the potential users, the project will assist the growers assessing those technologies through:

1. Technical-economic **evaluation**
2. Practical **demonstration**: which advantages and consequences for production methods
3. **Valorisation** of the data generated (application of the micro-mapping)
4. Practical **implementation** and evaluation by the farmers in the Operational Group

The project is working with prototype technologies, for instance robotized weeding without herbicides, or automatic systems for very precise hand labour in wine growing. It has until now focused on the first three components listed above, and foresees to be able to enter the implementation stage towards the end of the project



The experiments performed in the project are very useful for the growers, as it provides insight into different ways new technologies can be applied in agricultural practice, and into the potential socio-economic and ecological benefits these applications can have for the growers. The aim is to demonstrate the functioning of the technologies in real-life setting, so that growers are enabled to adopt them on a larger scale.

### **Structure of the project / partnership**

The project was set-up and developed by the Institute of Winery and Wines (lead partner), building further on its own preliminary work on these technologies. The other partners are the regional Chamber of Agriculture and a processing (wine) business. The institute is an applied research centre, and the Chamber of Agriculture plays an advisory role towards many farmers.

With these three parties as core of the partnership, a number of wine growers joined the partnership to be able to perform the practical research and testing parts of the project, to tailor the development of the solutions as much as possible to their specific needs. OGs offer a suitable framework to establish such kind of cooperation with room for the practical implementation of new technologies. Most growers in the region would have substantial difficulties in submitting such a project themselves (lack of resources, lack of capacity, etc.), and need larger organizations to support them on this.

The OG project offers interesting new ways to involve the wine growers. The lead partner is continuously cooperating with growers in different types of setting, but the bottom-up character in the OG format brings a new dimension and new dynamics to the cooperation. It allowed for the involvement of more (and new) private partners, as well as the inclusion of an independent moderator to facilitate the interaction between the partners. Moreover, it provides the suitable environment for practical experimentation with new technologies and methods.

Apart from the relatively limited partnership, a larger group of about 20 growers was selected as informal stakeholders with sufficient scale to participate in the practical testing and demonstration parts of the project. This allows the project to expand its scope, without making the group of formal decision-makers in the OG too large.

Finding the right partners and the additional growers went quite smooth, as the whole sector is dealing with the same issues, and is looking for new technological solutions to improve their production methods. However, the formalisation of the exact roles and contribution of the growers in the partnership was more complex. The project is set-up as a collective learning exercise to the benefit of the whole sector. However, the informal participants in the test- and demo-activities do expect some type of direct benefit for themselves as well, even though those activities do not directly generate any specific products/procedures that could be permanently adopted by those participants. The advantage of participating is the direct and up-close insight it provides in the possibilities and practicalities of using the different technologies.

The partnership is now functioning quite well, as everyone has gotten to know each other. The main difficulty is to keep the growers actively involved throughout the 4-year project. This is a challenge because the growers have a different time horizon than the researchers, their problems are urgent, and they want to see practical results quickly. Moreover, they do not want to be too involved in the operational coordination and in meetings. This makes it quite a complex process, but it is necessary in such long term development projects, certainly when they involve practical testing and implementation, as in this case.

### **Collaboration with other projects, initiatives or actors**

The OG is aware of the other OGs in the region through the regional Managing Authority (MA), but does not have any cooperation with them. The topics of those OGs are unrelated, so are not very relevant to each other.

Partners in the OG are first and foremost focused on performing the tasks and achieving the results that have been foreseen. Further outreach to related OGs in or outside of France is also not done, and the OG also does not feel actively stimulated to do this by the MA or the National Rural Network (NRN). In the experience of this OG, regional supporting actors could play a stronger role in this, as the OG partners are not aware of such contacts and networks. Also in light of further dissemination of the project results, this can be important.

There are contacts with a company in robotics interested in setting up a H2020 project, building further on the OGs results. This is an interesting prospect, but not concrete yet. This specific project would require a more industrial partnership rather than agricultural partners focus on the technological development of robotics solutions. Therefore, the OG core partners are not sure this would be the best way forward for them as representatives of the regional farmer community.

## **Outcomes and dissemination**

Dissemination is done throughout the project through the periodical professional and technical publications, with updates on the technology development, findings from the testing, and practical guidelines on how to use the technologies. The lead partner presents these updates on its own website, with technical and methodological fiches.

Once the project is finished, a consolidated synthesis of the results will be published in professional literature, and presented at congresses and in international networks.

Moreover, the results will be presented at several public event, on so-called technical days with small-scale demonstrations at companies, which are open to larger audiences. The project has already started these activities, but they will be extended.

The lead partner also organises an annual regional conference, which will this year dedicate substantial attention to the OG project.

The regional MA has its own communication channels, but their target audience is too general and broad considering the results of this project, so little support can be provided by them.

## **Support**

The support from the MA was mainly related to administrative aspects when responding to the call and preparing the project application. The timing of the call was not optimal, as it came right after a shift in competencies and merger of regions in France, when this particular RDP came under the management of a new regional authority located in Montpellier, much more distant than the former administration in Toulouse. This led to some uncertainties and a reduction of the support that was previously provided.

In general, there is little external support in the actual execution of the OG, in linking it up to other project and/or in its dissemination. The project partners are dealing by themselves with aspects of cooperation and dissemination, but they do not have much room nor time for doing this within the framework of the project. The OG does not have any direct contacts with the NRN and also does not have a clear idea of the added value the NRNs support could have for the project.

There are some contacts with the EIP AGRI Service Point, and the OG is generally satisfied with the information it receives on events, development in EU rural development, etc.). However the OG does not actively participate in the events organised by the EI-AGRI Network, although it would like to have more resources for this.

## 5.4 Case study 4: CompetitiveSouthBerries (PT)

Interviewee: Pedro Oliveira, INSTITUTO NACIONAL DE INVESTIGAÇÃO AGRÁRIA E VETERINÁRIA IP, [pedro.oliveira@iniav.pt](mailto:pedro.oliveira@iniav.pt)

Interviewer: Daniela Kretz

Language for case study interview: English

**Title: CompetitiveSouthBerries - Competitive and sustainable small fruits: innovative cultural techniques for the extension of the production season** (*"CompetitiveSouthBerries - Pequenos frutos competitivos e sustentáveis: técnicas culturais inovadoras para o alargamento da época de produção"*)

Country : **Portugal**

Timing: **2017-2020**

Product / Sector: 01.25 **Growing of other tree and bush fruits and nuts**

Type agricultural or forestry activity or approach: **Integrated pest management/reduced inputs**

Main challenge / opportunity faced: **Socio-economic sustainability/competitiveness: Cost reduction**

Type of Solution: **Production changes: Development of a new production practice or methods (e.g. crop rotation, breeding, slaughter, castration methods, etc.)**

Lead Partner Type: **Public body**

Number of partners: **6** (Farmer/forester or organisation/association of farmers/foresters; Public body)

### **Project description EIP-AGRI Website:**

To innovate / develop sustainable and competitive production technologies with a view to extending the production time and consequently to take advantage of market opportunities, particularly of export, due to the valorisation it gives to small fruits out of season.

### **Main activities and expected outcomes**

The aim of the OG is to test various solutions for the prolongation of the harvest in the south of Portugal as pertains to various species of berries, including raspberries, blackberries, strawberries and blueberries. A certain component is also targeted towards new crops as new opportunities, specifically endemic berry species from Spain and Portugal that have received little attention thus far.

The overall objective will be to take advantage of the geographic location in the south, and to develop innovative production technology for different berry crops, where these techniques will help to expand the season for the fruits at competitive prices.

The project innovates towards a later harvest, relying on the expertise and indications of the growers in their specific crops. Each grower is recognised as having expertise in a specific berry, hence each berry is primarily tackled by one grower. The first year of the project established the pilot fields. In the second-year various innovative techniques are tested on the pilot fields. In the third year, the best innovation from the 2<sup>nd</sup> year is selected and piloted in order to confirm the result.

As the project is ongoing, the expected outcomes are still pending. Each berry faces specific conditions and thus has a different expected outcome. For the raspberry, the target is the optimization of the long-cane production system for three crops a year. For the blackberry, long-canines with a very early harvest and high yields are targeted. Strawberries will draw upon new substrate technologies with tray and motte plants. Blueberries, which are slower growing, will deal with growth cycle manipulation for an early and late fruit harvest. In the case of the endemic

species it is expected that the project will establish genotypes of interest based on fruit quality and yield for the export market.<sup>18</sup>

### **Structure of the project/partnership**

The OG has a lead partner which is the national institute for agronomic and veterinary research from the ministry of agriculture (INIAV, I.P. – Instituto Nacional de Investigação Agrária e Veterinária). This partner was also the one who initiated the project. Other partners include an agricultural association (COTHN - Centro Operativo e Tecnológico Hortofrutícola Nacional) as well as agri-enterprises, namely four growers (Beira Baga - Sociedade de Produção e Comercialização Pequenos Frutos, Lda; FirstFruit - Produção e Comercialização, Unipessoal, Lda.; Campina Produção Agrícola, Lda.; Mirtisul - Produção de mirtilos, Lda.).<sup>19</sup>

The partners are highly complementary in that the farmers focus on the farming activities and the lead partner plays both an advisory and research role. This is an advantage to the growers because they can apply the solutions directly at their farm. Due to the structure of the work, each grower covers the crop with which they have the most expertise. The association focusses on events and helps to organise the open days and establish links with other growers.

The partnership benefits from an active network and a well-connected lead partner. INIAV has known the growers for a long time. While they had not worked on projects before,<sup>20</sup> regular exchanges took place during meetings and interesting results from other projects were shared with the growers. Given the pre-existing network and strong relationships between the partners, it was easier to set up the OG as the trust was already there.

As INIAV is associated with the ministry of agriculture, there was an awareness that the support for the development of Operational Groups was in preparation. Once the call was published and the objective and requirements towards OGs and the involvement of farmers in the partnership was clear, the lead partner approached the growers and was able to develop the application. During the application preparation many discussions and arrangements took place bilaterally, however a meeting was organised with the whole group in order to obtain further inputs and to strengthen ideas in the draft application, based on the expertise of the growers.

The lead partner meets with growers roughly every two months, however there are times (e.g. when collecting plants and data) when these meetings are more frequent. Progress meetings are often carried out by phone, especially if something that requires urgent attention happens. Regular visits to the farms are organised with the other farmers, during the open days (once a year). In addition, they also meet during other meetings that are not directly linked to this project (e.g. symposia) and discuss about the OG project. All meetings are very important in order to support the work carried out.

### **Collaboration with other projects, initiatives or actors**

The lead partner is involved in a related Horizon 2020 (GoodBerry)<sup>21</sup> project with an advisory role and not a consortium member. INIAV has also been involved in a related FP7 project (EUBerry)<sup>22</sup>.

The lead partner has a strong network and contacts with various EU countries and regions working in the field of berries. Collaboration with certain regions is limited as select growers and their associations are not interested in innovation projects and information sharing as they are more competitively oriented.

While it could be perceived as interesting to develop an Interreg project, there are limitations in the ability to apply for, e.g. Interreg South West as France would need to be involved in order to qualify. This is limiting as French regions are not working on similar plants as in Portugal and Spain. Berries are predominantly important for Spain and Portugal.

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<sup>18</sup> AGRIInnovation Summit (2017) Agriculture products and food processing, page 4: Operational Group: CompetitiveSouthBerries – Innovative, competitive and sustainable off-season small fruits production systems. Accessed via: [http://www.aislisbon2017.com/images/PDFs\\_Rooms\\_day11/2A\\_Agriculture\\_Products.pdf](http://www.aislisbon2017.com/images/PDFs_Rooms_day11/2A_Agriculture_Products.pdf)

<sup>19</sup> AGRIInnovation Summit (2017) Agriculture products and food processing, page 4: Operational Group: CompetitiveSouthBerries – Innovative, competitive and sustainable offseason small fruits production systems. Accessed via: [http://www.aislisbon2017.com/images/PDFs\\_Rooms\\_day11/2A\\_Agriculture\\_Products.pdf](http://www.aislisbon2017.com/images/PDFs_Rooms_day11/2A_Agriculture_Products.pdf)

<sup>20</sup> One of the growers was in a project previously together with the lead partner, but all research was done at the public/research farm.

<sup>21</sup> See <http://www.goodberry-eu.eu/>

<sup>22</sup> See <https://www.euberry.univpm.it/>

The OG leader is very active and tries to link with other OGs also working on berries, however they find it difficult to use the EIP-AGRI database to identify and connect to all OGs active in the area of berries. Furthermore, there is a need to help OGs and other projects such as H2020 projects working in the area of berries to connect with one another, e.g. Dutch and Portuguese OGs & H2020 projects that are both dealing with berry production. As collaboration with other OGs and external relevant stakeholders was not foreseen at the time of the application, there is no possibility to spend OG project funds on the attendance of meetings, or relevant events to set up new collaborations as a part of the OG.

### **Outcomes and dissemination**

First project results are still pending. This setting does not target pure research (for publishing). On the other hand, if the results lead to a higher yield, then it will be interesting for the farms to implement and to disseminate the results.

The lead partner organises regular events as a part of the OG and as a part of the regular activities of the institute. These events form a vital part of the networking and exchange amongst the farmers and are also vital for the awareness raising and dissemination of the project results.

Events such as Open Days are highlighted as the best way to disseminate results. Attending meetings that are relevant and giving presentations about the OG, e.g. at the Fruticulture conference, is an important means of disseminating what the OG is doing. An Open Day is organised once a year as a part of the OG to support dissemination. This event can consist of a meeting with presentations and discussions on the crop and practices followed by a field visit of the farm, structured by each farmer as they see fit. Informal exchanges also form a key part of the event. Two additional events include the Growers meeting, which is organised every year (not as a part of the OG) and features a roundtable for the growers to discuss what has taken place during that season. In addition, every four years there is a berry exhibition in Portugal that brings together researchers and stakeholders working in the field of berries.

Additional dissemination activities include publications in magazines dedicated to small fruits growers, the development of a leaflet, and the preparation of a website (not yet online).

### **Support**

Since the project has been approved, the National Rural Network (*Rede Rural Nacional*)<sup>23</sup> has played a helpful role in supporting the OG. Regular exchanges take place when there is a need related to the OG. The NRN has a newsletter where the OG was presented more than once. The Open Days are also advertised by the NRN and they have a nice database of 2,000 growers.

The lead partner has created a division to support in applying and executing the projects within the organisation. This is very useful in supporting their project development.

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<sup>23</sup> See <http://www.rederural.gov.pt/>

## 5.5 Case study 5: Extended suckling period (AT)

Interviewee: Anja Eichinger, FIBL, [anja.eichinger@fibl.org](mailto:anja.eichinger@fibl.org)

Interviewer: Daniela Kretz

Language for case study interview: German

**Title: Working group extended suckling period** (*ARGE Verlängerte Säugezeit*)

Country : **Austria**

Timing: **2017-2020**

Product / Sector: 01.46 **Raising of swine/pigs**

Type agricultural or forestry activity or approach: **Organic farming**

Main challenge / opportunity faced: **Animal health and welfare**

Type of Solution: **Production changes: Development of a new production practice or methods (e.g. crop rotation, breeding, slaughter, castration methods, etc.)**

Lead Partner Type: **Researcher / Research Institute**

Number of partners: **15+** (Farmer/forester or organisation/association of farmers/foresters; Advisor; Researcher / Research Institute; Public body)

### **Project description EIP-AGRI Website:**

In organic pig farming the weaning of the piglets from the sow takes as a rule place after 40 to 42 days. At this time, however, the piglets are in a critical physiological stage. They are more prone to disease and frequently get the so-called post-weaning diarrhoea, which has to be treated with the use of antibiotics. The project "extended suckling period" aims at demonstrating the positive effects and the practicality of an extension of the suckling period to at least 49 days and at making available guidance documents. The concept of an extended suckling period demonstrates an approach to a solution how the problems around the weaning of the piglets can be reduced and the welfare of the piglets can be improved.

### **Main activities and expected outcomes**

This OG aims to improve the welfare of piglets by extending the suckling period. Together with farmers that implement proposed solutions, various approaches are tested. Key questions include: how does the transition work? How can you do this individually for the farm? What are the conditions of success? What would you need to bring this into wider practice? The project marked its first anniversary in June 2018, hence first results relating to these questions are still pending.

The expected results of the project are the development of consultation material for farmers and farms interested in implementing an extended suckling period, thus bringing research results into practice. The information will be presented in clear guidance material and with clear language with information on feasibility checks and a detailed 'how-to'. The project will develop the pilot/demo farms where farmers interested in implementing the technique can learn from and exchange with the farmers that already implement the extended suckling period.

### **Structure of the project/partnership**

The lead partner is FIBL an independent research institute that focuses on the use of cutting-edge science in the field of organic agriculture. The other partners of the OG are four farms in Upper Austria, Lower Austria and Burgenland, as well as Bio Austria (Lower Austria and Vienna) and the *Ländliches Fortbildungsinstitut* - LFI (Rural Continuing Education Institute, Lower Austria).

In addition, the OG benefits from external service providers that cover their costs via their own funds yet are nevertheless project partners. These include the University of Natural Resources and Life Sciences Vienna (BOKU), the *Höheren Bundeslehr- und Forschungsanstalt Raumberg-Gumpenstein, Außenstelle Wels* – HBLFA (Higher

Federal Learning and Research Institute, Raumberg-Gumpenstein, Location Wels) and the University of Veterinary Medicine in Vienna.

The project was initiated by one of the farmers and one of the research partners (BOKU) who had already collaborated in another (unrelated) project. During that project, it became apparent that the farmer was experiencing difficulties in the weaning of piglets. This farmer was facing several challenges in testing solutions on the farm and realised that additional support was needed to solve these difficulties, hence the idea for the project arose. A responsible person from BOKU was also working at FIBL and hence both partners became involved in the project. Due to capacity constraints, BOKU was not able to take on the lead role in the OG, so FIBL took charge. For the execution of the OG project, a core group was set up, which includes BOKU, FIBL, HBLFA and the initial farmer.

The OG project also involves other partners. It was important to select farmers that would be willing but also able to implement the solutions in a reliable way. Five additional farms are involved in the project as partners (but not in the core group). These farmers explicitly expressed an interest in becoming involved in the project and regularly take part in the OG meetings. These exchanges strengthen the solutions that are jointly developed as a part of the project.

In this project science and practice go hand in hand, and there is a strong exchange and great cooperation between the researchers and the farmers. Farmers get theoretical background, and the researchers get a view into the practice. All partners are perceived to be highly complementary in the project. In addition to clear role of research partner and the farmers in the OG, advisory partners (LFI and HBLFA) are highlighted as having a key role towards dissemination of the results to stakeholders. In addition, the University of veterinary medicine was taken on board with regards to specificities related to animal health. BioAustria is the cooperative representative and is responsible for dissemination activities within the project. Through the wide and heterogeneous knowledge fields covered by the project partners, challenges can be analysed from many perspectives. The OG is very happy with the partnership and the collaboration among the partners.

At the onset of the project many partners expected classical hierarchies, e.g. farmers thought that researchers would define the research questions and the farmers would carry them out. It took a few meetings for all partners to understand that everyone is on equal footing in the OG and that it is especially important to consider a 'farmer first' perspective to address the challenge faced.

Face-to-face meetings are highlighted as being particularly important for the collaboration. Regular meetings work best, whereby they meet every four to five months. Meetings take place in different regions and also at the specific farms in order to share information about each farm with the others. The farmers particularly like this as they don't often have opportunities for this type of exchange. Meetings also play a vital role in trust-building. In order to tackle issues of trust, minutes from the meetings are anonymised in order to allow the farmers to speak freely about their issues.

### **Collaboration with other projects, initiatives or actors**

The OG has not formally collaborated with other projects, initiatives or actors outside of those officially involved in the project partnership. Exchanges with the German Thünen Institute have taken place on a scientific level, as they authored a key study on the extended suckling period. However, given the differentiated nature of German farms, which are typically larger than Austrian farms, there is a need for adaptation of the findings from the Thünen Institute. While exchanges were considered there was no budget foreseen for this at the onset of the application, so they are limited in their ability to exchange (via meetings) and hence other forms of communication and exchange of information are explored, though limited.

Project funding is perceived as rather rigid as there is little flexibility to change what was presented at the application stage in the course of the project execution. Therefore, e.g. visits or exchanges with relevant external players to the project cannot be funded if not foreseen at the application stage, unless budget foreseen for the other tasks within the project is reduced to compensate these costs.

### **Outcomes and dissemination**

A press release was completed at the kick-off of the project and the FIBL homepage presents the project itself.<sup>24</sup> At the start they made an information sheet with the topic and project details, and BioAustria, BioSchweinAustria,

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<sup>24</sup> See <https://www.fibl.org/de/projekt-datenbank/projektitem/project/1369/358/1370.html>

LFI and BOKU disseminated it. Platforms shared it and journals published it during the phase in which the additional farmers were being sought.

The outcomes of the project are still pending, as the survey phase of one year is still ongoing. During the BioAustria *Schweinetagen* ("Pig Days") 2018, where farmers have the possibility to exchange obtain information about best practice examples, the first intermediate results were presented. These first intermediate results show that, especially for the weight measurements and across all participating farms, an extended suckling period has a positive impact on the liveweight development of the piglets. The data collection at the farm will run until May 2019.

At the end of the project it is planned to have a seminar (January 2020) where the results will be detailed and presented to farmers. Farmers who are partners in the OG will present the results as well. In addition, the guidance material will be disseminated / published and distributed.

### **Support**

The *Netzwerk Zukunftsraum Land*<sup>25</sup> (the Austrian National Rural Network) presented the EIP-AGRI initiative and the concept of the OG projects at an information event, detailing the application procedure, process, etc. for interested stakeholders (prospective applicants). At the start of the project there was a networking meeting amongst the OGs in Austria for the OG leader. The Rural Network also offered support for the partner search and advised who should be added, however in their case they already had the right partners on board.

The lead partner received support in the preparation of this application from the innovation support services, which was key for its success. The NRN spent a lot of time answering and clarifying questions. They also checked the application and gave tips about what could be improved and expanded. This included feedback on the communication and dissemination aspects.

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<sup>25</sup> See <https://www.zukunftsraumland.at/>



## 5.6 Case study 6: Control of additional water use in crop production (DE)

Interviewee: Dr. Michael Haubold-Rosar, Mrs. Beate Zimmermann, Forschungsinstitut für Bergbaufolgelandschaften e.V. (FIB) [haubold-rosar@fib-ev.de](mailto:haubold-rosar@fib-ev.de)

Interviewer: Daniela Kretz

Language for case study interview: German

**Title: Control of additional water use in crop production - situational, site-specific and automated**  
(*Steuerung des Zusatzwassereinsatzes in der Pflanzenproduktion – Situativ, teilschlagspezifisch und automatisiert*)

Country : **Germany**

Timing: **2016-2019**

Product / Sector: 01.11 **Growing of cereals (except rice), leguminous crops and oil seeds**

Type agricultural or forestry activity or approach: **Conventional farming**

Main challenge / opportunity faced: **Resource Management: Water**

Type of Solution: **New technology solutions - Digital based solution**

Lead Partner Type: **Researcher / Research Institute**

Number of partners: **6** (Farmer/forester or organisation/association of farmers/foresters; Advisor; Researcher / Research Institute; Business / SME)

### **Project description EIP-AGRI Website:**

The aim of the project is a site-specific and needs-based precision irrigation with an user-friendly system solution. The current water supply status of plants will be determined by using infrared thermography and will be used for deriving site-specific information about irrigation. As a result, there will be irrigation systems with individually controlled nozzles. These irrigation systems shall be automatically controlled and shall work according to the situation. The interaction of all sensory, technical and mechanical system components will be tested under practical conditions. In the end, a profitability calculation will be performed.

### **Main activities and expected outcomes**

The OG refines an existing irrigation steering model to meet the requirement of an automated, user-friendly and sophisticated irrigation control system. Both site-specific irrigation and alternative input data based on infrared thermography are tested.



An economic analysis will be carried out to determine whether the additional costs of technical equipment (both the site-specific irrigation and the use of infrared data) are compensated by increased yields and improved quality of the product. Two farmers in Brandenburg are equipped with the test equipment and are growing maize and winter wheat during the project duration.

As the project started in 2016 outcomes of the project are still pending. The summer of 2017 was a high rainfall year where the summer of 2018 showed one of Germany's most extreme droughts, hence the project is looking to 2019 for a 'normal' rainfall year (500-600 mm) in order to have a representative result. The project aims to achieve ecological as well as economic benefits through both water and energy savings as well as the introduction of an irrigation steering model that allows the farmer to save time and money.

Source: <https://eip-pi-bb.de/de/projekt/>

## Structure of the project/partnership

The OG project is led by an association that is a research body. Other partners include an advisor, farmers, as well as another association. The idea was initiated by the advisor who had collaborated with the farmer before. The conditions (e.g. existing irrigation machines) and needs of the OG farmers were known before their involvement in the project. Some partners knew each other from other collaborations or at least through the farmer's association. Then they came across the EIP-AGRI funding opportunity and it fit well with the idea / problems they were experiencing.

The partners of the project have the following roles and focus areas:

- **farmers:** in total farmers from three farms are involved in the project; two farmers are involved in the implementation of the practical part (irrigation of one test field at their farms using irrigation recommendations), practical evaluation of the tests (e.g. are irrigation recommendations reasonable from a practical point of view), multipliers;
- **researchers:** one research farmer (FIB) is the main developer of the potential solutions for the project problem (development and improvement of the steering model); monitoring of plant responses to drought stress with infrared thermography; scientific evaluation of the tests (e.g. survey and statistical analyses of crop yields for different irrigation treatments); writing (scientific) publications; coordination;
- **advisors:** provide the link between project outcomes and end users (farmers), dissemination; advising future farmers using irrigation steering model;
- **farmers association:** dissemination (website, publication of guidelines, organisation of workshops, on-farm exchanges), transform the project results into decision support for local/regional authorities;
- **industry partner:** development of hardware and hardware-software interfaces, provide expertise in irrigation technologies to all partners.

In terms of the added value of having different actors involved in the project, it is highlighted that the solutions, which are developed by the researchers, must pass the practical tests already in an early phase of development. This avoids lengthy and purely theoretical assessments, e.g. while there is a lot of discussion in the scientific literature about the optimum number of management zones for site-specific irrigation, in this project zones were delineated just before implementing the site-specific irrigation in the field, which led to the quick realisation that more than four zones were impractical.

All aspects of the solution are addressed by the project, including the economic assessment. If solutions are not economically sustainable, the project team must overcome this limitation (e.g. site-specific irrigation saves some water and energy but because the additional equipment is expensive it is not economical and thus the project team will propose incentives to make the solution attractive to farmers).

The interaction within the OG is assessed to be very good. Through regular meetings, the OG is strengthened. An intense cooperation between project partners takes place in various parts of the project. The OG practices an intense and timely exchange of the tasks and their progress. The OG benefits from a very detailed work plan that was developed at the application stage, and thus all partners clearly know their roles in the project.

For capacity reasons, the research association is in charge of the project administration and management (as well as project design during the application stage). In addition to representing the research perspective, the lead partner, *Forschungsinstitut für Bergbaufolgelandschaften e.V.* (FIB), also has an administration department that can deal with the financial aspects. The other partners do not have sufficient personal and administrative resources for project application, implementation and accounting.

Regarding trust amongst the partners, regular full-day meetings which bring together all partners (two times a year, location circulates between the partners' institutions) are highlighted as a key component. In addition, ideas and proposals of partners are respected and implemented (e.g. if a farmer does not want to adopt an irrigation recommendation for a good reason, the researcher will accept this decision).

## Collaboration with other projects, initiatives or actors

The OG project has participated in a several EIP-AGRI events ('Agri Innovation Summit' in Lisbon 2017 and 'Connecting innovative projects: Water and Agriculture' in Almeria 2018) and has managed to connect with other stakeholders across Europe who are interested in similar topics. Specifically, the research team from IRTA (Institute

of Agrifood Research and Technology), Spain, is working on similar issues (precision irrigation with the use of remote sensing data). It was easy to find such new additional contacts in Almeria because of the thematic focus of the event. Exchanges are ongoing and collaboration is planned.

In addition, the EIP-AGRI network has been highlighted as being very helpful in organising international thematically focussed events and ideally this should be continued. To support these events, working groups could be developed to enhance the possibilities for similar OGs to collaborate and exchange thematically. In this regard, it is needed to foresee budget for future cross-border exchanges to enable such collaboration opportunities.

Some support, especially in connecting with other Operational Groups has been provided by various bodies. At national level, the German Networking Agency for Rural Areas (DVS – the German NRN) had organised events for the OGs to meet and connect.

### **Outcomes and dissemination**

The project is well underway, having already completed the first two years. First results are available, and are disseminated, however a regular rainfall year (one heavy rainfall year in 2017 and one drought year in 2018) is needed to ensure the economic calculations can be validated.

The irrigation steering software will be available to farmers (either as a commercial software or in combination with an advisory service) both for uniform and site-specific irrigation, where the model outcome is an accurate irrigation recommendation (the work of the OG has led to a lot of improvements). Results will help farmers to decide if and where site-specific irrigation is an option on their farms.

In terms of dissemination, practitioners have been involved through dissemination activities (workshops for farmers where the irrigation approach and software of the project are discussed) and carry out tests of the software on their farms. The aim is to develop guidelines for site-specific irrigation for farmers and to market the software and advisory service that results from the project. Teaching material will also be prepared.

The following communication channels are utilised by the project: agricultural journals, on-farm events, participation in annual meetings of the irrigation farmers association with presentation of the project. Scientific publications and presentations at national and international meetings are highlighted as being important to reach the broader agricultural sector. A flyer / brochure was developed in addition to a project website.<sup>26</sup> At the onset of the project a press release was developed together with the Ministry of Rural Development, Environment and Agriculture of the Federal State of Brandenburg<sup>27</sup>, and the innovation support service. The irrigation (event) day that was initiated as a part of the project will continue beyond the project.

It is extremely helpful that one of the farmers in the OG is an "early adopter" and advertises the solutions among peers (farmers tend to believe in other farmers' experiences a lot more than in researchers' statements). In addition, it is advantageous to the OG project overall that the team consists of people who already know the regional practitioners (advisory service and the farmers' association who initiated the project).

### **Support**

The OG learned about the call through announcements of national / regional authorities.

During the application phase the innovation support service was very helpful, especially in the early stages and gave recommendations on the project structure, aims, work plan and provided support for the budget issues. They also provided support for the accounting execution once the project was selected for funding.

The annual meetings of all regional OGs are highlighted as being particularly important for exchanging experiences and getting inputs on the activities of other OGs. These are organised by the Ministry of Agriculture in Brandenburg and the innovation support services.

The financial managing, in particular the reimbursement process, is considered demanding and complicated therefore the lead partner would need extra administrative staff to manage EIP projects.

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<sup>26</sup> See <https://eip-pi-bb.de/de/projekt/>

<sup>27</sup> See <https://mlul.brandenburg.de/cms/detail.php/bb1.c.285940.de>

## 5.7 Case study 7: GOFPE 2015: TRANSITION TO ORGANIC FARMING (ES)

Interviewee: Amaia Ortiz Barredo, Neiker Tecnalia, Campus Agroalimentario de Arkaute [aortizb@neiker.eus](mailto:aortizb@neiker.eus)

Interviewer: Steven Knotter

Language for case study interview: English

**Title: GOFPE15: Operational Group for the Transition to Organic Farming on Agricultural and Livestock Farms** ("*GOFPE15: Grupo operativo para la transición hacia la Agricultura ecológica de explotaciones agrícolas y ganaderas*")

Country: **Spain**

Timing: **2016 (6 months)**

Product / Sector: **01.5 Growing of crops combined with farming of animals (mixed farming)**

Type agricultural or forestry activity or approach: **Organic farming**

Main challenge / opportunity faced: **Food safety / product quality: Product quality**

Type of Solution: **Production changes: Development of a new production practice or methods (e.g. crop rotation, breeding, slaughter, castration methods, etc.)**

Lead Partner Type: **Researcher / Research Institute**

Number of partners: **20+** (Farmer/forester or organisation/association of farmers/foresters; Advisor; Researcher / Research Institute; Public body)

### **Project description EIP-AGRI Website:**

Overall objective is to increase the area and production of organic agriculture in Basque Country through the flow of information and advice. Specific objectives are proposed:

- ▶ Creation of a working group capable of extracting relevant information for the transition from farms with conventional agricultural management (CA) to organic farming (OF), using the data obtained monitoring the farms involved
- ▶ Draft a Base Operational Manual for transition to OF taking into account economic, technical and normative constraints in eight different productive orientations.
- ▶ Creation of a permanent network of specialized advisory services in OF in Basque Country keeping Operational Manual up to date"

### **Main activities and expected outcomes**

The GOFPE project was an exceptionally short project, running only for six months in 2016. It was established as a sort of spin-off of the much larger regional FOPE project in the Basque country, which is a large ongoing strategy promoting the transition to organic farming, including research, sensibilisation, education & training, collaboration, technical assistance etc.

The main reason to set-up the Operational Group was to better organise the exchange and flow of information and experiences on methods and processes to make the transition from conventional to organic farming (good practices, dealing with challenges, etc.) from the FOPE project towards the farmers and their associations.

The main tangible outcome of the project is an Operational Manual for the transition to organic farming, to be used by the technicians and advisors of farmers associations assisting farmers in this process. The manual covers all the technical aspects and challenges of such a transition, while providing guidance to farmers to ensure a positive impact on their productivity and profitability.

The manual is considered a dynamic, living document, which has over the years been regularly updated under the coordination of a network of advisory services. In this way, the manual also serves to identify the information gaps,

and helps guide further research and development work in the field, feeding into the FOPE project. It is available on the FOPE website [www.fope.eus](http://www.fope.eus).

### **Structure of the project / partnership**

The partnership consists of two leading so-called 'tractor' partners: Research Centre NEIKER (lead partners) and Regional Organic Certification Body ENEEK.

These parties have selected and invited relevant agricultural associations to participate, depending on the crop and on an assessment of their potential and need for transitioning towards more organic farming:

- ▶ AGA – Cooperative of Farmers and Livestock Growers in Araba (Professional Farmers Organisation)
- ▶ LORRA - Cooperative of Farmers and Livestock Growers in Bizkaia (Professional Farmers Organisation)
- ▶ LURGINTZA - Cooperative of Farmers and Livestock Growers in Gipuzkoa (Professional Farmers Organisation)
- ▶ ABERE - Cooperative of Livestock Growers in Basque Country (Services Cooperative)
- ▶ BIOLUR – Association of Organic Growers in Gipuzkoa

In addition, an agricultural services company was included in the partnership, that provided useful input on how the Manual could be used in technical advice towards farmers.

These partners worked together on the Manual in a dedicated working group, with main focus on extensive vegetable crops and certain fruits crops. The agricultural associations involved represent the large majority of farmers in the different Basque provinces, and thus could provide direct access to growers. Technicians from each association collected farm-level data and consulted farmers on specific issues and challenges of consideration in the transition to organic farming, to process this in a coherent framework. Furthermore, this provided direct channels for dissemination of the Manual and all knowledge generated in the project to the final users.

This process worked very smoothly, helped by the fact that the partners already knew each other from the FOPE project. This made that mutual trust was high, expectations were clear and realistic, and there was a high engagement to deliver requested information, including the confidential farm-level data.

### **Collaboration with other projects, initiatives or actors**

Integrated in the FOPE project, this Operational Group was part of a collaborative environment with other research institutes on food, the Basque culinary centre and industrial food actors higher up in the food processing chain. The results of the OG are naturally shared and exchanged within FOPE. Furthermore, there have been contacts with networks and associations in biological and organic agriculture in all provinces of Basque country.

The lead partner has also presented the Manual in a number of other (Northern) Spanish regions at professional agro-rural events and networks, as there is a huge interest to utilise the manual in their own setting (Asturias, Galicia, Cantabria etc.).

Collaboration with a similar project would have been interesting and the lead partner is still open to get in touch with other projects, but they don't have a clear view on them either in Spain or in elsewhere in EU. Although interest appears high from other organisations to hear and learn from the Basque experience, concrete cooperation opportunities did not appear.

### **Outcomes and dissemination**

The Manual's reach has been substantial, as the participating associations cover over 80% of farmers in extensive vegetable crops. The demand from farmers to explore steps towards organic farming is very high, although to different extents. Many of them also have their reservations in respect to the way their regular business model will be affected. The manual therefore provides evidence and objective information on the choices to be made and their consequences commercially and in management.

Before the project, about 20% of the farmers that applied for organic farming registration were rejected or did not go through with it, because of a lack of technical guidance and assistance. The project specifically targets this group of farmers in order to increase the number of organic farmers in the region.

The OG did not have a separate dissemination plan, but the associations that were involved are still actively using and updating the 'dynamic' manual, which is fully integrated in their regular work.

The manual could also be useful for other types of farming and agricultural subsectors (e.g. animal production), and the lead partner is still regularly consulted to see how it can be applied in other settings and activities. The project and its results are thus still further exploited, and lead to new relations and opportunities for new developments.

### **Support**

The lead partner performs tasks on the specific request of the Basque government, among which the support of organic farming in the region. Therefore, the application for an Operational Group was also facilitated in this sense, even more as the OG operated in the context of FOPE.

The lead partner also had regular contacts with the National Rural Network during the project, and still has, but the Network does not actively support such regional projects, as the Network purely functions on national level. Project opportunities at the national level are much more complex, with different procedures and many more partners involved. Therefore, NEIKER is very reluctant to join such projects.

The OG is in contact with the EIP-AGRI Service Point and has participated to some EIP-AGRI events. The Service Point were very helpful in the beginning of the project to help broaden its scope and reach, as its events and workshops provided interesting perspectives to better orient and focus the project.

The lead partner welcomes the initiative to make more information on other OGs available in a structured manner at the European level, to be able to benchmark and connect to similar projects.

## 5.8 Case study 8: Optimization of conservation agricultural systems through better management of cultivation techniques (IT)

Interviewee: Tabaglio Vincenzo, Università Cattolica del Sacro Cuore Piacenza, [vincenzo.tabaglio@unicatt.it](mailto:vincenzo.tabaglio@unicatt.it)

Interviewer: Fabrizio Di Marcantonio

Language for case study interview: Italian

**Title: Optimization of conservation agricultural systems through better management of cultivation techniques** (*"Ottimizzazione dei sistemi agricoli conservativi attraverso una migliore gestione delle tecniche colturali"*)

Country : **Italy**

Timing: **2016-2018**

Product / Sector: 01.41 **Raising of dairy cattle**

Type agricultural or forestry activity or approach: **Conservation agriculture**

Main challenge / opportunity faced: **Resource Management: Soil**

Type of Solution: **Production changes: Development of a new production practice or methods (e.g. crop rotation, breeding, slaughter, castration methods, etc.)**

Lead Partner Type: **Researcher / Research Institute**

Number of partners: **7** (Farmer/forester or organisation/association of farmers/foresters; Researcher / Research Institute; Education)

### **Project description EIP-AGRI Website:**

The main objective of the project is the protection of natural resources that sustain food production, especially soil conservation. The way selected for the achievement requires the application of conservation cropping systems, through the introduction of techniques and agronomic practices that favour the accumulation of organic matter in the soil, reducing the mineralization, and which lead to a more rational use inputs. In this regard, another objective is to reduce the use of synthetic mineral fertilizers (especially nitrogen), which are used at the doses and timing of actual needs, in order to reduce the pollution generated by agricultural activity and improve the quality of waters.

### **Main activities and expected outcomes**

The main objective of the OG is the optimisation of the conservation of the existing agricultural production resources and methods, through a better management of cultivation techniques. At the moment of the interview in December 2018, the project is into its final stages, working towards its final conference on February 14<sup>th</sup>, 2019. In line with the expected result, the OG is introducing new efficient and conservative agricultural systems in terms of management of natural resources and control of polluting substances

### **Structure of the project / partnership**

The project has seven partners. The "Università Cattolica del Sacro Cuore" is the lead partner of the project and has built the partnership together with two testing companies of data-driven management systems (from the province of Parma and Piacenza), by involving three local farms and one private foundation.

The lead partner already knew the two testing companies and the private foundation, which was clearly beneficial to the progress of the project. Therefore, it was not difficult to form the partnership nor to define the objectives of the project since the issues of the project are connected to the research areas/branches of the University.

The partnership has been working proficiently since the first stage of the project, thanks to a mutual trust and a very good complementarity of the partners' profile. Sufficient attention and efforts was devoted to the structuring and organisation of the collaboration throughout the project, with precise definition of roles and tasks.

The lead partner, in charge of scientific research and laboratory activities, is providing new outputs to be experimented by the testing companies directly on the field with the support of the local farms. The private foundation is in charge of disseminating the results.

The added value of having different types of actors such as researchers, technicians, farmers and advisers working together is the possibility to cover the entire R&D chain, from a more general objective related to the research on a wider problem to a more specific and concrete aim related to the tested product that should represent the solution.

### **Collaboration with other projects, initiatives or actors**

The lead partner has a good network to other relevant actors, such as CONFAGRICOLTURA, producers' associations, different universities and research institutes. They have also been involved in different EU-funded projects under LIFE and H2020 and is in contact with another EIP-AGRI OG project in the Region of Lombardia. Through the contacts with these projects, the OG is able share results and experiences for mutual benefit.

### **Outcomes and dissemination**

The OG project is on track to reach its objectives. The new innovative products will help farmers to reduce production and processing costs, to increase the production of organic material, to increase the biodiversity, to reduce greenhouse gas emissions and improve the efficiency in the use of resources.

The project results will be shared with practitioners by different articles on technical magazines, conferences and workshops. Also, a dedicated website was set-up to communicate about the project progress ([http://optimagri.crupa.it/nqcontent.cfm?a\\_id=14746](http://optimagri.crupa.it/nqcontent.cfm?a_id=14746))

Moreover, active reach-out to a wider group of practitioners was organised during the entire project cycle through conferences and the network of the lead partner and the dissemination partner. This allowed for useful feedback from a potential user group that were specifically targeted by the project partners initially.

The OG dissemination plan has ran for the entire cycle of the project and has succeeded to attract very different profiles in the agricultural ecosystem to the project: technicians, producers, researchers and politicians. A final conference is planned for the 14<sup>th</sup> of February 2019, where all these actors will participate.

The partnership did not receive any further support, out of project budget, for the dissemination.

### **Support**

The support from national or regional authorities or others during the application process was limited. The National Rural Network did not provide active support, but the regional (office) of "CONFAGRICOLTURA" is helping in further communicating the project results.

Also, in the execution of the project, the OG did not receive active support from innovation support services nor from advisory services. Although the project has run very smoothly thanks to the active involvement of each partner in fruitful cooperation, such support either on national or regional level would have been very welcome during the project course to enlarge the reach of its results.

On the other hand, the input and support through DG AGRI / EIP AGRI Service Point was very helpful and interesting. More frequent meetings between different projects at the European level for a more detailed and constantly updated exchange of information, would further increase the quality of the service.



## 5.9 Case study 9: Infofusion Fusarium (SE)

Interviewee: Thomas Börjesson, Agrovast, [thomas.borjesson@agrovast.se](mailto:thomas.borjesson@agrovast.se)

Interviewer: Steven Knotter

Language for case study interview: English

**Title: Infofusion Fusarium** (*Infofusion Fusarium*)

Country : **Sweden**

Timing: **2018-2020**

Product / Sector: **01.11 Growing of cereals (except rice), leguminous crops and oil seeds**

Type agricultural or forestry activity or approach: **Integrated pest management/reduced inputs**

Main challenge / opportunity faced: **Pest and disease treatment**

Type of Solution: **Production changes: Development of a new production practice or methods (e.g. crop rotation, breeding, slaughter, castration methods, etc.)**

Lead Partner Type: **Business / SME**

Number of partners: **6** (Farmer/forester or organisation/association of farmers/foresters; Advisor; Researcher / Research Institute; Business/SME)

### **Project description EIP-AGRI Website:**

Develop a farm specific decision support system by using all available data that are relevant for the farm in question. The support system can hopefully serve as a template for support systems for other pests in cereal crops.

### **Main activities and expected outcomes**

The project just started in 2018 and will run until the end of 2020. Its objective is to build farm specific management support system that is building further on existing ones functioning on a regional level. The aim is that each farm can use its own system.

This implies an extensive refinement of the systems that are already in place, based on weather data, geographical/geological conditions, plant varieties/crop characteristics, etc. Farm specific data would have to be included in an efficient way into the model.

This effort fits under the header of precision agriculture, with the challenge of getting the system to work on field or even 'crop' level (so further beyond farm level).

### **Structure of the project / partnership**

The project originated from the development of a regional level model, in which a number of the partners already cooperated. The development of this model was financed by the Swedish foundation for agricultural research, but there were no national resources to refine this further.

Building further on the same project, there's also an ongoing INTERREG project with Norway, but with trial sites only in Sweden.

The lead partner Agrovast is an agro-food consultancy business, providing management and financing assistance for farmers.

The partnership further consists of one ICT business, two research institutes and one farmer. The research institutes are mainly involved in the modelling part and in data gathering and processing.

Even though the partners largely knew each other from the previous project, it did take some more time than expected to get the universities fully on board, and to come to a mutual understanding of the specific aims and outputs of the project.

The intention is that the system can be potentially applied in all farms in the region and that the methodology can be transferred into various plants and diseases. But the exact types of data required and how to process them into a coherent system is cause for much discussion and should not be underestimated.

Although there is only one farmer in the partnership, there is larger community of farmers involved more informally as stakeholders. They will actively be participating in the testing phase, where the system will be piloted in 10 to 20 farms to gather feedback from the actual users. The participation of these farms is essential as they will be the main data providers for the system. The availability of high-quality data is obviously also one of the complex aspects of the project. The project works on awareness raising towards farmers to come to a systematic organization of the data collection at farm level.

Outside of the group of testing farms, the project is building an even larger outer circle of about 60 farms passively involved, that are being updated about the progress of the project and provide informal feedback.

Interaction with the farmers and the other partners is sufficient for the moment to make the necessary progress, but the project is more complex than expected. The extensive meetings on data handling are time consuming and hardly motivating. Therefore, the farmer community is not being involved too much at this stage, as this is of less relevance for them.

### **Collaboration with other projects, initiatives or actors**

Through the parallel INTERREG project, the lead partner of this OG has good interaction with relevant Norwegian partners. However, there is no perspective on other concrete collaborations. Certainly, such cross-border/interregional cooperation's are possible, but the OG does not have a good view on concrete opportunities and does not have the resources to invest in this.

The Swedish National Rural Network (NRN) does play an interesting role in connecting different OGs in the country and beyond. For instance, it organized a start-up meeting with all OGs in the country, and a meeting with the NRN in Finland open to OGs in both countries.

### **Outcomes and dissemination**

The project had hoped to have made more progress at this stage, while it also recognises it is important to not go too fast. The thorough back office work is essential for the system to actually work for the farmers and is very time intensive.

Therefore, broad communication to farmer groups has not started yet, and is for the moment limited to the community of 20 testing farms and the larger outer circle of maximum 60 farms. At a later stage wider dissemination will become more prominent.

Here the NRN in Sweden could be helpful to spread the project results. The Operational Group also has its own webpage to report on the progress of the work. Lead partner Agrovest has an internal communication manager who also performs tasks for the project.

### **Support**

Both the Innovation Support Services (ISS) and the NRN have been very supportive in the preparatory phase, referring the lead partner to the possibility of the RDP financing and guiding the actors through the application process.

However, in the project execution and dissemination the support is less pro-active. The NRN does provide channels and platforms for communication but is not actively promoting those. It is too early in the project to say if they can actually be helpful.

Also, the MA provided some good administrative support, with a specific advisor to guide them through the application process. The support was certainly better than for regular research projects, much more a joint process. But the application was also much more complex than for other financing mechanism.

The OG does not have any direct contacts with the EIP-AGRI Service Point. This could be useful to bring the projects and its results on a higher level and connect to other relevant OGs. But this should probably be done through the NRN.

## 6/ Conclusions

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Below we formulate a number of concluding remarks based both on the clustering analysis and on the survey results and follow-up interviews with OGs. These conclusions relate to both the overall quantitative picture of the projects' focus, solutions and approaches emerging from the clustering, and to the qualitative analysis of their functioning, structuring and added value based on the survey and case studies.

### 6.1 Clustering analysis

- ▶ The first remarkable observation from the study is that the overall number of approved Operational Groups is remarkably high and steadily growing. At the moment of analysis in the first half of 2018 the European database contained 611 OGs, but by the start of 2019 this number increased to close to 900. Given that the EIP-AGRI OGs are an entirely new policy instrument and funding scheme, with which both Managing Authorities and rural actors did not have any previous experience, these numbers can in their own right be considered a positive result of the implementation of this instrument. Moreover, they indicate **the great interest rural actors in various member states have, to engage in projects tackling practical issues for farmers in a collaborative way**. This confirms the conclusions of the 2017 EIP Evaluation Study.

As relevant actors are becoming more familiar with the framework, there is substantial potential for more OGs to be set-up, which will increasingly be able to effectively and efficiently perform projects in line with the EIP-AGRI's objectives. Some member states (e.g. Ireland) have opted to launch a set of OG calls, launching thematic calls additional to the open calls in order to focus the projects on specific challenges. This will further enrich and consolidate the European OG landscape. With an increasing amount of OGs in the EU, connecting OG projects by relevant theme will become increasingly interesting and linking up to other EU multi-actor project more evident.

- ▶ The range of challenges and solutions/approaches that the OG project focus on highlights that **OGs are a very versatile tool to address the different needs faced by farmers (and foresters) and to come up with applicable solutions**. The partnerships are indeed working on new or adjusted production methods and systems that can directly put into practice by farmers. The cluster analysis highlights that projects are mainly aimed at more resource-efficiency (crops, animals, soil, water, nutrients, etc.) and improvement of food/product safety and quality.

The clustering exercise shows also that a majority of the OGs is working on the development of either new production practices or of new business models (55%), and that for nearly 50% of them resource management or food safety/product quality is the main challenge. More than a quarter of all OGs (26.6%) combine working on changes in production methods with a focus on either resource management (18%) or food safety/product quality (8.6%).

- ▶ **While socio-economic sustainability/competitiveness is clearly an important theme for the OGs, OG categories related to ecological/environmental sustainability also represent a substantial field of OG work** (101 = 17%), tackling challenges such as 'pollution', 'biodiversity / nature / landscape management', 'climate change'. In addition, the categories 'Animal health and welfare' (54 = 9%) and 'Pest and disease treatment' (59 = 10%) are clearly favourite themes which could possibly also fit under this same 'sustainability' header.
- ▶ The clustering of the types of agriculture covered by the OGs further highlights the interest in development in or towards ecological/environmental sustainability in agriculture. Although 'conventional farming' is the largest category for type of agriculture (28%), **alternative types of farming such as 'organic farming', 'conservation' and 'circular agriculture', 'agro-ecology' and 'bio-based production' together represent the majority of innovative projects**, i.e. 53% of the OG projects. Additionally, 'integrated pest management' takes up 12% of the projects.
- ▶ Furthermore, OGs also work on **(technological) product innovation** with almost 20% of them focusing on the development and/or introduction of new products or new technological solutions. From the OGs descriptions, the development or testing of digital-based solutions, such as smart and precision farming, are

also prevalent, even though projects including digital applications may sometimes be classified under another main header and therefore are difficult to separate and quantify.

- ▶ Finally, some interesting focuses at national level emerge, for example:
  - Almost 40% of the 54 OGs focusing on 'Animal health and welfare' are German;
  - Almost 30% of 59 OGs focusing on 'pest and disease treatment', and 23% of 107 OGs focusing on food safety and product quality are Portuguese;
  - 30% of the 86 OGs focusing on 'socio-economic sustainability/competitiveness' are French. Agro-ecology related innovation is also remarkably represented in French OGs;
  - 'Resource management' is the dominant focus in Italy, The Netherlands, and to a lesser extent Spain and Germany;
  - OGs in Ireland overall have a strong focus on biodiversity / nature / landscape management, which appears to be the result of some specific thematic calls launched by the Irish Managing Authority. These thematic calls serve to complement the regular open calls with a view to tackle specific challenges in line with national or regional policies calls. Interesting is that 2 of the **thematic OG calls are dedicated to test, prepare the field and motivate future beneficiaries for agri-environmental measures in the next rural development period.**
- ▶ The OGs are coordinated and executed by a variety of partners coming together in a large diversity of partnership composition and structures. This is **in line with the policy objective to mix complementary expertise in view of developing practical solutions in EIP OGs.**
- ▶ The survey results show that farmers and farmer organisations are the most represented type of partner, indicating that **OGs do connect the farmers' community with the external expertise and knowledge to help them in solving their practical challenges.** Further findings from the survey and from the interviews confirm that the OGs are in general set-up for exactly this reason, to be able to advance practical solutions for pressing challenges serving regional/national farmers' communities.
- ▶ Research institutes are the main lead partners, along with farmer associations/organisations. Such institutes are usually better equipped with resources to manage project administration. Although many of the OG partnerships include individual farmers as fully-fledged partners, the interviews made clear that **farmers are currently still reluctant to pre-finance and take up the administrative lead and responsibility for such projects, because they feel they lack the capacity and resources to deal with the related obligations,** advance payments in the current period not yet being possible.

Furthermore, it appears that farmers are becoming more familiar with the new EIP-AGRI framework and discovering its potential for themselves and their communities. Interest from their side to participate has been high from the beginning, and as more calls are launched and OGs are set-up, individual farmers might increasingly become actively involved as partners throughout the whole project.

## 6.2 Survey and case studies

### Aims and expected outcomes of OGs

- ▶ The survey results indicate that the main reasons to set-up an OG are 'solving a practical farmers' problem', 'testing solutions in a real-life setting' and 'the possibility to connect research to farmers' (figure 10 in the report). The case studies support this finding, as the interviewed OGs agree that **the EIP-AGRI OG concept offers a unique funding opportunity for practical development projects based on concrete bottom-up farmers' needs.**
- ▶ The Operational Groups provide a suitable framework for collaboration between farmers or their representative organisations/association, advisors, researchers, businesses from other sector, etc. OGs enable participating partners to test and demonstrate new methods and technologies in direct interaction with individual farmers and co-develop practically applicable and accepted solutions. At the same time, they **allow for sufficient operational flexibility to structure and develop the project to produce concrete outcomes.**

OG partners highlight that such projects could not have been realised within other innovation or rural development funding frameworks, both at the national and European level.

#### Structure of the project/partnership

- ▶ The survey shows that **the majority of OG partnerships are new and specifically set-up to perform the OG project**. At the same time, more than half of the partnerships contain partners that had previous connections, extended with new partners, which often knew each other prior to collaborating within their project. OGs thus often build on the work of a few core partners, and add extra, sometimes more practice-oriented expertise to work with.
- ▶ Maintaining the right tempo of progress to produce concrete applicable outcomes **requires regular coordination meetings among partners** as well as frequent interaction with the wider target group involved. Specifically, the coordination of the OG works more efficiently with a limited group of partners with well-defined responsibilities and high level of mutual trust, as the cases indicate.
- ▶ At the same time, the cases highlight the **importance of regular interaction with the target group of farmers** to be able to respond to practical issues in testing phases of the project in a timely fashion. Maintaining a strong interaction also serves to get regular and well-structured feedback from the farmers on the project for most cases. Furthermore, guided visits and meetings at farms can be very beneficial to demonstrate the added value the methods/techniques/solutions developed in the OG and allow other farmers to experience and exchange on their implementation.
- ▶ The case studies show that **OG partnerships therefore are often structured in three 'concentric circles' to ensure efficient execution of the project, leading to the desired outcomes and results**.
  - A limited number of core (leading) partners are responsible for project management, coordination and administrative obligations.
  - A second group of partners is directly involved in performing the project tasks.
  - Thirdly, the cases show that many OGs activate the networks of their partners to expand the number of farmers where they can test and demonstrate the project outcomes. This involves a larger circle of 'end-users' (50-100 on average) around their project which are not formally part of the partnership. These help to test new techniques/ methods/solution in real farming practice and provide direct feedback to better adapt possible solutions to their needs. Interest and demand by farmers for this is remarkably high, cases confirm, while it may be complicated for them to formally take part in the OGs or similar projects as fully-fledged partners because of administrative obligations and budgetary restrictions.

#### Outcomes and dissemination

- ▶ The above project structure shows that the OGs actively work to contribute to the development of solutions of practical use for farmers according to the original aim of the EIP-AGRI initiative. **The 'circles' structure ensuring involvement of a wider community of targeted end users** contributes, at the same time, to the dissemination of the project outcomes.
- ▶ The survey and cases demonstrate that the **OGs devote substantial attention to dissemination in variety of ways throughout the project**. The OG partners activate their own regular communication channels (websites, newsletters) and professional publications to make the project results available, which usually ensures reaching target audiences. Furthermore, information about the project is shared with wider groups of farmers during interactive Info Days or Open Days in most interviewed OG projects, as these are seen as the most efficient way to disseminate the results of their projects.
- ▶ **OGs also provide an interesting vehicle to link the rural-agricultural community to other sectors and industries** like food processing and bio-based industries, etc. (see for instance the BRIDE project (Ireland), The Lakes Free Range Egg project (UK), Vignoble 2.0 project (France)).

#### Collaboration with other projects, initiatives or actors

- ▶ **In general the OGs prove to have strong potential as vehicles for further cooperation and to connect to other relevant initiatives and actors beyond the scope of the project itself**. Over 90% of them have established relations with organisations/initiatives outside the partnership or plan to do so,

indicating the apparent willingness of the partnerships to actively explore these possibilities even though the current funding framework cannot cover all the costs for this.

- ▶ The cases further show that **OGs are interested in linking up to other relevant OGs or (European) projects**. The survey demonstrates that a substantial number of them have indeed undertaken efforts to do this. OG partners mainly depend on their own national and European networks for this, either with European sectoral associations, business networks or participation in EU-financed projects. However, only a minority has been able to establish structured exchange of information and knowledge or co-organise events with other OGs or EU-financed projects, as this would require resources which they had not foreseen in their budget framework.
- ▶ **While cooperation among OGs and with other EU projects was probably not a priority at the start of programming period, OGs are increasingly discovering its potential and highlight the need to better facilitate this**. Apart from the limited availability of financial resources to invest in broader cooperation, the OGs indicate that they experience a lack of active channels and *fora* to do this.

Therefore, they stress the **need for more structured insight into the themes and approaches of other OGs to identify related projects to connect with**. This could link to specific EU funding to further incentivise more structural exchange between OGs, including on a bilateral basis e.g. a separate support for trans-national or trans-regional cooperation of future or running OGs. One example of this are the EIP-AGRI networking events between different OGs and Horizon 2020 multi-actor projects working on irrigation or on innovative supply chains, which were highly appreciated by the participating OGs. Such exchanges could not be facilitated on a more frequent basis in the current period, but clearly has potential for further productive interaction, be it organised at regional, national or EU level and reaching out to a variety of project types.

## Support

- ▶ All interviewed OGs expressed their **satisfaction with the administrative support they received** during the preparation phase of the project and compared it favourably to their experiences with other funding frameworks. The RDP Managing Authorities provided very useful individual advice to come to an administratively sound project application. Innovation Support Services also played an important role in supporting some OGs with their application, particularly in setting-up the right partnership structure.
- ▶ Simultaneously, the OGs point out that the **administrative burden of setting up OG projects is quite large**, and the lead partner role is often taken up by actors with the necessary dimension and resources to deal with this. It is also important that a partner with adequate expertise in the drafting of project applications is on board in order to ensure that the application has the sufficient quality. This is often a research partner.
- ▶ The cases indicate that further support during the implementation of the OG projects is varying. The National Rural Networks of some Member States organise collective introduction sessions for all approved OGs at the start of their project. However, it seems that **ongoing OGs would welcome a more pro-active support by national/regional support structures**.
- ▶ While OGs did not express a specific need for support in the running of their project, they do see **potential in more exchange with other OGs and H2020 projects** in their own countries to learn from each other's results and functioning and could profit from better support in this regard. This could be further developed with a view on generating EU added value.
- ▶ The support provided by the EIP-AGRI Service Point (SP) at the European level and the EIP-AGRI network events are generally well appreciated, although not all OGs have had the time and resources to become actively involved. OGs have the impression that there is more potential for support and valorisation of the SP's position to **connect OGs and make available information easily accessible**. In this light, they welcome the clustering exercise, even if this is just a first step in facilitating more multilateral and bilateral connections and relations among OGs and other type of projects.

## Annex

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Please access the data on projects involved in the clustering analysis [here](#).